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A Content Analysis on Emotions Presented in Preschool Children's Television

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A CONTENT ANALYSIS ON EMOTIONS PRESENTED IN PRESCHOOL CHILDREN'S TELEVISION

by

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ABSTRACT

A Content Analysis on Emotions Presented in Preschool Children's Television

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Emotional literacy development is a prominent aspect of early childhood. Because of the increasing access to screen time and digital media during the COVID-19 pandemic, children have more resources in their environment to learn from. However, before more can be known about whether children are learning about emotions through digital media, it is important to know what emotional content is being presented to them. Therefore, this content analysis sought to gather data regarding how four primary emotions (happiness, sadness, anger, fear) are portrayed verbally (emotion language) and nonverbally (emotion expression) among three types of preschool television shows (entertainment, balanced, educational). These three show categories were selected to test for any differences based on the educational value of the shows. Additionally, the four emotions were selected because they are the first emotions learned during early childhood.

A sample of 60 preschool television shows (20 of each show type) available in the United States from 2019-2021 were analyzed in this study. It was found that happiness emotion expressions were presented significantly greater than sadness, anger, and fear

emotion expressions across all show types. Likewise, emotion expression for all four emotions was presented significantly greater than emotion language for all four emotions across all show types. Type of television show was found to have no significant influence on how emotions were presented in either nonverbal expression or spoken language. These findings reveal that regardless of their educational value, preschool children's television programs are not the best resources for teaching young children about emotions.

(78 pages)

PUBLIC ABSTRACT

A Content Analysis of Emotions Presented in Preschool Children's Television

Sarah Austin

Learning about emotions is an essential aspect of early childhood. Because of the increasing access to screen time during the COVID-19 pandemic, children have more resources in their environment to learn from. However, before more can be known about whether children are learning about emotions during their screen time, it is important to know how emotions are being presented to them in their online content. Therefore, this study sought to gather data regarding how four emotions (happiness, sadness, anger, fear) are portrayed verbally and nonverbally among three types of preschool television shows (entertainment, balanced, educational). A sample of 60 preschool television shows available in the United States from 2019-2021 were analyzed in this study.

Overall, there were no differences found between educational, balanced, or entertainment shows in how emotions were portrayed. This means that it did not matter whether a show had a high or low educational value; emotions were presented very similarly across all shows. It was further found that happiness emotion expressions were presented significantly greater than sadness, anger, and fear emotion expressions, regardless of the type of television show. Nonverbal positive emotions, therefore tend to appear more often than other nonverbal negative emotions in preschool television shows. Likewise, emotion expression for all four emotions was presented significantly greater than emotion language for all four emotions, regardless of the type of television show.

This shows that emotions are more likely to be presented nonverbally than verbally in preschool television shows.

From these findings, it can be concluded that preschool television programs, regardless of their educational status, are not great resources for teaching children about emotions. This is because emotions are not being identified verbally nearly as much as they are portrayed nonverbally, and exposure to emotion language is a key aspect of developing emotion identification capabilities in early childhood. There is also little variation in the types of emotions portrayed in preschool television shows. This leads to a misrepresentation of the typical emotional experience of children in their television content.

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CHAPTER I

INTRODUCTION

Emotion identification—the process of recognizing and correctly labeling feelings in oneself and in others—is the beginning step to developing full emotional literacy (Giordano et al., 2022). Preschool-aged children specifically (ages 2-4) are in the process of learning how to recognize and name simple emotions (happiness, sadness, anger, and fear), identify potential causes of emotions, and understand the motivators behind emotions (Denham & Livrette, 2019; Pons et al., 2004; Streubel et al., 2020). This provides a foundation for greater emotional literacy, such as recognizing more complex emotions (e.g., jealousy, disgust) and regulating emotions.

There are many factors that can impact the development of emotional literacy. Environmental factors, such as family members and peers, may influence children's learning about emotions through social interactions (Bandura, 1986). These social influences may be positive, negative, or neutral, depending on the use of reinforcements or punishments as well as the cognitive processes of the observing child. However, not all social interactions are conducive to emotional literacy development; for example, the use of face masks during the COVID-19 pandemic often inhibited preschool-aged children's ability to recognize emotions in other people while the person was wearing a mask (Giordano et al., 2022; Gori et al., 2021). Additionally, new findings suggest children who receive greater screen time as an emotion regulation tactic from their parents may initially struggle in their emotion identification abilities (Coyne et al., 2023). Although children may learn from socially relevant characters on a screen (Calvert, 2017;

Hassinger-Das et al., 2020; Lauricella et al., 2011), it remains unknown whether children are learning about emotions from digital media.

Over the last decade, screen time use in the U.S. has increased dramatically in early childhood, only to be exacerbated by the COVID-19 pandemic that began in 2020 (Hassinger-Das et al., 2020; Rideout & Robb, 2020). Prior to the COVID-19 pandemic, early childhood screen time in the U.S. increased from an average of 2 hours a day to 2.5 hours of screen time from 2017 to 2020 (Hassinger-Das et al., 2020). Researchers do not yet know the screen time trends for young children since 2020; however, due to factors such as childcare closures for children and working from home for parents, it is likely that screen time may have increased as a result (Rideout & Robb, 2020). As screen time continues to increase, many caregivers seek to ensure that the media provided to their children is age appropriate and high quality (Hill et al., 2016).

Content analyses are employed by researchers to achieve insight into the quality of children's media. Previously, content analyses have explored mediums such as children's storybooks (e.g., Ding et al., 2021; Farkas et al., 2020; Grady et al., 2019; Wege et al., 2014) and Disney films (e.g., Hefner et al., 2017; Padilla-Walker et al., 2013, Shawcroft et al., 2022). A limited number of studies have analyzed preschool television programs, focusing on topics such as prosocial behavior (Linebarger et al., 2017), gender (Walsh & Leaper, 2020), and morality (Wang, 2021). However, there are currently no content analyses focusing specifically on emotion in preschool television programs.

Because emotional literacy is beginning to develop during the preschool years, it is important to explore the emotional content that is being presented to preschoolers in

their digital media. As noted in social cognitive theory, children are capable of learning from their digital media (Bryant & Oliver, 2009); therefore, it is important to investigate the content that is being presented to them. However, there has been very little research to date on how emotions are being presented in children's digital media. It is imperative, therefore, to explore how emotions are being presented in digital media content before further connections are made regarding potential relationships between the emotional content in digital media and young children's learning about emotions through digital media. The purpose of this study, therefore, was to begin exploring how preschool television shows present emotions to preschool-aged children.

This study aims to fill this gap in the literature by exploring how preschool television programs demonstrate emotion language (i.e., happy, sad, anger, fear) and emotion expressions (i.e., vocalizations and body language displays) to young children. This study specifically examines shows that were currently on air in 2019-2021 since these programs were newly available during the first 2 years of the COVID-19 pandemic. The programs were also categorized as entertainment (low educational value), balanced (middle educational value), or educational (high educational value) to detect whether there is any association between the type of show and the emotions presented. The research questions for this study are as follows.

1. Are there differences between the type of preschool television show and the type of emotion language presented within the show?
2. Are there differences between the type of preschool television show and the type of emotion expressions presented within the show?
3. Are there differences between the amount of emotional language and the amount of emotional expression?

CHAPTER II

LITERATURE REVIEW

This chapter first focuses on establishing the theoretical framework that guides the proposed study. Then, it reviews and addresses the literature concerning emotional literacy development in early childhood. There is also a discussion regarding the latest trends in screen time in early childhood, particularly as it pertains to the COVID-19 pandemic. Last, information about the educational qualities of children's visual media is examined, as well as an outline of previous content analyses on children's media. After the review of the literature, the research questions and hypotheses for the study are presented.

Theoretical Framework

Social cognitive theory, as postulated by Albert Bandura, is a frequently applied theoretical framework for analyzing and understanding human development, particularly in research regarding media use (Bryant & Oliver, 2009). Bandura extended behaviorist theory by suggesting that the environment plays a significant role in the learning process (Bandura, 1986). Through observational learning, individuals pay attention to others' behavior, encode it to memory, and attempt to copy or imitate the observed behavior. The imitated behavior may be reinforced or punished by other individuals, depending on whether it was socially acceptable behavior. However, some behaviors are neutral and are not reinforced nor punished by others.

Observational Learning

Observational learning involves two participants: the observer, or imitator, and the model (Bandura & Walters, 1977). Models demonstrate all types of behaviors while the observer watches and attempts to imitate the model's actions. In a caregiver-child relationship, for example, the caregiver primarily acts as a model and the child primarily acts as an observer. However, observational learning can occur in multiple settings, including through watching characters on a screen (Bandura et al., 1961; Calvert, 2017; Hassinger-Das et al., 2020). This is supported by Bandura's Bobo doll experiment (Bandura et al., 1961), which found that young children are capable of learning social behaviors vicariously by watching videos on a screen.

There are four main processes that make up observational learning, which are attention, retention, production, and motivational processes (Bandura & Walters, 1977). The attention process is the act of seeing a behavior and paying attention to it. Retention is the ability to take the observed information and keep it in one's memory. Production is the act of then imitating or performing that behavior or applying the learned information into action. Finally, motivational processes represent the internal and external motivators that prompt individuals to continue performing that behavior. Children's media, particularly educational programs, aim to utilize the observational learning processes by capturing the child's attention, providing interesting and applicable information, and inviting children to participate alongside the characters (Hassinger-Das et al., 2020; Hirsh-Pasek et al., 2015).

