Social-Emotional Learning from Live-Action and Animated Characters in Children's Television

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Abstract

This study raises questions about the potential differences in how children learn from live-action and animated characters in children's television, particularly television with a social-emotional curriculum. Fourteen prominent creators and researchers in the children's educational media industry were interviewed about their beliefs and practices relating to how children learn from television, what research supports these beliefs and practices, and to examine why the differences between live-action and animated characters have been under-researched. The results showed a mix of opinions surrounding the importance and urgency of the animation vs. live-action debate. Responses about how children learn from and engage with television are consistent with the current literature, but also point to a difference in the functions of live-action and animated characters for young viewers. The results also shed light on a need for additional empirical research about the effects of social-emotional programming in general.

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Chapter 1

Introduction

Every episode of *Daniel Tiger's Neighborhood* begins the same way. He sings an abridged version of "Won't You Be My Neighbor," zips up his signature red hoodie, throws on some red sneakers, and then hops on the trolley to the Land of Make-Believe as the theme song plays. After the introduction, Daniel opens his front door, clues the viewer in on the focus of the episode, and invites them along.

This routine is, of course, an homage to the show's predecessor, *Mister Rogers' Neighborhood***,** a show known for its rituals, its slow pace, and, above all, its host. Fred Rogers - with his gentle voice, childlike wonder, and rapt attention to whomever he was engaging with - set the standard for what children's television could achieve. His careful curriculum, developed in collaboration with Dr. Margaret McFarland over many years, revealed the potential of television to be used to teach social-emotional concepts, and his kind demeanor made every viewer feel like his neighbor. That curriculum is now the foundation for *Daniel Tiger's Neighborhood.* The host, however, has changed. Daniel Tiger is an animated preschooler (tiger) navigating his world of emotions, relationships, and making-believe. Though cut from the same cloth, *Mister Rogers' Neighborhood* and *Daniel Tiger's Neighborhood* are very different programs, most obviously because of their mediums. But how fundamental are these differences? What does each show, and each character, offer that the other cannot?

Although *Daniel Tiger's Neighborhood* is fairly narrative, Daniel, like Mister Rogers, takes moments throughout each episode to speak to the viewer; to look out from the screen, ask questions such as "Have you ever felt this way?" or "What would *you* do?" and wait for an answer. This technique, known as "the pause," was a staple of Mister Rogers' engagement with the viewer. Angela Santomero, the creator of *Daniel Tiger's Neighborhood* and other prominent children's shows, first utilized these built-in pauses in her show *Blue's Clues* in 1996. Since then, she has integrated "the pause" into many of her other programs, including *Daniel Tiger's Neighborhood.* This method of direct engagement, a technique where it appears that a character is looking out from the screen and right at the viewer, is used to encourage children's engagement and interaction with the content (e.g., responding to prompts, singing along, mimicking behaviors). Research about the impact of *Blue's Clues* on children's behavior revealed strong indications that the show had positive effects on children's cognitive development (Anderson et al., 2000). *Blue's Clues,* rebooted in 2019 as *Blue's Clues & You!*, stood out not only for its harnessing of direct engagement, but also for its host - a live-action man living in an animated world.

In the children's television industry, where live-action has become increasingly rare, the presence of a live-action character raises questions about how engagement, interaction, and, in the case of educational television, eventual learning might change depending on who is looking out from the screen. When Daniel Tiger shares a social-emotional message, is it understood differently than if it were coming from Mister Rogers? Or does the same kind of learning happen, regardless of the character's medium? With children's media being so dominated by

animated content, one would assume that there is a significant amount of research that speaks to how children engage with and/or learn from different mediums. Stunningly, there is not.

Statement of the Problem

The children's television industry is dominated by animated content, yet to date there has been no explicit research comparing live-action and animated characters' impact on how children engage with content, and, in the case of educational programs, what is subsequently learned. This is particularly surprising, considering the vulnerable ages of certain target-audiences. Singer & Singer (2009) observe how "On many television programs adult characters talk to the fantasy characters… this adds to the seeming realism of the puppets or animated characters in the program. [T]he presence of live figures on a television program is important if they help in clarifying information and in aiding children to process the story line more easily." The question that remains unanswered is: *do* they help in processing story lines and clarifying information? If the answer is yes, there could be major implications for content creators.

Research has shown a number of animated educational children's programs to be successful in fostering STEM, literacy, and problem-solving skills in young viewers (Anderson et al., 2000; Calvert et al., 2007; Krcmar & Cingel, 2019). There is also a swath of research about mostly negative behavioral outcomes regarding the possible relationship between violent television content and aggressive behavior (Drabman & Thomas, 1974; Bushman & Huesmann, 2006; Bushman, Gollwitzer, & Cruz, 2015). Unfortunately, there is less research regarding the potential of positive social-emotional learning from television shows (Friedrich & Stein, 1973; Rasmussen et al., 2016; Cingel et al., 2020), and here, I think, is where children may stand to learn the most from live-action figures.

There are plenty of agreed-upon formal features that make up a quality children's television show - it should be colorful, attention-getting, have certain tones, musical moments, etc. (Lesser, 1974; Christakis & Zimmerman, 2009; Newman, 2010). There are fewer formal features for what makes a quality television show with a social-emotional focus. Research has shown that young children are more receptive to the voices of women and other children than to the voices of adult men (Anderson & Levin, 1976). Could they, then, also be more attentive to the visual of a real person? When a child sees an animated figure, does the way that they identify with that character differ from how they might identify with a live-action person?

Significance of the Study

Children under the age of 5 spend up to 2 hours and 39 minutes per day engaging with screen-based media (Common Sense Media, 2017), the majority being televisual content. Television shows are watched not just through the television set, but through smartphones, tablets, and computers. Regardless of the platform used for viewing, television shows for children remain not merely a source of entertainment, but a window to the world, a teacher, and a companion. This makes it all the more essential that every facet of children's programming, particularly programming for children under 5 years old, be carefully considered and fully intentional. Most programs for children under 5 years old are curriculum based, indicating an overarching educational goal, be it academic or social-emotional. However, there is minimal research surrounding the efficacy of these programs in fulfilling their educational goal. One area to explore is the teaching abilities of live-action and animated characters. Character mediums may be especially important in the area of social-emotional learning, where physical characteristics may play a strong role. If there are significant differences in the way children

learn from one over another, there could be major implications for content creators, policy makers, and researchers who have long overlooked the subject.

Research Questions

Based on what research has determined about the important characteristics of in-person social-emotional learning, it seems that creators and researchers of educational television content would consider the possibility that these characteristics could be equally as impactful in an on-screen context. While aspects of social-emotional learning are achievable through animated characters, the presence of live-action figures might allow for stronger transfer of learning into real-life contexts. In addition to being most closely connected to a child's own reality, a live-action figure also has the ability to offer more essential parts of socialization, even if it is over a screen. Considering the earlier example of the effectiveness of direct engagement, is that engagement even more effective when it is paired with eye-contact? Are there differences between the type of socialization that would occur when the character simulating eye-contact is real versus animated?