Triadic Reciprocal Determinism

Social cognitive theory suggests a system known as triadic reciprocal determinism (Bandura, 1986, 2023). This system involves three pillars: behavior, cognition, and environment. The likelihood of a behavior being attended to depends on the complexity, duration, and skills involved. If the behavior is too difficult, then the individual will not be able to process it well. Observational learning also depends on the individual's cognitive processes at that time. Although an individual may attend to a behavior, their past learning, motivations, and personality could alter the way they retain information or perform an action. Last, the type of environment can affect the individual's ability to process information; for example, engaging environments tend to support learning while distracting environments may inhibit learning.

Agency is a developed component that plays a role in the process of observational learning (Bandura, 2023). As children acquire a sense of self during infancy and early childhood, they begin to recognize that they are agents that can influence their own behavior, the behavior of others, and their surrounding environment. This newfound agency allows them to choose whether they will pay attention to, retain, or produce behaviors displayed by others. Therefore, although certain behaviors may be present in the child's environment, that alone does not mean that children will learn from these behaviors.

Children's environments typically consist of family members, peers, teachers, and media characters that can act as behavior models. Although television characters may be fictional, they may still be socially relevant figures for young children (Calvert, 2017;

Hassinger-Das et al., 2020; Lauricella et al., 2011), and children may attempt to imitate what they see characters say or do on screen (McLeod, 2016). This indicates that children are capable of learning from digital media, such as television shows (Hill et al., 2016), as supported by Bandura's Bobo doll study (Bandura et al., 1961). Therefore, if characters on preschool television shows are expressing and teaching about emotions effectively, children may learn to imitate the way these characters express emotions.

Some researchers in the past have explored the connection between media content and children's learning, yet much is still unknown regarding whether emotional content specifically leads to children's understanding of emotions. Dorr et al. (1983) stated that "preschoolers are the most difficult audience to whom to communicate emotions" (p. 110), noting that simpler emotions, such as happiness and sadness, are easier for them to understand than more complex emotions, such as jealousy and grief. Therefore, it is important to note that the types of emotions presented in children's media may be a factor in the child's ability to recognize, comprehend, and reproduce emotion behaviors (Denham & Couchoud, 1990; Dorr et al., 1983; Streubel et al., 2020; Widen & Russell, 2023).

Additionally, even if emotional content is present, children would need to choose to attend to the emotion expression before any of the other aspects of observational learning (retention, production, and motivation) can occur. As summarized by Vom Orde (2008), studies have shown that even if preschool-aged children are able to pay attention to and recognize emotions on a screen, their long-term memory of these events is very weak. Young children also more easily recognized emotional reactions in television

programming that were portrayed by humans rather than cartoon or puppet characters (Hayes & Casey, 1992). Yet the majority of children's content is animated; therefore, it may be more difficult for children to recognize emotions based on the category of preschool programming.

Before this connection can be explored further, it is imperative to first evaluate children's digital media content for their current presentation of emotions. Because of the development of streaming and hand-held digital screens, children have access to a wider range of media content than ever before. Therefore, it is important to continue exploring the emotional content of children's digital media in order to later find a stronger connection between emotional content and children's learning of emotions.

Emotional Literacy in Early Childhood

Emotional literacy can be defined as the ability to identify, understand, and communicate one's personal feelings as well as identify the feelings of others (Giordano et al., 2022; Gori et al., 2021; Sorin, 2004, 2009). It is an essential skill that should have a similar importance as other developing literacies in childhood, such as reading or writing (Sorin, 2009). During early childhood, children's vocabulary expands tremendously (Fahey et al., 2018), including the names of various emotions (Pons et al., 2004; Streubel et al., 2020). Children also begin to learn the appropriate display rules across social settings for each emotion as well as how to accurately interpret the emotions of others through theory of mind—the child's personal guess as to what others are feeling (Crain, 2015; Harrington et al., 2020; Sala et al., 2014; Zeman et al., 2006). Higher emotional literacy in early childhood is linked with later developmental outcomes, such as academic

performance, school adjustment, and peer acceptance (Giordano et al., 2022).

A model created by Pons et al. (2004) is useful for understanding the progression of emotional literacy development in childhood. The first three components relate to early childhood specifically (defined as ages 3-5 in their model). Component I is recognition, in which children are able to recognize and name basic emotions (happiness, sadness, anger, and fear) based on expressive cues. Next, Component II is external cause, described as the ability to make connections between events and the associated emotional response (e.g., feeling sad after a toy breaks). Last, Component III is desire, which is the understanding that emotions are also based on the individual's wants; for example, if a child wants a toy, then they will feel happy if they receive one. Essentially, this model demonstrates that preschool-aged children are learning how to recognize and name primary emotions while understanding that emotions are linked to expressive sources and situational cues (Pons et al., 2004; Streubel et al., 2020).

Emotion identification is the precursor to understanding, communicating, and regulating one's emotions as well as responding appropriately to the emotions of others (Giordano et al., 2022). Expressive sources (i.e., facial expressions) and situational cues (i.e., context clues) are two coinciding factors that influence the accuracy of emotion identification (Denham & Liverette, 2019; Giordano et al., 2022; Pons et al., 2004; Streubel et al., 2020). To properly identify emotions, children need to acquire the associated emotion vocabulary and practice observing how emotions are expressed through nonverbal body language (Giordano et al., 2022; Streubel et al. 2020). Preschool-aged children specifically are in the process of learning how to label emotional

expressions correctly and identify the related situational cues (Denham & Liverette, 2019). As supported by social cognitive theory (Bandura, 1986, 2023; Crain, 2015; McLeod, 2016), children can learn emotion identification through social interactions and observations by acquiring the emotion language and paying attention to the associated behaviors.

A study conducted by Denham and Couchoud (1990) analyzed the emotion identification skills of preschool-aged children (ages 2-4) regarding happiness, sadness, anger and fear. The researchers found that young children were more successful at correctly identifying positive emotions (i.e., happiness) than negative emotions (i.e., sadness, anger, and fear). A later study by Widen and Russell (2003) discovered that preschool-aged children were able to label happiness, sadness, and anger at earlier ages than fear. However, more complex emotions, such as grief, jealousy, or disgust, are more difficult for young children to identify (Streubel et al., 2020).

Screen Time, Early Childhood, and COVID-19

Due to restrictions in place during the COVID-19 pandemic, families were encouraged to stay at home and social distance. This led many activities to be held through screen time, such as video chats, online learning, and other entertainment activities, such as watching television or playing on a tablet (Rideout & Robb, 2020). Although screen time use is discouraged in early childhood (Hill et al., 2016), a recent report states that in the U.S. children ages 0-8 years old are using, on average, 2.5 hours of screen media a day (Rideout & Robb, 2020). This is an increase from a 2017 report from the same organization that stated that children were using an average of 2 hours of

screen media a day (Hassinger-Das et al., 2020). When broken into age groups, the 2020 report found that children younger than two years old are using 49 minutes of screen time daily, 2-4-year-olds are using about 2.5 hours of screen time daily, and 5-8-year-olds are using more than 3 hours of screen time daily (Rideout & Robb, 2020). Although the increase in early childhood screen time from 2017 to 2020 could be explained as being due to the COVID-19 pandemic, data collected for the 2020 report was done prior to the pandemic. Therefore, screen time was already on the rise before national lockdowns and childcare closures.

An updated census report for early childhood has not been released since 2020; however, it is likely that screen time use increased in the past three years. New information was already released about screen time for tweens (ages 8-12) and teens (ages 13-18) from 2019-2021 (Rideout et al., 2022). According to this census report, screen time for both age groups increased by 17% from 2019-2021. Tweens' screen time increased from 4 hours and 44 minutes to 5 hours and 33 minutes, and teens' screen time increased from 7 hours and 22 minutes to 8 hours and 39 minutes. Screen time amplified faster for both age groups within the two years of 2019-2021 than from the previous four years of 2015-2019. A recent report from the Pew Research Center stated that for parents of children younger than 11-years-old, media and technology is one of the most relevant and pressing parenting concerns (McClain, 2022).

The reality of actual screen time use is vastly different from the current guidelines recommended to parents and caregivers by the American Academy of Pediatrics (AAP) (Hill et al., 2016). For infants and toddlers younger than 18-24 months, the AAP

recommends that caregivers avoid all digital media, with the exception of video chat due to the socializing aspects of this activity. When children reach 18-24 months of age, then caregivers can begin introducing high-quality programming. Then, from ages 2-5, children may begin having no more than an hour of high-quality programming. Examples of high-quality programming include educational television shows as well as digital books.

The AAP and current research affirm that parents and caregivers should avoid utilizing media as a constant tool of distraction or soothing for their children (Coyne et al., 2023; Hill et al., 2016). Higher media emotion regulation, as discovered by Coyne et al., is associated with lower levels of emotion knowledge and empathy as well as higher levels of emotional reactivity in children around 3.5 years of age. The AAP also recommends that parents should also participate in co-viewing with children in order to teach them appropriate use and application of what they are seeing on screen (Hill et al., 2016). This is also a way for parents to ensure that their children are viewing high-quality programming. Because screen time, on average, is increasing in the United States (Hassinger-Das et al., 2020; Rideout & Robb, 2020), it is imperative that the content of digital media is continually evaluated so that parents can make informed decisions about the types of programming they provide during screen time.

Education- vs. Entertainment-Focused Media

Children's media, particularly television programming, is often classified as either education- or entertainment-focused. Education-focused media refers to programs that are intended to entertain and teach children about specific topics (Kirkorian et al., 2008).

These topics range from cognitive skills (e.g., counting, learning the alphabet) to social-emotional skills (e.g., how to share, recognizing emotions). Researchers have found that educational media typically include four teaching elements: active, engaged, meaningful, and socially interactive learning (Hassinger-Das et al., 2020; Hirsh-Pasek et al., 2015). Meaning, education-focused media should: (a) stimulate the child's cognition (i.e., active learning); (b) be interesting and enjoyable for children (i.e., engaged learning); (c) be relevant and applicable for children (i.e., meaningful learning); and (d) invite children to participate (i.e., socially interactive learning). Examples of educational preschool television shows that follow these principles include *Sesame Street, Daniel Tiger's Neighborhood,* and *Word Party* (Common Sense Media, n.d.b).

Entertainment-focused media refers to programs that are intended to entertain or amuse children without emphasizing educational elements (Valkenburg & Janssen, 1999). Although entertainment-focused television shows may have teaching moments, overall, they would not meet enough of the teaching elements to be considered education-focused. Examples of preschool television shows that would be classified as entertainment-focused include *Bluey, Curious George,* and *Puppy Dog Pals* (Common Sense Media, n.d.a). However, there are some shows, such as *PAW Patrol* and *Creative Galaxy* that may fit somewhere in between the entertainment- and the education-focused shows. These programs contain more educational qualities than the entertainment-focused shows but may not fit all of the criteria to be considered completely educational in nature. Such programs could be categorized as having a mixed-focus or balanced approach.

Both entertainment- and education-focused television shows can be considered high-quality programming as recommended by the AAP (Hill et al., 2016), despite their different purposes (Valkenburg & Janssen, 1999). Resources, such as Common Sense Media and Plugged In, are available to parents and caregivers to support their search for age-appropriate, high-quality media for their children. Additionally, some researchers evaluate the quality of children's media through content analyses.

Content Analyses on Children's Media

Content analyses provide insight into the materials and messages contained in children's media (Schutt, 2019). Researchers have conducted several content analyses on children's media, including films, television programs, and books geared toward children. Content analyses have explored topics such as prosocial behavior (Linebarger et al., 2017; Padilla-Walker et al., 2013), gender (Walsh & Leaper, 2020), aggression (Padilla-Walker et al., 2013), romantic ideals (Hefner et al., 2017), and socioeconomic status (Shawcroft et al., 2022). Emotions have also been explored through content analyses, primarily within children's storybooks (Chentsova-Dutton et al., 2021; Ding et al., 2021; Farkas et al., 2020; Wege et al., 2014). This is a fairly new method of empirical research with the majority of content analyses being published in the last ten years. Findings from content analyses are useful for both parents and practitioners in making media selections for children.

Emotions in Children's Literature

At this time, most children's media focused content analyses regarding emotion

have been conducted on children's literature. Almost all these content analyses are comparative between different cultures and countries (Chentsova-Dutton et al., 2021; Ding et al., 2021; Farkas et al., 2020; Wege et al., 2014) or different races and ethnicities (Grady et al., 2019). These comparisons provide greater insight into how emotions are expressed similarly or different between groups of people. Some studies only analyzed the facial expressions and body language of the storybook characters (Grady et al., 2019; Wege et al., 2014), while others only analyzed written emotion language (Ding et al., 2021; Farkas et al., 2020). Chentsova-Dutton et al. was the only research team to analyze both emotion language and displays together. This is noteworthy because emotions are expressed both vocally and nonverbally, so analyzing both provides a more well-rounded understanding of how emotions are being presented in children's media content.

Results of these content analyses indicated that in children's storybooks, positive emotions were presented more frequently than negative emotions (Farkas et al., 2020; Grady et al., 2019; Wege et al., 2014). However, this varied between cultures. For example, researchers found that storybooks in the U.S. depicted positive emotions more often than storybooks in Russia (Chentsova-Dutton et al., 2021) and China (Ding et al., 2021). This may be due to differences in customs or norms concerning emotions between individualistic and collectivist cultures (Chentsova-Dutton et al., 2021; Ding et al., 2021; Farkas et al., 2020; Grady et al., 2019; Wege et al., 2014). In individualistic cultures, such as the U.S., positive emotions are more desirable and valuable, whereas in collectivist cultures, such as Russia, negative emotions are more acceptable and considered of equal value with positive emotions (Chentsova-Dutton et al., 2021).

Emotions and Children's Digital Media

A recent meta-analysis examined research regarding media use in early childhood (defined in this article as ages 0-6) and its relationship with word-learning and vocabulary size (Jing et al., 2023). This study included 63 studies with 266 effect sizes published during 1988-2022. This meta-analysis found a small positive relationship (r = .23) between screen media exposure and children's vocabulary size in experimental studies. However, in naturalistic settings, this association was not found (r = .07) unless the media was educational in nature (r = .17). This meta-analysis demonstrates that children may be learning new vocabulary through their screen media exposure, even if it is only a small influence. However, this study did not differentiate between the categories of vocabulary that children were acquiring, such as emotion language. This is noteworthy because although children could have an increased vocabulary size after screen time exposure, there is limited knowledge as to the types of words being learned.

Another study recently published by Coyne et al. (2023) examined the influence of media emotion regulation practices by parents of preschool-aged children and the emotional outcomes displayed by the child a year later. One of the measures for this study was emotional knowledge, in which young children were asked to identify four emotions (happiness, sadness, anger, and fear) depicted by puppets and faces. The researchers found that when children are given more screen time as an emotion regulation tool, it is associated with lower initial emotional knowledge displayed by the child. Additionally, children who have higher access to screen media, particularly as an emotion regulation tactic, may struggle with emotion identification initially compared to children

with less access to screen media. However, until more is known about the emotional content of children's screen media, further connections cannot be made between what children are viewing and their understanding of emotions.

Emotions in Children's Television

Past analyses regarding emotions in children's television is limited; however, some studies began to investigate the potential relationship between digital emotional content and children's understanding of emotions. One study by Knowles and Nixon (1990) examined whether older children (ages 6-8) were capable of recognizing the depiction of jealousy, a complex emotion, in a cartoon television show. Results from this study indicated that jealousy was difficult for older children to understand based on its depiction in the cartoon. But the children who recognized it more easily tended to have a higher receptive vocabulary than the children who did not fully understand the depiction of jealousy.

Additionally, one study found that preschoolers more easily identified emotions in television shows if they were depicted by human characters rather than cartoon or puppet characters (Hayes & Casey, 1992). However, this study only used three different television shows in their experiment, and the objective of the study was to understand whether children could simply identify an affective reaction by a character on a screen. Therefore, this study was quite broad in their approach regarding the emotional content presented to the participating children.

Gender has also been explored regarding emotional content in children's television programs. One study investigated whether children's shows adhered to

emotion stereotypes when depicting their characters as experiencing certain emotions—happiness, sadness, anger, and fear (Martin, 2017). It was hypothesized that female characters would be more likely to display fear and sadness, while male characters would be more likely to display anger. The researcher included 8 television shows in the sample, and categorized each show based on educational value as well. Results from this study indicated that male characters portrayed all four emotions more frequently than female characters. Additionally, entertainment-focused shows tended to have more counter-stereotyped emotions than education-focused shows. Although this study analyzed the presentation of basic emotions in children's shows, the sample was small and was more focused on gender stereotyping than how emotions are portrayed generally.

Another study conducted by Houle and Feldman (1991) analyzed more specifically the presentation of emotions in five children's television programs during randomly selected 15-second intervals. This study likewise utilized basic emotions, including happiness, sadness, anger, and fear, as well as two complex emotions, disgust and surprise. Emotions were evaluated based on the presentation of nonverbal expressions during the selected 15-second interval. Findings from this study suggest that each emotion was displayed in various frequencies and that emotion expressions were associated with specific emotion-contexts. Although this study did analyze the emotional content of television shows, the sample size was small and the target demographic was not specified. Likewise, emotion content was only indicated by shorter intervals rather than entire episodes as a whole.

One recent content analysis study has explored further the emotional content

within children's television programs (see Wang, 2021). However, this study focused more on moral values than emotions, and the researcher analyzed only three cartoon television shows—*Daniel Tiger's Neighborhood, Peppa Pig,* and *Arthur.* Results from this study found that positive emotions appeared more frequently across the selected episodes than negative emotions (Wang, 2021, p. 38). This finding aligns with those from other content analyses on emotions, as described previously. Although this finding is a start, the scope of the sample was small and did not include emotion language nor displays as the primary focus. Therefore, there is still more that can be explored regarding how television programs portray emotions to young children. It is important to continue investigating how emotions are presented in children's television because children are capable of attending to and learning from the messages found in digital media—an increasingly prominent aspect of their daily lives.

Summary

Early childhood is a critical developmental period in which children learn to recognize and regulate their emotions independently. Emotional literacy is learned through social interactions, as conceptualized by Bandura's social cognitive theory. Screen time has increased dramatically over recent decades, especially due to the COVID-19 pandemic. Therefore, it is imperative to evaluate the content that children are consuming during their screen time. For example, much research has been dedicated to understanding what makes media content educational for young children. Researchers have also explored children's media through content analyses regarding multiple topics, including emotions. Although many content analyses were conducted regarding emotions

presented in children's storybooks, to date very little research has been done on emotions presented in children's digital media, such as television.

Because young children can attend to and learn from socially relevant figures, including characters on a screen, young children may be capable of learning about emotions through their digital media content. Yet, this conclusion cannot be made without first understanding which emotions are portrayed, how often emotions are included, and if emotion language and expression are connected in child-focused television programming. Therefore, the purpose of the study is to explore how different types of television programs—entertainment, balanced, and educational—are presenting emotions to preschool-aged children. This study intends to fill the gap in the literature by analyzing the use of emotion language and expressions among four types of emotions: happiness, sadness, anger, and fear. This study is particularly relevant due to the increase of early childhood screen-time before and during the COVID-19 lockdown (Hassinger et al., 2020; Rideout & Robb, 2020). Therefore, the research questions for this study were as follows.