In order to explore the possibility that live-action characters and animated characters might differ in their ability to teach social-emotional curricula, it was essential to understand what content creators and researchers of young children's media believe, and how that influences the content they produce and the recommendations they make. The goal of this research was not to draw conclusions through empirically collected data. Rather, it was to explore the opinions among these prominent decision makers regarding the roles and effects that live-action and animated characters might play in social-emotional educational programming. Through interviews with these content creators and researchers, I sought to assess how significant they

think specific character styles may be with regard to social-emotional learning, and how influential developmental theory is in determining that significance. I also examined how creators of children's media test for the effectiveness of social-emotional content prior to a show's distribution, and the extent to which research undergirds these shows' development. Finally, I inquired as to why researchers within the children's television industry, as well as academic researchers, have under-researched the comparison of live-action and animated characters for so long, and aimed to determine the potential for research projects in the future.

Definition of Keywords

For the purpose of this research, the types of television shows I explored are classified as live-action (this includes puppetry), mixed-media (a combination of live-action, animation, and sometimes puppetry), and animation. The target audience of the television shows I focused on are 2-4 years old, as this is the age range where many children are not yet in school and there is increased potential for learning from television. Further, it is an age range where developmental impacts are significant. The term "screen media" refers to any device where watching children's television is possible, including television sets, computers, tablets, and smartphones. "Transfer" refers to how lessons from television programs are then able to be successfully applied to real-world scenarios.

"Formal features" refers to specific visual and auditory characteristics and/or techniques that frequently appear in children's televisual content. Visual characteristics include bright colors, eye contact, movement, and cuts between live-action, animation, and puppet scenes (Lesser, 1974; Anderson & Levin, 1976; Newman, 2010). Auditory characteristics include

children's or women's voices, musical cues, repetition, silly sound effects, rhyming, and alliteration (Anderson & Levin, 1976; Anderson et al., 2000).

It is important to note that "social-emotional" and "prosocial" are not used interchangeably in this thesis, although they have been at times in the literature. Prosocial refers more specifically to behaviors that support positive relationships, and while most children's television shows have prosocial undertones (e.g., *Blue's Clues & You!)*, "social-emotional" refers to something more feeling-specific (e.g., *Daniel Tiger's Neighborhood).* Social-emotional learning (SEL) can result in prosocial behaviors, and therefore will serve, at times, as the umbrella term that captures both prosocial and feeling-focused content.

Methods Overview

In order to gain a better understanding of what potential differences of learning lie in animated and live-action content, I first explored the literature. As this remains a highly under-researched topic, I drew from several relevant areas relating to media and social-emotional development, including learning from television, character attachment (parasocial relationships), and factors that promote healthy social-emotional development. Then, a series of interviews were conducted with researchers and content creators who are prominent figures in the field of children's media. Interviews were transcribed and analyzed for themes and patterns, outlined in the results section. Lastly, I examined the implications of my findings, highlighted the limitations of the research, and offered directions for future research.

Chapter 2

Literature Review

Three distinct categories of children's television programs have emerged since the earliest days of television: live-action (this includes puppetry), mixed-media (a combination of live-action, animation, and sometimes puppetry), and animation. Animation is by far the most popular category and makes up most of the current programming for preschool-age children (Taggart, Eisen, & Lillard, 2019). Of Common Sense Media's list of twenty-seven top educational shows for preschoolers, animated programs made up 81.5%, and among their choices of best preschool shows in general, animated content comprised nearly 90% of the sixty-seven-item list (Common Sense Media, 2020).

There are plenty of reasons for the surge of animated content. From a practical standpoint, cartoons are more marketable on an international scale, with their dub-able qualities and ethnically ambiguous characters (London, 2014). Business aside, however, there remains the wide-held belief that children simply find cartoons more appealing. When it comes to educational children's television, however, appeal is not enough. While there is a sizable amount of research that focuses on how children learn academic concepts from television programs (Schlesinger, Flynn, & Richert, 2016; Krcmar & Cingel, 2019), there is far less literature about how children learn prosocial concepts from television, and a specifically marked gap in whether or not there is a difference in learning from a character who is live-action or animated. As animation dominates the current programming for preschool-age children (Taggart, Eisen, & Lillard, 2019), research to close this gap is both timely and necessary.

Attention ≠ Comprehension: How Young Children Learn From Television

Since the early days of *Sesame Street*, a primary goal of the children's television industry has been to produce content that will hold children's attention (Anderson & Pempek, 2005;

Courage & Setliff, 2010; Newman, 2010). In the early 1970s, the general consensus was that young children's attention is particularly difficult to maintain. That assumption gave way to programs that were faster paced with more frequent cuts, bright colors, alternating mediums and other "commercial-like" content (Lesser, 1974; Christakis & Zimmerman, 2009; Newman, 2010), and set the standard for children's television programs to follow.

Children's television programs tend to feature a number of sensorial techniques to maintain attention and appear more appealing to young viewers. Visually, research has shown that young children are more likely to pay attention to televisual content when it includes special effects, animation, puppetry, alternating images, varied pace, and focus on faces (Leifer et al., 1974; McCollum & Bryant, 2003; Newman, 2010). Certain auditory features are also frequently utilized, having also proven to increase viewers' levels of attention and engagement with shows. Alliteration, repetition and funny voices tend to get and sustain children's attention, as do musical segments and, interestingly, the voices of women and/or children (Anderson & Smith, 1984). However, research has shown that there is a distinct difference between a child's paying attention to content and comprehending what they are seeing (Courage & Setliff, 2010).

Fisch's (2000) capacity model outlines primary characteristics that contribute to a child's overall comprehension of a television program: "processing of narrative, processing of educational content, and distance, that is, the degree to which the educational content is integral or tangential to the narrative" (Fisch, 2000). This model has been crucial to researchers' and content creators' determining what sorts of tools can best support learning from television programs (Aladé & Nathanson, 2016). Numerous studies have shown that very young children will be more responsive to content that they are able to comprehend (Anderson & Levin, 1976;

Courage & Setliff, 2010; Aladé & Nathanson, 2016; Cingel et al., 2020), and that comprehension is essential for content to be beneficial. In one study by Aladé & Nathanson (2016), 78 preschool-age children watched a short video and completed assessments that measured cognitive abilities, interest, prior knowledge, and comprehension of the program. Their findings were that, consistent with the capacity model (Fisch, 2000), the viewers' characteristics of prior knowledge (familiarity with a program or the situation portrayed in the program) and cognitive ability impacted their comprehension of the content.

Features That Support Learning From Television

In the Children's Television Act of 1990; which called for the Federal Communications Commission (FCC) to establish standards that ensured limited advertising and increased educational content within children's programming; live-action interstitials were referenced as a useful technique to "stimulate thought, create deeper awareness, and impart to children valuable, practical information that they can apply to their own lives" (U.S. Congress, 1994). The FCC guidelines still refer to the presence of interstitials between two short-form episodes as counting towards core programming (Federal Communications Commission, 2020); however, the function of those interstitials is not outlined. Nevertheless, while the use of interstitials for reinforcing content is under researched, their presence between two eleven-minute episodes of a show has become an industry standard for educational children's programming.