1. Are there differences between the type of preschool television show and the type of emotion language presented within the show?
2. Are there differences between the type of preschool television show and the type of emotion expressions presented within the show?
3. Are there differences between the amount of emotional language and the amount of emotional expression?

It was hypothesized that there would be a difference between the type of preschool television show and the type of emotion language presented within them. Likewise, it was hypothesized that there would be a difference between the type of

preschool television show and the type of emotion expressions presented within them. These hypotheses were predicted because educational shows may present emotions more directly through use of spoken emotion language, whereas entertainment shows may present emotions more indirectly through the use of nonverbal emotion expressions. Finally, it was hypothesized that there would be a difference between the type of preschool television show and the rate of occurrence of both emotion language and expressions presented within them. Due to the exploratory nature of this study, no directional hypotheses were predicted.

CHAPTER III

METHODS

Data and Procedures

Selection of Shows and Episodes

The selection methods for this study were informed by a previous study conducted by Walsh and Leaper (2020). A list of television programs that were available to caregivers at the time of the COVID-19 pandemic from March 2020 to December 2021 were analyzed (see Appendix A). The list of preschool television shows was selected from Common Sense Media, a non-profit organization that provides ratings and reviews of media content specifically for parents of children and adolescents (Common Sense Media, n.d.d). The organization provides research-supported recommendations for movies, television, books, games, podcasts, apps, and YouTube. Media reviews are provided by a team of writers, editors, and experts on child development and include information on media content such as positive messages, language, violence, diversity, and educational value (Common Sense Media, n.d.c). Titles for this study, therefore, came primarily from a Common Sense Media (n.d.a) article titled "Best Preschool TV Shows," which included programs from streaming services, public television, and online video sites.

Programs were selected if they were geared toward young children ages 2-4 years old, as recommended on Common Sense Media (Common Sense Media, n.d.c). In addition, the shows needed to be predominantly English-speaking to be included. Although many families in the US speak languages other than English, there can be

cultural and linguistic differences in emotion expression between languages that may alter the results of the study if they were to be included (see Chenstova-Dutton et al., 2021). Finally, shows were selected if at least three new episodes aired in either 2019 or 2021. This was to ensure that they represented what was most recent and available at the time of the COVID-19 pandemic. Titles can be accessed on at least one of the major streaming platforms in the US (e.g., Netflix, Hulu, Apple TV+, Disney+), on online video sites (e.g., YouTube), or on public broadcasting channels (e.g., PBS Kids).

A stratified random sampling process was utilized to further narrow the show selection. All shows that met the criteria were listed and separated into three categories based on the education rating provided on Common Sense Media (n.d.c). This education rating ranges on a scale of 0-5, with 0 being no educational value present and 5 being the most educational value present. Therefore, each listed program fell into one of the following categories: (a) educational, if they had a rating of a four or five (e.g., *Sesame Street*); (b) balanced, if they had a rating of a two or three (e.g., *Bubble Guppies*); or (c) entertainment, if they had a rating of a zero or one (e.g., *Curious George*). Then, shows were randomly selected within each category, finalizing the selection with a total of 20 educational, 20 balanced, and 20 entertainment shows. Shows were first grouped based on their educational rating; then, shows were assigned a number, and a random number generator was utilized until 20 shows were selected for each category.

One episode was randomly selected from each of the programs that aired between 2019-2021, totaling 60 episodes. Episodes aired from each show between 2019 and 2021 were listed and assigned a number; then a random number generator was used to select an

episode from each show. With a sample size of 60 episodes, $a = 0.05$, and effect size of 0.17, the achieved power ranged from 54-82% for the ANOVA analyses.

Coding Procedure

Each episode was coded following a set of criteria as outlined in the measurement section below. The lead author trained one additional coder to achieve interrater reliability and assist with the coding process. The training process involved coding one episode from two programs from each of the three educational rating categories, totaling 6 episodes, until there was an agreement of at least 80% between the coders. Coders had the opportunity to practice coding jointly and separately, as well as to ask questions and discuss their scores during training. Training episodes were selected from shows that were not included in the final selection list. A codebook was created during the training process to assist coders in becoming reliable on how to code for each measure of the study (see Appendix B). Interrater reliability was calculated between coders using a minimum agreement standard of 80% or higher. At the end of training, the achieved agreement between coders was an average of 93% across the 6 training episodes.

Episodes were coded in 30-second intervals. Each item in the coding scheme was recorded dichotomously as present or not present within the 30-second segment (0 = not present, 1 = present). Even if an individual item (e.g., happiness emotion language) occurred multiple times, or at varied intensities, within a 30-second interval, it was only counted once for that segment. The sum of each emotion language or emotion expression was then tallied at the end of each episode and divided by the total number of 30-second intervals to calculate a percentage for the episode as a whole. The purpose of this step

was to make analogous comparisons between episodes of different running times. Throughout data collection, coders continued checking each other for interrater reliability by randomly recoding one out of every five episodes coded by the other coder. At the end of data collection, the achieved agreement between coders was an average of 91% across the 12 episodes that were checked throughout the data collection.

Coding data were collected and managed using Research Electronic Data Capture (REDCap) hosted at Utah State University (Harris et al., 2009, 2019). REDCap is a secure, web-based software platform designed to support data capture for research studies, providing (1) an intuitive interface for validated data capture; (2) audit trails for tracking data manipulation and export procedures; (3) automatic export procedures for seamless data downloads to common statistical packages; and (4) procedures for data integration and interoperability with external sources.

Measures

Measures for this study reflect similar conceptualizations as those used by a previous content analysis conducted by Chentsova-Dutton et al. (2021). Chentsova-Dutton et al. examined emotion language and displays presented in children's storybooks. The researchers chose to code for happiness, sadness, anger, and fear emotion language and nonverbal displays. These four emotions align with many previous studies related to emotional literacy in early childhood (Girodano et al., 2022; Gori et al., 2021; Denham & Couchoud, 1990; Pons et al., 2004; Widen & Russell, 2003). Chenstova-Dutton et al. selected these emotions to represent the instances of positive emotions (i.e., happiness) and negative emotions (i.e., sadness, anger, and fear) in children's literature. According

to the researchers, the U.S. culture places a higher emphasis on pursuing positive emotions rather than negative emotions in comparison to other cultures, such as Russia. Although this was not supported by their findings in children's storybooks, there may be a possible difference in how positive and negative emotions are portrayed in other children's media. Therefore, these four emotions were utilized in this current study to code both the emotion language and emotion expression displayed in preschool television shows.

Emotion Language

Emotion language was recorded each time a character explicitly vocalized an emotion word within an episode. This was separated into four categories: (a) happiness emotion language (e.g., happy, excited); (b) sadness emotion language (e.g., sad, upset); (c) anger emotion language (e.g., mad, frustrated); and (d) fear emotion language (e.g., scared, worried; Chentsova-Dutton et al., 2021). Each of the four categories of emotion language was coded dichotomously (1 = present, 0 = not present) for each 30-second interval within an episode. The sum of each category of emotion language was then tallied at the end of each episode and divided by the total number of 30-second intervals in order to obtain a percentage for the episode as a whole.

Emotion Expression

Emotion expression was recorded each time a character displayed emotion behaviors either in vocalizations (e.g., cheering, groaning) or non-verbal body language cues (e.g., smiling, frowning). Like the emotion language measure, this was also separated into four categories: (a) happiness emotion expression (e.g., smiling, cheering);

(b) sadness emotion expression (e.g., crying, whining); (c) anger emotion expression (e.g., burrowing eyebrows, yelling); and fear emotion expression (e.g., lifted eyebrows, screaming; Chenstova-Dutton et al., 2021). Each of the four categories of emotion expression was coded dichotomously (1 = present, 0 = not present) for each 30-second interval within an episode. The sum of each category of emotion expression was then tallied at the end of each episode and divided by the total number of 30-second intervals in order to obtain a percentage for the episode as a whole.

Analytic Approach

A content analysis was utilized as the analytic approach for this study. Content analysis is a research method that is often used when conducting studies related to media (Schutt, 2019). It can be used to analyze text, speech, or images to find common themes or relationships of constructs within human communication. Although it has characteristics of qualitative research due to its use of coding and searching for qualitative themes, it often follows a quantitative measurement and data analysis process. This study used the content analysis format to analyze speech and emotion displays within preschool children's television.

For the statistical analysis, an initial analysis was conducted to test the assumptions of normal distribution, sphericity, and homogeneity of the results for all three research questions. Then, to answer research question 1 exploring the differences in emotion language between show types, due to the violation of normality and sphericity, a non-parametric two-way mixed Friedman's ANOVA was conducted to compare the proportion of each of the four emotion language types (happiness, sadness, anger, fear)

present within all three show categories (entertainment, balanced, educational). To answer research question 2 exploring the differences in emotion expressions between show types, a two-way mixed ANOVA was conducted to compare the proportion of each of the three emotion expression types (happiness, sadness, fear) between the three show categories. Anger emotion expression was tested individually using the Kruskal-Wallis one-way ANOVA due to this emotion violating the assumption of homogeneity of variance. Finally, to answer research question 3 exploring the differences in co-occurrence between show types, due to the violation of normality and sphericity, a two-way mixed Friedman's ANOVA was conducted to compare the proportion of emotion language and expressions of all four emotions present within all three show categories.

CHAPTER IV

RESULTS

This chapter outlines the statistical analyses utilized to answer each of the research questions. It also reports on any statistically significant findings for each statistical analysis. Data for each of the four emotions (happiness, sadness, anger, fear) were reported using percentages. Results for this study are organized by research question in this chapter.

Research Question 1

Research Question 1 asked, "*Are there differences between the type of preschool television show and the type of emotion language presented within the show*"? To answer research question 1, a two-way mixed ANOVA was initially conducted to test for any differences between the type of preschool television show and the type of emotion language presented within the show. The percentage of occurrence for each emotion (happiness, sadness, anger, fear) was used for comparison for this analysis (see Table 1). Figure 1 illustrates the average percentage of occurrence for happiness, sadness, anger, and fear emotion language, without accounting for the type of show. However, Mauchly's test indicated that the assumption of sphericity was violated ($W = .68$, $p < .001$), and the assumption of normality was also violated based on the Q-Q plot. Therefore, the non-parametric one-way Kruskal-Wallis ANOVA was conducted to test for any between subjects' effects on emotion language.

Table 1

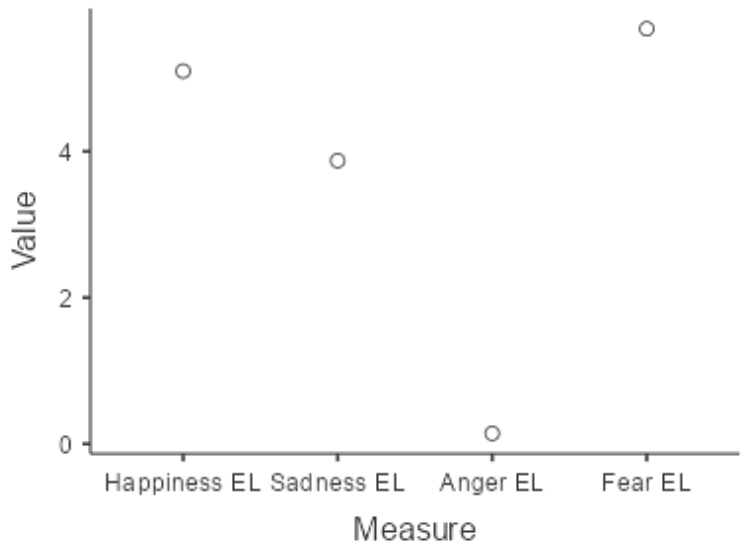
Descriptives of Emotion Language

Statistic	Show type	Happiness (%)	Sadness (%)	Anger (%)	Fear (%)
N	Educational	22	22	22	22
	Balanced	20	20	20	20
	Entertainment	18	18	18	18
Mean	Educational	5.05	4.09	0.10	4.82
	Balanced	4.65	3.71	0.21	5.05
	Entertainment	5.65	3.79	0.13	7.43
Median	Educational	4.21	2.11	0.00	2.01
	Balanced	3.71	2.83	0.00	4.04
	Entertainment	4.26	4.17	0.00	6.25
SD	Educational	4.98	4.94	0.43	6.38
	Balanced	5.00	4.96	0.66	5.09
	Entertainment	6.48	2.74	0.54	7.17
IQR	Educational	3.92	5.09	0.00	9.19
	Balanced	8.08	4.37	0.00	4.55
	Entertainment	4.56	3.92	0.00	6.55
Minimum	Educational	0.00	0.00	0.00	0.00
	Balanced	0.00	0.00	0.00	0.00
	Entertainment	0.00	0.00	0.00	0.00
Maximum	Educational	16.00	16.70	2.00	19.10
	Balanced	17.80	18.80	2.22	18.80
	Entertainment	25.00	8.70	2.27	26.10

From the Kruskal-Wallis ANOVA analysis, there was not a significant main effect of show type on the percentage of occurrence for happiness emotion language ($X^2(2) = 0.24$, $p = 0.886$, $e^2 = .004$), sadness emotion language ($X^2(2) = 1.46$, $p = 0.481$, $e^2 = .025$), anger emotion language ($X^2(2) = 0.56$, $p = 0.755$, $e^2 = 0.009$), and fear emotion language ($X^2(2) = 3.23$, $p = 0.199$, $e^2 = 0.055$) (see Table 2). Therefore, further post hoc analyses were not conducted.

Figure 1

Descriptive Plot for Emotion Language, in Percentages



EL = Emotion Language
Full range (0-100%) not depicted here

Table 2

Kruskal-Wallis – Emotion Language

Emotion language	χ^2	*df*	*p*	ε^2
Happiness – Emotion Language	0.243	2	0.886	0.00411
Sadness – Emotion Language	1.463	2	0.481	0.02479
Anger – Emotion Language	0.562	2	0.755	0.00952
Fear – Emotion Language	3.229	2	0.199	0.05473

Additionally, the non-parametric repeated measures Friedman's ANOVA analysis was utilized instead to test for any differences between the type of emotion language presented within all preschool television shows. From the Friedman's ANOVA analysis, there was a small statistically significant main effect in the percentage of occurrence between all four emotions (happiness, sadness, anger, fear) ($X^2(2) = 65.2$, $p < .001$, $W =$

0.36), without accounting for the type of show (see Table 3). Post hoc pairwise comparisons using the Durbin-Conover method revealed that the percentages of occurrence for happiness emotion language (M = 5.10, SD = 5.40), sadness emotion language (M = 3.87,SD = 2.92), and fear emotion language (M = 5.68, SD = 6.24) were significantly higher than the percentage of occurrence for anger emotion language (M = 0.14, SD = .54; see Table 1 and Table 3). Figure 1 illustrates the average percentage of occurrence for happiness, sadness, anger, and fear emotion language, without accounting for the type of show.

Table 3

Pairwise Comparisons (Durbin-Conover) – Emotion Language

Emotion language			Statistic	*p*
Happiness EL	-	Sadness EL	1.1778	0.240
Happiness EL	-	Anger EL	8.5394	< .001
Happiness EL	-	Fear EL	0.0982	0.922
Sadness EL	-	Anger EL	7.3616	< .001
Sadness EL	-	Fear EL	1.0797	0.282
Anger EL	-	Fear EL	8.4413	< .001

EL = Emotion Language.

Research Question 2

Research Question 2 asked, "*Are there differences between the type of preschool television show and the type of emotion expressions presented within the show*"? To answer this question, a two-way mixed ANOVA was initially conducted to test for any differences between the type of preschool television show and the type of emotion expressions presented within the show. The percentage of occurrence for each emotion

(happiness, sadness, anger, fear) was used for comparison for this analysis (see Table 4). Mauchly's test indicated that the assumption of sphericity was violated ($W = .79$, $p < .001$), so the Greenhouse-Geisser correction was applied ($e = .83$). Leverne's test also indicated that the variable for anger emotion expression violated the assumption of homogeneity of variance; therefore, this variable was excluded from the two-way mixed ANOVA. It was instead tested individually in a non-parametric Kruskal-Wallis one-way ANOVA.

Table 4

Descriptives of Emotion Expression

Statistic	Show type	Happiness (%)	Sadness (%)	Anger (%)	Fear (%)
N	Educational	22	22	22	22
	Balanced	20	20	20	20
	Entertainment	18	18	18	18
Mean	Educational	98.0	17.7	9.4	35.7
	Balanced	95.5	19.8	14.8	41.7
	Entertainment	97.3	19.0	21.9	52.2
Median	Educational	100	14.5	5.1	35.5
	Balanced	97.7	16.0	10.3	42.0
	Entertainment	99.0	16.3	15.0	54.3
SD	Educational	3.5	11.9	13.4	20.2
	Balanced	4.9	12.3	15.0	21.0
	Entertainment	4.3	12.9	21.3	17.4
IQR	Educational	2.2	14.1	11.2	32.7
	Balanced	6.6	15.2	21.6	34.0
	Entertainment	4.3	13.8	31.1	20.0
Minimum	Educational	86.7	0.0	0.0	5.7
	Balanced	84.5	0.0	0.0	3.6
	Entertainment	83.0	2.1	0.0	10.9
Maximum	Educational	100	41.2	53.3	66.7
	Balanced	100	44.0	50.0	75.0
	Entertainment	100	45.5	62.5	80.0

The two-way mixed ANOVA indicated a significant main effect in the percentage of occurrence for emotion expression between the three emotions (happiness, sadness, fear) ($F_{GG}(1.65, 94.32) = 586.03$, $p < .001$, $n_p^2 = .911$) as well as a significant interaction effect in the percentage of occurrence for emotion expression within the three show types (educational, balanced, entertainment) ($F_{GG}(3.31, 94.32) = 2.87$, $p < .05$, $n_p^2 = .091$; see Table 5).There were no significant between subjects effects on emotion expression ($F_{GG}(2, 57) = 2.12$, $p = .129$, $n_p^2 = .108$; see Table 6).

Table 5

Within Subjects Effects of Emotion Expression

Subject	Sphericity correction	Sum of squares	*df*	Mean square	*F*	*p*	η^2_p
Emotion Expression	Greenhouse-Geisser	19.056	1.65	11.5167	586.03	< .001	0.911
Emotion Expression ∗ Show Type	Greenhouse-Geisser	0.186	3.31	0.0563	2.87	0.036	0.091
Residual	Greenhouse-Geisser	1.853	94.32	0.0197			

Note. Type 3 Sums of Squares.

Table 6

Between Subjects Effects of Show Type

Subject	Sum of squares	*df*	Mean Square	*F*	*p*	η^2_p
Show Type	0.0990	2	0.0495	2.12	0.129	0.069
Residual	1.3278	57	0.0233			

Note. Type 3 Sums of Squares.