The "school readiness" that educational television programs strive to provide young viewers is primarily academic, promoting concepts of literacy or science; thus, unsurprisingly, much of the current research examining how children learn from televisual content refers to the learning of more academic concepts (e.g., science, word-learning). Studies have shown that

many of the same audio and visual features that have been used to maintain children's attention are also useful tools in having positive scaffolding effects and supporting the processing of narratives and educational content; including repetition, musical segments, and focus on faces (Leifer et al., 1974; Anderson & Smith, 1984; Calvert and Gersh, 1987 as cited by Cingel et al., 2020).

Additional features like participatory cues, pauses, and other methods of direct engagement have been connected to stronger engagement and comprehension of content in very young children (Anderson & Pempek, 2005; Frank, Vule, & Saxe, 2012; Piotrowski, 2014; Krcmar & Cingel, 2019). These different techniques aim to mitigate the effects of the *video deficit* (Anderson & Pempek, 2005; Lauricella, Gola, & Calvert, 2011), which has shown that children, especially very young children, learn better from a live instructor than an instructor on a screen. In part, this is because very young children have a more challenging time distinguishing between the symbolic nature of screen-based content from reality. To process that distinction, especially from non-interactive content, requires extra brainpower and detracts from learning (Kirkorian, 2018). This is, however, not to say that children do not learn from television. Even in the early 1970s there was already research showing the prosocial benefits of observing prosocial segments, and Bandura's (2001) social cognitive theory showed evidence that children sometimes imitate what they observe onscreen, particularly when there is a degree of social relevance to the viewer (Linebarger & Piotrowski, 2010).

Prior experience with the content or a parasocial connection to the character can also inform a higher level of learning (Newcomb & Collins, 1979; Krcmar, 2010; Lauricella, Gola, & Calvert, 2011; Heintz & Wartella, 2012; Gola et al., 2013; Piotrowski, 2014; Aladé & Nathenson,

2016; Schlesinger, Flynn, & Richert, 2016). Lauricella, Gola, & Calvert (2011) found that toddlers learned better from videos when they had social familiarity and attachment to the character presenting the information to be learned. Another study (Piotrowski, 2014) sought to examine the influence of participatory cues on educational comprehension using the popular children's television program *Dora the Explorer.* This researcher found that the social meaningfulness of the character was more important to learning outcomes than participatory cues were. It cannot be overlooked that so many of the features that have proven most effective in supporting what a child learns from television content all have a strong social element.

Learning Social-Emotional Concepts From Television

If former FCC commissioner Nicholas Johnson was correct that "All television is educational television," then content creators have a responsibility to carefully consider what they might be teaching. Television is a socializer for viewers of all ages, but special care must be given to the content designed for our most malleable population of viewers. A study by Friedrich & Stein (1973) found that children who watched four weeks of *Mister Rogers Neighborhood,* a show with an explicit social-emotional curriculum, displayed more prosocial behaviors than children who had watched purely informational videos. Mares & Woodard (2005) found that children who viewed prosocial content in both experimental and home contexts showed consistent positive effects compared to those who watched antisocial or violent content. Even more recent studies have shown that prolonged exposure to television that promotes social-emotional concepts can reinforce certain prosocial behaviors (Rasmussen et al., 2016; Dotson et al., 2017; Rasmussen et al., 2019).

Other studies that have measured children's social-emotional learning from animated television content, however, have found that children's developmental stages presented challenges in processing prosocial lessons or recognizing their applicability to real-world situations (Mares & Acosta, 2008; Cingel, Sumter, Stoeten, & Mann, 2020). As seen with more academic educational content, processing prosocial television content appears to be similarly contingent upon factors like familiarity and social relevance (Aladé & Nathanson, 2016). Shortcomings of educational media have been tied to young children's inability to easily process video content and the lack of social cues that support learning in real life situations (e.g., eye contact, gestures, and responsive interaction) (Christakis & Zimmerman, 2009; Kirkorian, 2018). Although tools like direct engagement were adopted by content creators as a means of recreating a socially interactive experience (Anderson et al., 2000), unfortunately, there remains a strong need for other research to understand what other aspects of real-life social learning (such as human, not animated, eye-contact and facial expressions) could support social-emotional learning through television programs.

Features That Support Social and Emotional Development

It is not surprising that techniques that mimic social interactions or provide some sort of social relationship promote learning. Vygotsky's 'zone of proximal development' (1978), which explores the role an adult figure or knowledgeable peer can play in bridging the gap between what a child knows and what they do not yet know, highlights the importance of social experiences to development and learning processes. An example of this is joint engagement, where a child and a caregiver view a television program together. The caregiver is able to

converse with the child about what they are seeing, thus giving the child the tools to reflect on and internalize the content.

While joint engagement has been shown to reinforce learning of both academic and prosocial concepts (Rasmussen et al., 2016), it is possible to create similar experiences using on-screen characters. Active participation like the kind *Blue's Clues* offers is "the television version of hands-on practice that a caregiver provides" (Anderson et al., 2000). Calvert et al. (2007), however, found that *Dora the Explorer,* a show that follows a similar pattern and technique to *Blue's Clues*, did not offer the same level of learning from participatory cues. Could this be due to the fact that one protagonist is animated, and the other is real? Could the humanness of a live-action host provide, as Singer & Singer (2009) suggested, some grounding in reality that gives a child less to process and more availability to learn?

Developmentally, very young children learn best during face-to-face social interactions where they can take cues from eye contact, facial expressions, and body language (Nielsen, 2006; Golan et al., 2009; Troseth, 2010; Frank, Vule, & Saxe, 2012; Tang et al., 2019; Cingel, Sumter & van de Leu, 2019;). A study by Frank, Vul, and Saxe (2012) measured social attention in infants 0-30 months using live-action movies of children playing. They found that as children developed, they directed their attention to the characteristics that were most socially intriguing and revealing for their developmental stage. The youngest infants looked mostly at eyes, slightly older infants focused on mouths, and the older children gave attention to hands, especially as they performed different actions (Frank, Vul, & Saxe, 2012).

The most effective media-based learning tools are those that mimic social interaction, involve some degree of social relationship (Krcmar & Cingel, 2019), and are familiar to the

young viewer. Very young children have a difficult time distinguishing between the symbolic nature of screen-based content and some studies have shown that it is challenging for them to transfer the information they have seen on screen to real-life applicable contexts (Schlesinger, Flynn, & Richert, 2016; Richert & Schlesinger, 2017). In a study by Mares & Acosta (2008), 64 kindergarteners were shown an episode of *Clifford the Big Red Dog* that was meant to teach a moral lesson about inclusiveness towards people with disabilities by depicting a dog with three legs. They found that most participants did *not* understand the moral lesson, nor could they generalize the lesson to apply to a real-life/human context. If learning social concepts is so contingent upon real world applicability, and if a child cannot determine the content's connection to the real world, they may misunderstand the lesson altogether (Mares & Acosta, 2008; Rasmussen et al., 2016).

How Can SEL-Focused Content be Improved?