Post hoc analyses were then conducted for the three types of emotion expressions, and Tukey's corrections were applied to the pairwise comparisons (see Table 7). This

Table 7

Post Hoc Comparisons - Emotion Expression

Comparison			Mean difference	*SE*	*df*	*t*	p_{tukey}
Emotion Expression		Emotion Expression					
Happiness EE	-	Sadness EE	78.2	1.72	57.0	45.40	< .001
	-	Fear EE	53.7	2.59	57.0	20.77	< .001
Sadness EE	-	Fear EE	-24.4	2.59	57.0	-9.43	< .001

Note. EE = Emotion Expression.

revealed that the percentage of occurrence for happiness emotion expression was significantly higher than the percentages of occurrence for fear emotion expression and sadness emotion expression (both $p < .001$), without accounting for the type of show. Likewise, the percentage of occurrence for fear emotion expression was significantly higher than the percentage of occurrence for sadness emotion expression ($p < .001$), without accounting for the type of show. Figure 2 illustrates the estimated marginal means of the percentage of occurrence for happiness, sadness, and fear emotion expression, without accounting for the type of show.

Further post hoc analyses were conducted to test for any differences in occurrence between the four emotions based on show type. This revealed that the percentage of occurrence for happiness emotion expression in educational, balanced, and entertainment shows was significantly higher than the percentage of occurrence for fear emotion expression in educational shows ($p < .001$), balanced shows ($p < .001$), and entertainment shows ($p < .001$) (see Table 8). Likewise, the percentage of occurrence for happiness emotion expression in educational, balanced, and entertainment shows was also significantly higher than the percentage of occurrence for sadness emotion expression in

Figure 2

Estimated Marginal Means of Emotion Expression, in Percentages

EE = Emotion Expression.

educational shows ($p < .001$), balanced shows ($p < .001$), and entertainment shows ($p < .001$).

This post hoc analysis also revealed that the percentage of occurrence for fear emotion expression in educational shows was significantly higher than the percentage of occurrence for sadness emotion expression in educational shows ($p < .01$) and entertainment shows ($p < .05$), and it was approaching significance in balanced shows ($p = .058$). The percentage of occurrence for fear emotion expression in balanced shows was also significantly higher than the percentage of occurrence for sadness emotion expression in educational shows ($p < .001$), balanced shows ($p < .01$), and entertainment shows ($p < .001$). Finally, the percentage of occurrence for fear emotion expression in

Table 8

*Post Hoc Comparisons – Emotion Expression * Show Type*

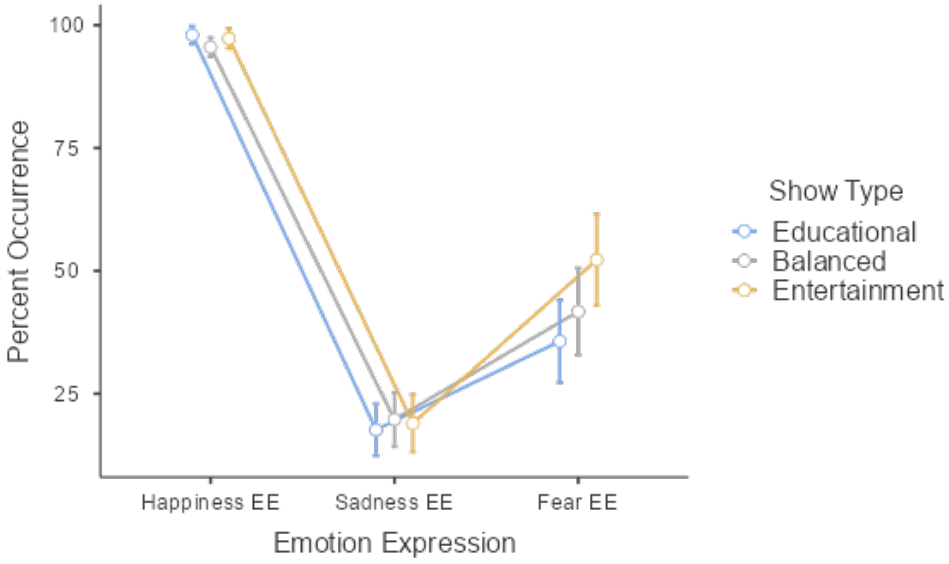
Comparison									
Emotion expression	Show type		Emotion expression	Show type	Mean difference	*SE*	*df*	*t*	p_{tukey}
Happiness EE	Educational	-	Happiness EE	Balanced	2.459	1.31	57.0	1.883	0.628
		-	Happiness EE	Entertainment	0.716	1.34	57.0	0.533	1.000
		-	Sadness EE	Educational	80.354	2.83	57.0	28.360	< .001
		-	Sadness EE	Balanced	78.252	2.90	57.0	26.940	< .001
		-	Sadness EE	Entertainment	79.036	3.05	57.0	25.938	< .001
		-	Fear EE	Educational	62.328	4.26	57.0	14.639	< .001
		-	Fear EE	Balanced	56.284	4.49	57.0	12.523	< .001
		-	Fear EE	Entertainment	45.772	4.73	57.0	9.681	< .001
	Balanced	-	Happiness EE	Entertainment	-1.743	1.37	57.0	-1.269	0.936
		-	Sadness EE	Educational	77.895	2.80	57.0	27.846	< .001
		-	Sadness EE	Balanced	75.793	2.97	57.0	25.505	< .001
		-	Sadness EE	Entertainment	76.577	3.06	57.0	25.022	< .001
		-	Fear EE	Educational	59.869	4.30	57.0	13.912	< .001
		-	Fear EE	Balanced	53.825	4.47	57.0	12.053	< .001
		-	Fear EE	Entertainment	43.314	4.74	57.0	9.144	< .001
	Entertainment	-	Sadness EE	Educational	79.638	2.82	57.0	28.290	< .001
		-	Sadness EE	Balanced	77.536	2.94	57.0	26.412	< .001
		-	Sadness EE	Entertainment	78.320	3.13	57.0	25.003	< .001
		-	Fear EE	Educational	61.612	4.31	57.0	14.279	< .001
		-	Fear EE	Balanced	55.568	4.51	57.0	12.309	< .001
		-	Fear EE	Entertainment	45.056	4.71	57.0	9.572	< .001
Sadness EE	Educational	-	Sadness EE	Balanced	-2.102	3.82	57.0	-0.551	1.000
		-	Sadness EE	Entertainment	-1.318	3.92	57.0	-0.336	1.000
		-	Fear EE	Educational	-18.026	4.26	57.0	-4.227	0.003
		-	Fear EE	Balanced	-24.070	5.13	57.0	-4.692	< .001
		-	Fear EE	Entertainment	-34.582	5.34	57.0	-6.481	< .001
	Balanced	-	Sadness EE	Entertainment	0.784	4.01	57.0	0.195	1.000
		-	Fear EE	Educational	-15.924	5.02	57.0	-3.169	0.058
		-	Fear EE	Balanced	-21.968	4.47	57.0	-4.912	< .001
		-	Fear EE	Entertainment	-32.479	5.40	57.0	-6.014	< .001
	Entertainment	-	Fear EE	Educational	-16.708	5.11	57.0	-3.271	0.044
		-	Fear EE	Balanced	-22.752	5.28	57.0	-4.311	0.002
		-	Fear EE	Entertainment	-33.264	4.71	57.0	-7.056	< .001
Fear EE	Educational	-	Fear EE	Balanced	-6.044	6.08	57.0	-0.993	0.985
		-	Fear EE	Entertainment	-16.555	6.26	57.0	-2.645	0.191
	Balanced	-	Fear EE	Entertainment	-10.512	6.40	57.0	-1.643	0.777

Note. EE = Emotion Expression.

entertainment shows was also significantly higher than the percentage of occurrence for sadness emotion expression in educational shows ($p < .001$), balanced shows ($p < .001$), and entertainment shows ($p < .001$). Figure 3 illustrates the estimated marginal means of the percentage of occurrence for happiness, sadness, and fear emotion expression, while taking into account the three show types.

Figure 3

*Estimated Marginal Means of Emotion Expression * Show Type, in Percentages*



EE = Emotion Expression

The variable for the percentage of occurrence for anger emotion expression occurrence was tested individually using the non-parametric, Kruskal-Wallis one-way ANOVA analysis. Results indicated that there was not a significant main effect in the percentage of occurrence for anger emotion expression based on show type ($X^2(2) = 4.52$, $p = .105$, $e^2 = .077$). Therefore, a post hoc analysis was not conducted.

Research Question 3

Research Question 3 asked, "*Are there differences between the amount of emotional language and the amount of emotional expression*"? To answer research question 3, a three-way mixed ANOVA was initially conducted to test for any differences between the type of preschool television show and the rate of occurrence of both emotion language and expressions presented within the show. The percentage of occurrence for each emotion (happiness, sadness, anger, fear) was used for comparison for this analysis (see Table 9). The assumptions of sphericity, homogeneity of variance, and normality were tested. Mauchly's test indicated that the assumption of sphericity was violated (W = .78, $p < .001$), and the assumption of normality was also violated based on the Q-Q plot. Additionally, homogeneity of variance was also violated for the anger emotion language variable. Therefore, based on these results, the non-parametric repeated measures Friedman's ANOVA was utilized instead to test for any differences between the rate of

Table 9

Descriptives of Emotion Expression and Emotion Language of All Shows

	Emotion expression				Emotion language			
Statistic	Happiness (%)	Sadness (%)	Anger (%)	Fear (%)	Happiness (%)	Sadness (%)	Anger (%)	Fear (%)
N	60	60	60	60	60	60	60	60
Mean	97.0	18.7	14.9	42.7	5.10	3.87	0.142	5.68
Median	98.1	16.0	8.00	42.9	4.17	2.92	0.00	4.04
SD	4.29	12.2	17.1	20.5	5.40	4.34	0.538	6.24
IQR	4.35	15.3	20.4	26.7	7.36	4.91	0.00	9.03
Minimum	83.0	0.00	0.00	3.57	0.00	0.00	0.00	0.00
Maximum	100	45.5	62.5	80.0	25.0	18.8	2.27	26.1

occurrence of emotion language and expressions, without accounting for the type of show. Based on the insignificant findings of between-subjects effects in research questions 1 and 2, no analysis was conducted for between-subjects effects for research question 3.

From the Friedman's ANOVA analysis, there was a statistically significant main effect in the percentage of occurrence between all four emotions (happiness, sadness, anger, fear) in both emotion language and expression ($X^2(2) = 324$, $p < .001$, $W = .77$), without accounting for the type of show. Post hoc pairwise comparisons using the Durbin-Conover method revealed that the percentage of occurrence for happiness emotion expression ($M = 97.00$, – $SD = 4.29$), sadness emotion expression ($M = 18.70$, – $SD = 12.20$), anger emotion expression ($M = 14.90$, – $SD = 17.10$), and fear emotion expression ($M = 42.70$, – $SD = 20.50$) were all significantly higher than the percentage of occurrence for happiness emotion language ($M = 5.10$, – $SD = 5.40$), sadness emotion language ($M = 3.87$, – $SD = 4.34$), anger emotion language ($M = 0.14$, – $SD = 0.54$), and fear emotion language ($M = 5.68$, – $SD = 6.24$) (see Table 9 and Table 10). Figure 4 illustrates the average percentage of occurrence for happiness, sadness, anger, and fear for both emotion expression and emotion language.

Table 10

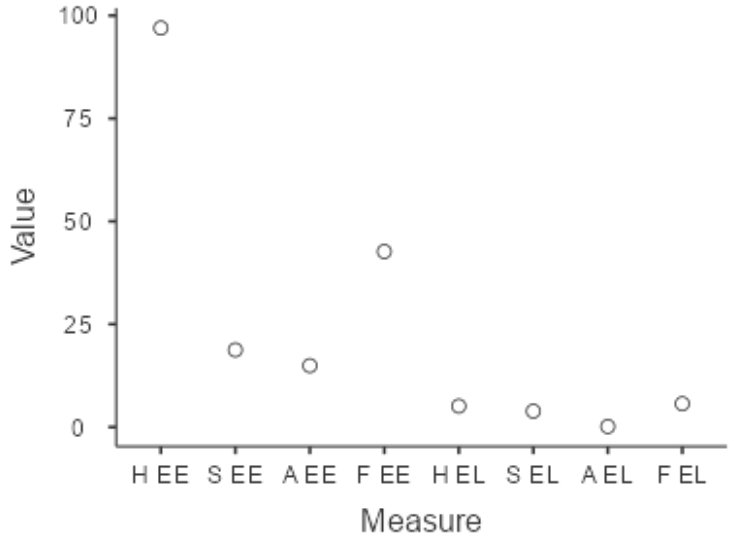
Pairwise Comparisons (Durbin-Conover) – Emotion Expression and Emotion Language

Emotion		Emotion	Statistic	p
Happiness EE	-	Sadness EE	12.304	< .001
Happiness EE	-	Anger EE	17.605	< .001
Happiness EE	-	Fear EE	5.815	< .001
Happiness EE	-	Happiness EL	21.561	< .001
Happiness EE	-	Sadness EL	23.499	< .001
Happiness EE	-	Anger EL	30.422	< .001
Happiness EE	-	Fear EL	21.719	< .001
Sadness EE	-	Anger EE	5.301	< .001
Sadness EE	-	Fear EE	6.488	< .001
Sadness EE	-	Happiness EL	9.257	< .001
Sadness EE	-	Sadness EL	11.196	< .001
Sadness EE	-	Anger EL	18.119	< .001
Sadness EE	-	Fear EL	9.416	< .001
Anger EE	-	Fear EE	11.789	< .001
Anger EE	-	Happiness EL	3.956	< .001
Anger EE	-	Sadness EL	5.895	< .001
Anger EE	-	Anger EL	12.818	< .001
Anger EE	-	Fear EL	4.114	< .001
Fear EE	-	Happiness EL	15.745	< .001
Fear EE	-	Sadness EL	17.684	< .001
Fear EE	-	Anger EL	24.607	< .001
Fear EE	-	Fear EL	15.904	< .001
Happiness EL	-	Sadness EL	1.938	0.053
Happiness EL	-	Anger EL	8.862	< .001
Happiness EL	-	Fear EL	0.158	0.874
Sadness EL	-	Anger EL	6.923	< .001
Sadness EL	-	Fear EL	1.780	0.076
Anger EL	-	Fear EL	8.703	< .001

Note. EE = Emotion Expression; EL = Emotion Language.

Figure 4

Descriptive Plot of Emotion Expression and Emotion Language, in Percentages



*EE = Emotion Expression; EL = Emotion Language
**H = Happiness; S = Sadness; A = Anger; F = Fear

CHAPTER V

DISCUSSION

Social cognitive theory suggests that children are capable of learning from socially relevant figures in their lives, including characters on a screen (Bandura et al., 1961; Calvert, 2017; Hassinger-Das et al., 2020). Emotion identification—the ability to recognize and name emotions—is something that can be learned through social interactions and observations starting from a young age (Bandura, 1986; Crain, 2015; McLeod, 2016). Some research has found that young children are capable of identifying emotions on a screen, but only for a very limited amount of time (Vom Orde, 2008). Very little is currently known about the long-term process of learning about emotions through digital media characters. Before this connection can be further analyzed empirically, it is essential to first gain a greater understanding of what emotional content is being presented to children in their digital media. The purpose of this content analysis, therefore, was to investigate the emotional content contained within preschool children's television.

As explained by the emotional literacy model created by Pons et al. (2004), preschool-aged children are learning how to recognize and name four basic emotions—happiness, sadness, anger, and fear. Therefore, these four emotions were utilized in this study to explore how emotions were being presented to young children in their digital media. Dorr et al. (1983) states that words and nonverbal expressions are the most effective means of communicating emotions in television; therefore, emotion language and emotion expressions were analyzed for this study. These measures were designed to

represent the portrayal of emotion identification of the four basic emotions in preschool television shows. Emotion language and emotion expression for happiness, sadness, anger, and fear were all explored among 60 preschool television shows, with each categorized as either an educational, balanced, or entertainment show. Findings from this study are discussed in this chapter.

Educational, Balanced, and Entertainment Shows

Children's digital media is often categorized based on their educational value for young children. Education-focused media are created with the intention to not only entertain but also educate (Kirkorian et al., 2008) whereas entertainment-focused media is intended to primarily entertain children with very little educational content included (Valkenburg & Janssen, 1999). There are also shows that have a balanced focus; these shows are somewhat educational in nature but may not meet all the criteria. For this reason, this study categorized all 60 preschool television shows into three groups: educational, balanced, and entertainment. It was predicted that emotions would be presented differently based on show type.

From this content analysis, there were no significant differences found between the three different preschool show types in both emotion language and emotion expression for all four emotions. This means that educational, balanced, and entertainment shows were all similar enough to each other that no major difference in the presentation of emotion language and emotion expression was detected within the statistical analysis. This finding answers all three research questions because they each searched for any differences in emotion language, emotion expression, or both based on

the type of television show.

This finding does not support prior assumptions that educational television programs would be better at presenting emotion language to young children, nor does it support that entertainment-focused television programs would be better at presenting emotional content to young children. This means that emotional content did not vary based on the educational status of a chosen television show. The result supports a previous finding in a study conducted by Martin (2017) in which the researcher also found few differences in content based on the educational value of the show. Relating back to social cognitive theory, this result reveals that even if a show is labeled as "educational," this does not mean that children would be receiving greater emotional content than if they were to watch an entertainment-focused show. Therefore, educational programs may not be better resources to present to young children if parents are seeking higher emotional content.

Emotion Language

An interesting result from this present study is that happiness (5.12%), sadness (3.86%), and fear emotion language (5.77%) were all presented more frequently than anger emotion language (0.14%), regardless of the type of show. This provides an answer to research question 1 regarding any differences in the type of emotion language based on the type of preschool television show. This is an interesting finding because although there are differences between the types of emotions spoken the type of television show did not have any influence on these differences. Therefore, regardless of a show's educational status, the presentation of emotion language remained the same compared to

other preschool television shows. As mentioned previously, this contradicts prior assumptions that educational-focused television shows would have greater amounts of emotion language than other types of show.

Even though there were varying levels of happiness, sadness, and fear emotion language, there was a clear lack of emotion identification for anger compared to the other three emotions within preschool television shows. One potential explanation may be that anger is the least acceptable emotion to present to preschool-aged children in the U.S. This is likely because of the connection between anger and aggressive behaviors (Lochman et al., 2010), which are highly discouraged in American culture. Although this study did not include a comparison between the U.S. and other cultures, a study by Chenstova-Dutton et al. (2021) found that anger was presented more frequently in Russian storybooks compared to American storybooks. Regardless of the motive, this finding means that even if children are learning about emotions from digital media, they will not be able to learn as much about anger emotion language than happiness, sadness, and fear.

Although happiness, sadness, and fear emotion language were presented more frequently than anger, these three emotions were still spoken at a very low rate. This demonstrates that emotion language is not utilized very often in preschool television shows, especially in comparison to emotion expressions. Verbal emotion identification is an essential aspect of developing emotional literacy in early childhood (Giordano et al., 2022; Streubel et al. 2020); yet this piece is practically nonexistent in their television programs. Therefore, preschool children's television shows are not great resources for

teaching children emotion identification skills due to the lack of spoken emotion language.