If the goals of SEL-focused educational children's television include modeling positive social interactions and instilling moral lessons, content creators must consider where the child is developmentally, and what sort of scaffolding has positive effects in comprehending television content. According to Piaget's stages of cognitive development, children 2-6 years old (pre-operational) are just beginning to think symbolically and struggle to see other people's perspectives. Rasmussen et al. (2016) showed that children ages 2-6 who watched episodes of *Daniel Tiger's Neighborhood* were more likely to exhibit higher levels of empathy and emotional recognition when their viewing was accompanied by active mediation by a caregiver. This indicates that while it is possible for very young children to benefit from prosocial television content, there needs to be some sort of grounding component that helps them to process what

they are seeing. Nielson, Simcock, & Jenkins (2008) found that two-year-olds were as likely to imitate actions of human individuals who were live as they were human individuals whom they could interact with via a closed-circuit television system. This reinforces the idea that social interaction is a fundamental part of learning, even in a televised context, but does not answer how much the success of that learning was or was not contingent upon its human instigator.

Chapter 3

Methods & Materials

Participants

Fourteen individuals participated in this study (Appendix A). Eight participants were categorized as content creators (producers, screenwriters, creators), and six participants were categorized as content researchers (academic and within children's media companies). Participants were selected for their prominence in the fields of children's media content creation or research in the United States and were recruited through direct approach over email. Certain participants, while they agreed to be interviewed, did not give permission to be directly quoted or mentioned by name.

Procedure

Interviews were conducted over Zoom and recorded for transcription purposes. The principal researcher conducted all interviews, which ranged from thirty minutes to one hour, depending on the availability of the participant. The average length of an interview was forty-five minutes. The interviews were semi-structured. While each interview followed a similar line of open-ended questions (Appendix B), certain questions were tailored or omitted depending on the participant's known expertise surrounding a specific subject. Further, questions for content

creators differed slightly from questions for researchers, as they focus on different things in their work. The questions examined:

For Content Creators

- The decision-making process to use certain mediums, features, and characteristics
- The function of live-action characters and/or interstitials
- The role of developmental theory and research in decision-making
- What animation offers that live-action cannot, and vice versa?

For Researchers

- Research about the mediums, features, and characteristics children respond to
- The function of live-action characters and/or interstitials
- The characteristics that support comprehension/learning
- How children understand and engage with televisual content

For content creators and researchers alike, interviews were rounded out with that driving question - why hasn't this been investigated before? Participants were encouraged to share anecdotes from their careers that supported their line of thinking, and many were careful to preface when they were giving an answer that was purely hypothetical.

Measures

The interviews were transcribed and analyzed for different themes using conventional content analysis. Findings are discussed in the following section. Direct quotes are included with permission from the participants. The opinions of those who did not give permission to be quoted will be summarized and presented in aggregate.

Chapter 4

Results

When initially conceiving this research, the driving question was whether there was a difference between how children learned from a character if they were live-action or animated. As I began to develop questions for my interviews, I began to see more clearly how broad and, in this exploratory stage, unanswerable that question really was. Through my interview questions, the goals of my project were reshaped. The results of that restructuring, and the major themes that emerged from the interviews are highlighted in this section.

Features That Support Comprehension

Participants were asked for their opinions about what features they felt best capture a child's attention and support comprehension. Because so much of the literature (e.g., Anderson et al., 2000; Calvert et al., 2007; Krcmar and Cingel, 2019) has shown that engaging with content is integral to a child's learning from it, it is important to understand what makes content engaging to a child. The interviews with both creators and researchers alike yielded confirmation of a lot of the current literature. Among the results, three major features were routine, interactivity, and clear visual labeling.

Tone Thyne, Director of Creative at Fable Vision and longtime creator of children's media content for companies like Disney, Nick Jr., and Netflix, explained his stance on the function of routine in television programs for young viewers, specifically those of a certain age.

> Formal features, I feel like, work extremely well all the way up to sort of that three to five range. Because they crave that, you know, kids in that developmental stage love routines and they love knowing. It kind of manages their stress a little bit … [S]o kids' TV has a

> tendency to sort of echo that routine kind of mindset. And so formal features are great for two, three, four, and five year olds. They come to expect it, and they don't like it when we break that routine, actually. They also like knowing what's coming next, and they can kind of anticipate it, they can sing along. And then that gives them a sense of sort of ownership over the show… [W]hen they know what's coming next, or they can come and guess what's coming or answer a question that a character is asking them on screen, they feel really empowered.

Feeling empowered was a consistent goal described by content creators. Angela Santomero, creator of groundbreaking children's shows like *Blue's Clues* and *Daniel Tiger's Neighborhood,* explained that "repeat watching also helps to elevate that level of kids will either be talking more or answering more once they have mastered and feel comfortable." She and many others felt that empowerment stemmed from the feeling of knowing what was coming next, and that confidence led to interactivity.

Dr. Daniel Anderson, a Professor Emeritus of Psychology from the University of Massachusetts, Amherst, whose career focused on how children engage with and comprehend television, described instances of interactivity and engagement he observed in his research.

> You would just watch the kids with their parents, and the kids would be saying, "Oh I've seen I've seen him before" or "They wouldn't really do that in real life, would they?" … so, the kids were just obviously [engaged] as soon as they were able to talk to their parents. They were able to and routinely talk about the show in cognitive ways, not some sort of robotic "my attention is locked in place" way.

The importance of interactivity was echoed by several interviewees. If a child is interacting, it indicates that they are truly engaging with the content. Santomero explained, “that interaction helps [the character] bond with the home viewer and then, if [they’re] bonding, right, we can up the ante of the curriculum.” The role of the character in encouraging interactivity will be explored in a later section.

Another topic that arose when discussing comprehension was the use of careful labelling. Interestingly, there was some disagreement here. Some participants felt that the relationship between audio and video was critical, and that verbal labeling would support the learning of concepts. Others, researchers and content creators alike, felt that visual labeling was the most effective of sensory cues in this regard. Courtney Wong Chin, Director of Research at Sesame Workshop, offered the example of visually representing a character thinking about something.

> [When] we want to show how children or how characters are thinking about or remembering something that they had done previously, right, I'm saying “So when you're looking for to solve a problem you can also just think back to ‘what previous knowledge do I have?’” So, the formal feature there would be using a thought bubble. That's just the best way to visualize “I'm remembering something.” Other tools we use are visual scenes without any dialogue … Something like that really focuses their attention. They’re so visual… if they can follow what's happening with the TV on mute, that's always the best way to go, because they are there so much visual superiority to what they're absorbing.

This test of “if the sound is off, can you still follow what is happening” is one that was mentioned by participants from different companies and television shows. Notably, most types of visual labeling participants referred to were only possible in animated or mixed media programs

(e.g., the "clues" appearing above Josh's head in Blue's Clues as he reviews them with the viewer). While bodily gestures are visual cues that live-action characters can perform, they must be exaggerated, which runs the risk of appearing inauthentic to the viewer and losing their attention.

The formal features that were highlighted, unsurprisingly, were features that are regularly utilized in children's programming. While there was more emphasis on structural features as supporting comprehension, there was some discussion of more surface characteristics as well (e.g., bright colors or the use of music). Dr. Anderson pointed out, when asked about scene cuts and sound effects, that those techniques are as attention catching for adults as they are for children, and that "the really big things were the signals that said *'Hey, this could be fun'* or *'Hey this is for you, hey it's not boring adult stuff that is on TV.'*" This idea, that children be able to recognize that content was for them and have a certain level of authenticity to their experiences as a child, came up in conversations with members of both groups. When asked about the comprehension of social-emotional content specifically, participants believed that many of the same features that work for academic content would apply. A major focus, however, was on the characters themselves. The role of the character is expanded upon in the next section.

Role of Character

Because research has previously shown that comprehension is supported when a young viewer has a parasocial relationship with the character (e.g., Lauricella and Gola, 2011; Gola et al., 2013; Calvert et al., 2014), participants were asked specifically about the traits they feel make a character resonate with a child. The answers provided along this line of inquiry corresponded in a major way to opinions about what supported the comprehension of prosocial

content; namely, that feeling an emotional connection was key. Dr. Rosemarie Truglio, Vice President of Content and Curriculum at Sesame Workshop, is quite familiar with children's strong attachment to television characters. When asked about the aspects of a television show that support prosocial learning, she said:

> It depends on your familiarity with the character. We've done those kinds of studies and where… if you know Elmo and you have a powerful social relationship with Elmo and he's teaching you something, you're going to learn that better than [from] an unknown character.

The importance of the viewer really loving a character was reinforced by every participant. As they spoke about the different characters children had, in their experience, positively responded to, what emerged were two distinct roles that characters of different mediums fill in television programs for young children.

The Character as an Extension of the Viewer

When exploring what makes a television show or a particular character resonate with a viewer, a consistent response was that the viewer be able to (1) relate to the character ("see themselves") or (2) find the character aspirational. Notably, characters in this category are almost always either animated or "non-human" (e.g., a puppet). Linda Simensky, who has worked in executive positions at Nickelodeon and Cartoon Network, and now serves as the Head of Content at PBS Kids, described the process of developing a character for an educational children's program.

> I think the question that that we find ourselves grappling with more often is … sort of aspirational versus relating to a character, you know? It's like do you aspire to be like that

> character, or do you see yourself in that character? We're really thinking "*do kids fall in love with these characters, and do they want to be these characters, or do they want to hang out with these characters"*? And like I said, you know, then the challenge becomes "*are we making them aspirational or relatable*?" …[T]here is a lot of thinking about, you know, how does this impact kids, what is their experience with viewing it, would they want to go and play the show after they've watched it? Like, would they relate to these characters? Are there any characters here that kids would want to be? If your main character is a character that kids wouldn't want to be, then your show's not going to work.

Thyne, of Fable Vision, reaffirmed this belief, saying:

> We want the kids to see themselves in the characters, and … they don't even have to be a direct relation. It's just something about that character has to be familiar enough that the kid can kind of either see themselves in it, or want to be like that. We want to make aspirational characters. So often, for example, if I'm making a show, let's say my target demo[graphic] is four years old, I'll make a six-year-old main character that kids will find very aspirational, want to be like one day.

Whether relatable or aspirational, it was important that the character's challenges be recognizable to the viewer; that there be authenticity in visuals, voices, and experiences. One of the reasons that the character Daniel Tiger is an effective conduit for prosocial learning is because he is first and foremost a preschooler, not a tiger. Linda Simensky noted, "I think what Daniel [Tiger] offers kids is that, you know, because he's animated, any kid can see himself or herself as one of those characters." His face may be furry, but his life and his experiences are closely connected to his target audience, and they are able to perceive them as their peer. Creator

of Daniel Tiger's Neighborhood, Angela Santomero, explained, "You love Daniel, you feel for Daniel, Daniel's your friend and … that's by design."

The Character as Support for the Viewer

This category applies to the adult characters in children's shows, and it is notable that they more frequently occur in live-action contexts. Although Daniel Tiger's mother provides the initial solutions for Daniel, she does not directly engage with the viewer. On the other hand, a figure like Mister Rogers, according to Linda Simensky, "played the part of the trusted guide at a time where TV was offering you clowns and goofballs… He played a trusted guide and there was some comfort with that." The adult live-action characters that are prominent in children's television - the *Blue's Clues* hosts, the adults on *Sesame Street*, and *Mister Rogers* - are all playing very specific roles that ground, guide, and provide scaffolding for the viewers.

To this end, it is important that they are not didactic. Their lessons are shared either by learning alongside the child (*Blue's Clues, Mister Rogers*), or prioritizing what a child thinks/ feels and supporting them as they work through something (*Sesame Street, Daniel Tiger's Neighborhood*). Sesame Workshop's Rosemarie Truglio explained, "What people don't realize is that the human cast is our stand-in for parents." Angela Santomero offered her thought-process behind the functions of the hosts through the different iterations of *Blue's Clues.*

> [The Blue's Clues host] was supposed to be like a camp counselor… somebody who was discovering and learning, along with the child. Josh, Steve, Joe never knew anything more than what the kid knew, and so there was a little bit of that discovery … like great babysitter, great camp counselor, great teacher who in the preschool classroom will sit on the floor with you and help you. Teacher directed learning helps you kind of scaffold the

> learning and the play to the next level, and so every game that we play, in every experience that we bring the kids in, we have Josh as that guy who's kind of getting you to talk more … to anticipate and think about …how to solve the problems.

When asked about the function of the human characters on Sesame Street, Rosemarie Truglio first described early concerns about children learning from puppets and their comprehension of the blurred line between fantasy and reality. "When Joan and Lloyd [were] bringing all kinds of characters, non-human characters with humans, they thought it would be a disaster." However, the formative testing showed that by nesting the more fantastical elements of the show in a realistic context with real people, the line between fantasy and reality is less blurred, and accepted by the young viewers as completely plausible. Truglio believes that the human characters play an essential role in navigating the surreal, explaining:

> [T]he kids weren't confused. They weren't confused because I think that they see these characters, because it is live-action, they see these characters that represent them, they see themselves in them, so they're real. So this mixture of humans with non-humans never really became an issue.

This approach has most recently been adopted by former First Lady Michelle Obama in her new children's series, Waffles + Mochi which, similarly to Sesame Street, blends live-action and puppetry. In a recent interview, Obama described the blend of humans and puppets as "foster[ing] a sense of wonder… the idea that wacky things can happen in the places we visit all the time" (Scott, 2021).

The Differences Between Animation & Live-Action

Since the initial goal of the research was to explore if content creators and researchers felt there was a distinct difference in how children learned from the different mediums, this line of questioning, for both groups, focused on what one offers versus the other. “What can live-action offer that animation cannot, and vice versa?” While content creators had more to say about the fundamental differences than content researchers, when content researchers did comment, their opinions aligned with those of the creators.

The Applicability of Live-Action

It was generally agreed upon by participants that it is important and interesting for kids to see real kids doing things - an aspect of empowerment that seemed stronger in the context of live-action content. By seeing another kid doing something, the child viewer might believe that they can do it too. This can be dangerous if the content involves real children doing dangerous things, but for the most part, it is an explicit way for a child to understand that this is a kid just like them. One strategy for showing real children is the inclusion of live-action interstitials.

While not every participant was interviewed about what they believed to be the function of interstitials, those that were raised interesting ideas. Across the board, every content creator first and foremost acknowledged that their origins were rooted in filling a time-slot efficiently and inexpensively. Yet for those who considered the function beyond its practical purpose, there were similar reflections about the benefit of seeing real kids doing real things — how that visual could reinforce the applicability of an action or behavior to the viewer’s own life.

Helping a child more easily recognize the content’s applicability to their own life was a reoccurring benefit of live-action. Tone Thyne of Fable Vision explained the choice to use live-action characters in his SEL-focused show, *The Adventures of Napkin Man,* saying, “because

feelings are so real, we wanted it to feel like it was a real place that the kids can imagine themselves in… for that reason the live-action was a much stronger choice for the teacher moments." While that connection is possible through animation, some interviewees shared suspicions that it was likely more difficult to make those connections as a younger viewer. This is an important reoccurrence to note because it acknowledges the significance of age and developmental stage in how a child processes content. Linda Simensky of PBS Kids postulated,

> I think kids that are two or three probably learn better from live-action. And I think kids from age four, where they start to understand the difference between fantasy and reality, the difference between live-action and animation, I think that for them there's probably less of a difference.

Dr. Daniel Anderson further offered that even when a child *is* able to distinguish between fantasy and reality, that could ultimately create its own confusion and the chance for miscommunication. He explained:

> [I]t's pretty clear that kids learn that they can't fly like they can in an animated thing, and all kinds of other things that they can't do in their in their real world. So I think, insofar as they can discount a lot of the behaviors of an animated character, they are, I think, when it comes to things like social lessons and so on, they're less likely to apply them to their own lives.

The Connectivity of Live-Action

Another aspect of live-action that came up is the connective quality. Kathryn Waugh, a head writer at GBH, Boston's PBS Station, discussed the universal qualities of the human face to evoke feeling, saying:

> I think…on the live-action side of the ledger, there is nothing like the close up of a real person's face to convey emotion and to be able to just get across a mood, a feeling, a reaction that can be wordless, and yet it is universally understood…and that's because you're looking at the real human face and I don't know that - it's very hard and animation. I think it can be done, but it's you need a really skilled animator to be able to get across emotions and feelings without needing words to sort of lift it.

The connectivity of a live-action character was discussed as particularly beneficial when dealing with difficult subject matter. Some participants brought up that live-action programs have the ability to respond to national and global events (e.g., the Covid-19 pandemic) more quickly due to shorter lead times. The other aspect is that when kids are hearing about difficult content, they are looking to adults for cues about how to respond. Those cues are more easily translated when coming from someone who reminds you of a parent, grandparent, etc. in a context that is reminiscent of a comforting space (like story time) you share with that trusted figure. Tone Thyne explained:

> One of the greatest things, I think, that we content creators can do is take a page from Mister Rogers handbook and show grown-ups sharing the fact that they, too, sometimes feel sad, or sometimes feel angry, and what did they do with those feelings. How can kids be expected to manage those feelings and understand those feelings if they think that they're alone in dealing with that stuff? So for grownup to actually be able to say "Hey, I'm just like you, even though I'm in a grown-up body." That's a really important message that we're trying to get across in that show. So, for me, it felt more real to have a real grown-up telling a story visually than to just assume that the kid would understand and

> try to apply this almost allegory to their own life. So, for them to see a real kid having a real struggle, and a real grown-up trying to manage that struggle, to me, felt like it was an easier way for the kid at home watching to say, "Hey that's like me, I sometimes feel like that too."

In addition to the connective quality of a live-action character, there emerged another, smaller distinction: that the connective quality is not only supportive for the viewer, but modeling behaviors, conversation patterns, activities and more for the viewer's caregiver. Rosemarie Trigly explained this idea, saying of parents watching Sesame Street, "[I]t's designed to include you. If you look at the interaction between the human cast member and the character, they really are modeling for you how to talk and interact and discuss whatever is on your child's mind." Kathryn Waugh discussed the surprising benefits for parents she had noticed in the context of live-action interstitials:

> At the very least, it gives them explicit ideas, because what three little birds can do in the woods and what you can do in your own house around a science topic are two different things. And it helps parents, too, who are looking at a show and go "well that's interesting but I don't know what to do about that," and then the next thing you see is "If you want to talk about the sun moving across the sky … trace your shadow and then see how it changes." Well, I as a parent, I would not have thought of that, but because *Peep [and the Big Wide World]* showed me how to do it, yeah, I can do it."

The Flexibility of Animation

The major theme that arose when discussing the benefits of animated content was the amount of control and flexibility the medium affords. Tone Thyne explained, "You have a little

bit more control and animation you know, because you are controlling every single frame you wouldn't draw something if it wasn't right." Further, with animation, creators can push the boundaries of their content. A show could take place in space, under the sea, or in the prehistoric era - the possibilities are endless. Interviewees mentioned that this aspect of being able to bring anything you imagined into reality as very appealing for a young audience. You could have a preschool-age tiger as your main character, and it would be completely plausible.

The use of animals as humanoid characters was mentioned by a couple of participants as a strong benefit of animation. GBH's Kathryn Waugh offered a simple reason: "In general it's easier to animate animals and to give them a wide for fun array of behaviors and expressions then [it is] people." Other interviewees described how, because of a certain amount of ambiguity, an animal character can be more relatable to a broader audience of viewers.

Additionally, creators and researchers alike highlighted the global appeal of an animated show. Dr. Anderson of UMass Amherst put it plainly, saying, "It's really hard to overdub live-action characters." Others mentioned how animated content could be more easily adjusted to account for cultural differences throughout an international audience. Angela Santomero explained:

> I do think there's a lot of business reasons why there's more animation because it travels better internationally, so when you're trying to get raise the money to make a show it's harder to do it when you have to when you want to be authentic and genuine and every country. Which is still hard to do and animation but even harder, of course, in live-action.

Participants also acknowledged the more practical elements of animation. Many interviewees voiced the challenges that come from working with child actors, from labor laws

that limit the duration of filming to the simple fact that children grow up, and they would need to accommodate for actors who age out of their roles. Child voice actors, on the other hand, can have flexible schedules, and are easily replaced when they age out of the character. Additionally, the ability to outsource animators and avoid the coordination and union-constraints of a live-action set are two factors that help keep the budget in check; and the financial realities, as we will see in the next section, drive a lot of decisions in educational children's television.

Economics of Children's Television

Economics were mentioned across the board as a driving force behind the plethora of animated content. Interviewees mentioned the restrictions of budgets, the limitations with child actors/settings, and the lack of flexibility in times like the current pandemic as reasons why live-action is not the preferred medium. GBH's Kathryn Waugh recounted a show she had set out to make live-action, but in the end had to change to animation: "I loved it being live-action because there's something so real and vivid about a real set and real kids. But the limitations were huge." As mentioned in the previous section, it was generally agreed that animation was still less expensive because the work could be outsourced, and that it had global reach in a way that live-action does not. Linda Simensky explained how selling shows internationally is "a way that people make back the money that they've spent."

Another way to make a profit is through the expansion of a television program into other types of media: accompanying games and apps, toys, and other merchandise. For this too, animation is better suited. Courtney Wong Chin offered a theory about it, saying:

> Animation is doing so well, and there are not a lot of shows that are specifically driven as [Sesame Street is] by learning, and by being able to measure learning. So, without that, if

> animation gets really high ratings and animation is able to create a brand that stretches beyond the TV screens … all of the brands and merchandising it's like an empire. So, if they're able to create that with animation, which has a lot less restraints than live-action production, then it's sort of like … the question [of learning] is less interesting where it's less interesting in a way that drives business for people.

Interestingly, the only person who did not cite budget as being an issue works for a behemoth of a media company. It is significant that this is not the reality for child-focused media companies in general, and that funding for projects is hard to come by. Animation, ultimately, is a medium where everyone wins - the children learn (if the other factors are in place) and enjoy, the broadcasters get their global presence, the creators are able to realize their vision, and everyone stays within budget.

Research Challenges

Formative research is the dominant form of research that occurs in the development of a children's television program. The research team puts together a "storybook" or a rudimentary animation of the content and tests it on children. They measure for enjoyment and comprehension, looking at moments where the children point, sing along, look away from the screen, and so on. They will often "interview" the children after the fact to see what aspects stood out to them and if they had successfully understood the episode's lesson. Then, the research team provides feedback to the creators based on the outcomes, and they adjust the episodes accordingly. If there is a particular subject-area the creators need guidance on, they will often bring in a consultant to advise on the content.

Save for *Sesame Street*, summative research is not sought out by content creators. This is not because they don't want to know how their show is hitting. Rather, it would be a conflict of interest to conduct their own research about the effectiveness of the content. The task then falls to universities and research groups. One content creator mentioned, when I asked why the live-action vs. animated aspect of children's television was so under-researched, said that it was probably because children's television itself was under-researched. This is notable. In the wake of early-*Sesame Street* and in the 1990s-2000s, there was a burst of research surrounding children's television, but to this individual, that interest had now waned.

This line of questioning, of "why hasn't this been looked into," yielded some of the more interesting and conflicting responses among colleagues. The majority of content creators believed it ultimately did not matter so much, and that comparing the two is like comparing apples and oranges. If the goal is for kids to learn, and they are learning, why get so granular? Linda Simensky explained, "We do think about all these things, all the time, and we wish we knew more. It would be handy to know more, but we know enough to do the things that we do."

Others, in both categories, believed that the most important aspects of children's television have already been researched and decided upon. There were some interviewees, however, that believe this is an important area to explore; that releasing media to children without making a concerted effort to understand the effects (beneficial or otherwise) is problematic. Dr. Anderson explained:

> I believe it's important because I believe we should really know - I mean, media are becoming more and more and more important to kids, what's on screens … it's gotten so big in children's lives, and we have so little grasp on what's really happening. And it

> comes right down to it that, worldwide, there are very few people who really seriously do try to understand what the media are doing to kids, and many fewer people following the program that I set out for myself, which is trying to understand how and why kids engage with media.

Rosemarie Truglio, of Sesame Workshop, agreed, stating "I think so much needs to be learned in this area, given that animation is the bulk of children's programming." She further noted that there is also a great deal of work that needs to be done in improving how we empirically assess social-emotional learning from television specifically.

> I think the field of assessment needs to catch up with some of our great ideas in terms of the educational needs of children, and how to how to measure these process skills, in particular. I think we need a better assessment measures, but in social emotional, for this age group it's troublesome. Which is, which is why 50 some odd years ago they decided not to assess that at first, because it was an experiment and they went with what valid measures that they had. So I think that's something to be noted that we've got to do a better job of.

Each interview ended with the question, "If research showed that there were distinct differences in how children learn from live-action or animated characters, would the children's television industry change?" Regarding the industry as a whole? Probably not. And, for the participants, that was okay. Some acknowledged the importance of variety and reaffirmed the proven educating efficacy of animated content. However, many participants were optimistic that, if there were findings of distinct differences, it would still have some impact. Many content

creators said they would consider it when developing new programs. Ultimately, however, it would still come down to the vision of the show, the educational goals, and the budget.

Chapter 5

Discussion

Much of the information collected during these interviews aligned with and reinforced aspects of the current literature. Formal features like routine, interactivity, and visual labeling were cited as effectively supporting comprehension in both academic and social-emotional-focused programs. Other characteristics like bright colors, musical numbers, and repetition were mentioned as contributing to a child's interest in a program, which is consistent with the literature. There was also an overwhelming consensus supporting recent research that explores viewers' parasocial relationships with characters as a means of supporting learning (Krcmar, 2010; Lauricella, Gola, & Calvert, 2011; Heintz & Wartella, 2012; Gola et al., 2013; Piotrowski, 2014; Aladé & Nathenson, 2016; Schlesinger, Flynn, & Richert, 2016). All participants agreed that the medium is less important than the content itself, and less important than the child's level of engagement with and investment in it. However, some speculated that a child's age might be a significant factor in how they learn from television, and that children might learn social-emotional lessons more easily from a live-action character if they are very young. That even a handful of participants believed this was a possibility is, to me, enough to confirm the importance of exploring this question further.

One major takeaway from the interviews was the emergence of a distinction between the functions of live-action and animated characters. When asked what makes a character resonate with a viewer, many of the participants described a character that is familiar, relatable, and/or

aspirational to the viewer, fulfilling this role I had categorized as “character as viewer.” The function of this character, who is typically animated (e.g., Daniel Tiger) or a puppet (e.g., Elmo), is to help the viewers see themselves in the fantasy context, to recall situations where they too have felt a certain way, and to be able to apply what they have learned to those situations in their own real life. Some participants were skeptical of how easily a child could apply those lessons to their own life, noting that this was a great assumption on the part of content creators about the processing capacity of the young viewer. However, many interviewees believed that the supportive factors of the parasocial relationship between character and viewer could mitigate confusion.

The function of live-action characters was to provide, as predicted by Singer & Singer (2009), a grounding quality to the content. The characters who fall into this category were described by participants in terms like “trusted guide,” “camp counselor,” or “surrogate for the parent.” Their primary roles include being a familiar figure in a relatable setting that a child could connect to their own, and helping a young viewer navigate the content they are seeing - in effect, to limit the amount of processing that would otherwise be required.

These roles emerged again in answering the question: “what does one medium offer that the other cannot?” Live-action content, being more connected to a young viewer’s reality, was described as a useful tool to help the child recognize the content’s applicability to their own life and empower the viewer to act out behaviors or activities they observe. This idea was explored in relation to the function of characters, but also of live-action interstitials. Additionally, alongside the familiarity of live-action, there can also be a sense of comfort. Many interviewees discussed the benefit of using a live-action figure to communicate about difficult subject-matter. When

children are encountering something difficult, they look to adults for cues, for information, and for comfort. The celebrities reading stories on *Bookmarks: Celebrating Black Voices,* for example, create an environment akin to story time with a caregiver, and provide essential context for the viewer, particularly when the subject-matter is painful. While *Daniel Tiger's Neighborhood* has shown that a social-emotional curriculum does work in an animated context, it has its limits.

In many other ways, however, animated content is limitless. It lets creators realize their visions in a way that live-action cannot, unbound by reality. Characters can be drawn with ambiguity that allows them to relate to a broader audience of children, or with authenticity that honors and uplifts the community they are representing. Content can be easily amended to adapt to cultural differences if the program is broadcasted internationally. This sort of flexibility is important, as children's television shows grow more diverse and inclusive.

There are also several economic benefits to making animated content. Interviewees described the international market as one way to get a return on investments and explained that animation is much easier to dub into different languages. Further, the actual animating can be outsourced to less expensive countries, and the content is more easily adaptable into games and apps. That economics is such a driving force in the creation of educational children's content feels discouraging, however, it sheds light on the fact that educational children's programming is dependent on funding, and that funding can be hard to come by.

The interviews also revealed useful information about the research process behind different educational television programs. It was heartening, though not surprising, to learn about the amount of research that goes into the development of certain educational programs through

extensive formative testing and/or through the bringing in of external experts to consult on a specific topic. What was most clear was that, for content creators, their best information comes from children directly, and that they try to incorporate them in the process as much as their time and budget constraints will allow. Importantly, the interviews also shed light on the limitations of content creators and researchers who work directly for content-producing companies to perform summative research. It was clear that many of these stakeholders are interested in knowing the longterm effectiveness of their programs, but due to a conflict of interest are unable to pursue the research themselves. This task, then, falls to academic researchers.

Chapter 6

Limitations & Directions for Future Research

While valuable information was gained from this study, there were many limitations. Interviews were limited to people who worked on educational programs, so it is unclear what the attitudes and processes of the creators of less curriculum-driven shows would be. It is likely that the priorities of show-runners for Nickelodeon, Disney, or Cartoon Network would differ from those of PBS Kids. Additionally, all the participants are based in the United States. It would be interesting to look at how content and research processes differ in other countries. The biggest limitation is that, due to time and funding constraints, no research could be done with children. These limitations, however, point to the potential for research projects in the future.

The intention of this study was to examine the gap in the literature surrounding the social-emotional teaching potential of live-action and animated characters; however, inevitably, other major areas where research is needed also arose. First, as discussed above, there is a general need for more summative research surrounding the effects and effectiveness of children's

programming of all kinds, not just social-emotional. Second, there is a need for stronger assessment measures for social-emotional learning from television. Researchers have made great strides in assessing the transfer of information when it is STEM or literacy based. Although SEL may be more challenging to assess, it is not an area that should be ignored. Third, there is a need to explore how children's relationship with screens through apps like FaceTime impacts their understanding of televisual content and their sense of what is real.

To pursue the question at the core of my thesis would take several years and quite a bit of funding to achieve. In truth, there are a number of ways to approach this topic. Researchers could look at a child's levels of interaction with characters of different mediums, measure the transfer of information, or explore how a character's context (e.g., fantasy or real-world) might impact a child's comprehension of content. To do a true comparison of mediums, however, two versions of a show would need to be created, shot-for-shot (or even three, if one were to include the "mixed media" format to the equation). Ideally, it would be a show that participants had no prior knowledge of. A single episode would not likely be sufficient, so multiple episodes would need to be crafted, along with a curriculum to ensure that the show was adequately fulfilling its social-emotional goals. To measure for the effectiveness of the prosocial content, how it is learned and retained over time, researchers would need to observe participants over a series of months or years.

One of my primary questions going into this research was why it had not been done before. Now I understand. It would be a momentous undertaking. I have not, however, been swayed on the idea that it needs to be done. But where to start? I propose that we start small -

using an aspect of children's media that is regularly utilized, readily available, and equally under-researched… the interstitial.

Hypothetical Study Design

Children would be assigned randomly to one of two conditions: viewing an animated prosocial television program with a live-action interstitial that reinforces the lesson of the episode and viewing that same program without the live-action interstitial. Following the viewing of the episode (and interstitial, depending on the condition), children would be administered an assessment to measure their comprehension of the lesson. Then, one week later, participants would be re-assessed to gauge what they remember from the episode and if it has come up in their lived experience. Additionally, prior to the viewing and again at the time of reassessment, parents would complete a questionnaire about their child's social and emotional behaviors.

Conclusion

While the platforms on which children are watching content are changing, children's television is not going anywhere, nor should it. It is an industry rife with potential that we have been aware of since the early successes of *Sesame Street* and *Mister Roger's Neighborhood.* Now, with the development of new technologies that make media more accessible to young children, it is more important than ever that we understand what we are giving them — that we harness the tools to maximize their benefits and minimize their drawbacks. A large part of that process is learning how they work. There has been a burst of research in the past many years that focuses on how children learn from television. This is important and should not stop. My hope is that this study sheds light on another area that is, however challenging, necessary to explore.

Appendix A

Table of Interviewees*

Category	Name	Organization	Role
Content Creator	Angela Santomero	9 Story Media Group	Chief Creative Officer
	Linda Simensky	PBS Kids	Head of Content
	Tone Thyne	Fable Vision	Vice President of Creative
	Kathryn Waugh	GBH	Head Writer
	Christina Zagarino	-	Content Creator
Content Researcher	Daniel Anderson	University of Massachusetts, Amherst	Professor Emeritus of Psychology
	Rosemarie Truglio	Sesame Workshop	Senior Vice President of Curriculum and Content
	Courtney Wong Chin	Sesame Workshop	Director of Research

*This is a partial list, and only includes the names of participants who consented to be identified.

Appendix B

Sample Interview Guides

Sample Content Researcher Questions

1. What has your research shown about which formal features are children most receptive to/find most appealing? Are there any formal features that are commonly utilized that might not be so beneficial to learning?
2. What does the research process in show development look like when you are looking at how to deploy different formal features? Are there certain go-to research methods that are always utilized? What kinds of summative research techniques do you use in assessing the efficacy of different formal features?
3. Can you talk a little about the ways in which child developmental theory influence your research and the content you put out?
4. How do you measure for the effectiveness of the social-emotional curriculum?
5. Even as animation dominates children's television, shows like Sesame Street and Blue's Clues maintains a mixed media format and inclusion of live-action people amid the fantasy aspects. Why is it important that there be real adults alongside these animated or puppet characters?
6. Do you think that children are more likely to internalize prosocial messages from a live-action character or an animated character? Does it matter?
7. In your research, have you observed that children react differently to/engage differently with live-action content and animated content?

8. When young children identify with characters, is it more based on physical characteristics/similarities, personality/interests, or something else?
9. There is not a lot of research comparing how children might comprehend live-action and animated content differently. Why might that be?
10. If research showed that there were distinct differences in how children learn from live-action or animated characters, would the children's television industry change?

Sample Content Creator Questions

1. When you set out to create a show, how early on do you decide the format - specifically if it's going to be animated, live-action, or mixed media?
2. Why do you think animation has become the dominant medium for young children's television?
3. When you're creating a show, do you envision the child's experience (like how easily a child will be able to process what they are seeing)? How much do developmental stages factor into the content you produce?
4. In terms of appeal, what sort of formal features are your "go-to"s when developing a show? Are there any formal features that are commonly utilized that might not be so beneficial to learning?
5. When you are developing characters that you want children to identify with, what do you focus on? Is it physical characteristics/similarities, personality/interests, or something else?
6. Learning STEM from a show is different from learning prosocial content. Are different types of shows better suited to a specific type of programming?

7. Even as animation dominates children's television, certain shows maintain a mixed media format and inclusion of live-action people amid the fantasy aspects. Why is it important that there be real adults alongside these animated or puppet characters?
8. What does a live-action show offer that an animated one can't, and vice versa?
9. There is not a lot of research comparing how children might comprehend live-action and animated content differently. Why might that be?
10. If research showed that there were distinct differences in how children learn from live-action or animated characters, would the children's television industry change?

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