Emotion Expression

Happiness emotion expression (96.93%) was presented much more frequently than sadness (18.83%), anger (15.37%), and fear emotion expressions (43.2%) across all three types of television shows. This illustrates that positive emotion expressions (happiness) tend to appear more often than negative emotion expressions (sadness, anger and fear) within preschool television shows. This finding provides an answer to research question 2 regarding any differences in the type of emotion expression based on the type of television show. Although there were differences found between the types of emotions displayed, the type of television show did not have any influence on these differences. Therefore, the presentation of emotion expression likewise remained the same regardless of each show's educational status. This also contradicts previous assumptions that entertainment-focused television shows would present greater amounts of emotion expression than other types of shows.

This finding aligns with the results found in a study by Wang (2021) that likewise found that positive emotions appeared more frequently than negative emotions in preschool children's television shows. However, Wang's study only contained three cartoon preschool television shows and did not have emotional content as the primary focus of the content analysis. Because the current study contained a much larger sample of 60 preschool television shows of various formats, it not only supports the previous

findings from Wang but also strengthens the validity of those findings. Additionally, results from this study are also supported by a previous study conducted by Houle and Feldman (1991) who likewise found that there were significantly different frequencies of emotion expressions for the same four emotions as well.

Findings from this content analysis also align with the results of other content analyses on emotions presented in children's literature. These content analyses also used the same four emotions to represent positive emotions (happiness) and negative emotions (sadness, anger, and fear). Positive emotions were also presented more frequently than negative emotions in children's storybooks (Farkas et al., 2020; Grady et al., 2019; Wege et al., 2014). As mentioned previously in the literature, this may be due to the overall culture in the United States regarding emotions (Chentsova-Dutton et al., 2021; Ding et al., 2021; Farkas et al., 2020; Grady et al., 2019; Wege et al., 2014). Since the U.S. is an individualistic culture, a higher emphasis is placed on seeking happiness above all other emotions. Evidence from previous content analyses on children's storybooks demonstrates that storybooks from the U.S. portrayed positive emotions more frequently than storybooks in other collectivistic cultures, such as China (Ding et al., 2021) and Russia (Chentsova-Dutton et al., 2021).

As seen by the data in this content analysis, this cultural emphasis on happiness is also reflected within preschool children's television shows available within the U.S. This means that because there is a higher volume of happiness emotion expressions, children may have a much easier time identifying happiness than sadness, anger, and fear. Yet this is vastly different than children's real-life experiences, in which they experience a much

fuller range of emotions in their daily lives. Therefore, based on the discovered emotional content of children's television shows in this study, these shows are not great resources for helping children develop a well-rounded understanding of how to identify emotions.

Emotion Language vs. Emotion Expression

This study found that emotion expression of all four emotions occurred much more frequently compared to emotion language of all four emotions, regardless of the type of television show. This finding provides an answer to question 3 regarding the rate of co-occurrence of emotion language and emotion expression. This finding is important because although both emotion expression and emotion language contribute to the development of emotion identification (Giordano et al., 2022; Denham & Liverette, 2019; Pons et al., 2004; Streubel et al., 2020), these results suggest there is a clear tendency to primarily portray emotions nonverbally rather than identify them vocally in preschool television shows. Although not much is known about why this may be occurring, one potential explanation may be an exaggeration of emotion expressions contained in preschool children's television.

This finding is partially contradictory to the results of previous research regarding emotions in children's storybooks. Only one study by Chenstova-Dutton et al. (2021) included measures for both emotion language and displays in their content analysis. However, their study was more focused on the comparison between storybooks published in the U.S. and storybooks published in Russia. Thus, the researchers did not provide data regarding a comparison between the nonverbal emotion displays and the verbal emotion

vocabulary contained within all storybooks. This content analysis, therefore, adds to the literature by drawing this comparison between emotion language and emotion expression.

This finding is particularly notable because it reveals that emotions are much more likely to be presented to children nonverbally rather than explicitly labeled verbally. Furthermore, happiness emotion expressions are the most likely to occur within preschool television shows. Drawing back to social cognitive theory, if children are indeed learning about emotions from television media, then they are much more likely to learn how to recognize happiness emotion expression than any other emotion language or expression. However, they are less likely to recognize sadness, anger and fear emotion expressions, and they are least likely to learn the associated vocabulary for happiness, sadness, anger, or fear. Therefore, preschool television shows currently do not provide a well-rounded presentation of the four basic emotions to young children.

Limitations

Although there have been content analyses in the past regarding how emotions are presented in children's storybooks, there has been very limited research to date on how emotions are presented in children's digital media. Therefore, this study was among the first to primarily explore the emotional content of preschool children's television shows. Although there is more that can be done in this area of research, this study provides a solid foundation on which future studies can be built upon. This foundation includes an overall picture of how emotions are presented (or not presented) verbally and nonverbally in preschool television shows. It also provides a coding scheme that future researchers could use to explore emotional content in other areas of digital media.

However, there are also some limitations to consider for this study. One limitation for this study was that only one episode from each television show was analyzed. Although each episode was randomly selected, there was a chance that the episode selected would not be representative of the emotional content generally present within the series as a whole. This could have skewed the results of each show either positively or negatively depending on how it compared to other episodes within the series. However, because only one episode was selected, this effect remains unknown. Future studies could address this by selecting more than one episode per television show in order to strengthen the assessment of the show as a whole.

Likewise, another limitation to consider for this study was some difficulty in identifying certain emotions as they were expressed non-verbally in the television shows. Because this study was based on a codebook designed for children's storybooks, there were times when the outlined coding schemes did not align well with how emotions could be presented in digital media. This led to some issues when deciding how to code certain emotion language and expressions. However, in developing the codebook and attaining reliability between the two coders, many of these issues were resolved throughout data collection. Additionally, it was harder to distinguish displays of emotion expression for human characters compared to cartoon characters. This could likely be explained by the exaggeration of emotion expression displayed by cartoon characters compared to emotion expression displayed by human characters. Future studies could address this limitation by defining more clearly from the beginning what kinds of emotion expressions coordinate with each emotion.

Last, a limitation to consider is that the four emotions used in this study are broad and can encompass multiple types of feelings. Fear, for example, can include feelings of worry, anxiety, insecurity, threat, and shock. Because of this, surprise was categorized by the coders as a fear emotion for both expressions and language, even though it may not perfectly represent a negative fear emotion. Additionally, happiness was the only positive emotion included in this study, even though other positive emotions could also be explored. Future studies could address this limitation by including data from more emotions, such as love, surprise, disgust, and jealousy.

Future Directions

Because there has been limited prior research regarding the emotional content within children's digital media content, there are many future directions to consider. First, this study only included television shows geared towards preschool-aged children (ages 2-4) between 2019-2021. Although this content analysis found very little variation or presentation of emotions in preschool television, there may still be unknown differences in emotional content within other children's mediums. Additionally, future researchers could conduct longitudinal analyses to compare the emotional content of digital media across multiple decades. Because this content analysis only provides context cross-sectionally, a longitudinal study could be a useful approach to see whether the presentation of emotions has changed across time, not just cross-sectionally.

Although this study included data regarding emotion expressions and language, there was no clear distinction regarding whether the expressed emotions were being labeled correctly by emotion language. Therefore, future studies could search for a

potential link between emotion expressions and emotion language for each emotion. Similarly, a future aspect to analyze regarding emotional content could include whether emotions were labeled in an accepting manner or whether they were labeled in a discouraging manner.

Implications

Findings from this study are particularly relevant for parents of preschool-aged children. Due to the increase in screen time for families (Rideout & Robb, 2020), parents are often concerned about the quality of content being presented to their children. This leads many parents to choose educational-focused media in an attempt to keep children engaged in learning during their screen time. However, from this study it can be concluded that educational-focused shows are not better than entertainment-focused shows when it comes to emotional content at this time. Parents seeking higher emotional content should not be choosing a show solely based on whether it is labeled as "educational" or not. Likewise, parents seeking to teach children about emotions should not rely solely on preschool television shows as their only source of information. This is due to the imbalance of positive emotions over negative emotions as well as a lack of verbal identification for all four emotions.

Creators of children's digital content should become aware of the program's emotional content and make changes to portray a wider variety of emotions nonverbally as well as increase the frequency of emotions being identified verbally. Children's television producers should increase the instances of nonverbal displays of negative emotions to better reflect the real-life experiences of their young audience. They should

also begin to incorporate greater amounts of spoken emotion vocabulary into their programs so that children could strengthen their emotion identification skills. Producers should pay particular attention to expressing and labeling anger more frequently because it is a common emotion that children and adult experience daily.

Overall, there are many possibilities for future research regarding the emotional content of preschool children's television. As more becomes known about this area of research, future studies can then begin investigating whether children are learning about emotions from digital media content. Social cognitive theory suggests that children are capable of learning from digital media content (Bryant & Oliver, 2009); however, the connection between emotional content in digital media and children's emotional literacy development should be explored further in future research. Therefore, the goal of future analyses regarding the emotional content of digital media should be to gain a greater understanding of what is being presented to children and then whether it has any influence on children's learning of emotions.

Conclusion

This study sought to investigate the presentation of emotions within preschool television shows through a content analysis. This content analysis explored the verbal and nonverbal presentation of four emotions—happiness, sadness, anger, and fear—within three types of preschool television shows—educational, balanced, and entertainment. No significant differences were found between the three types of preschool television shows, yet there were significant differences found in the presentation of the four emotions. Emotion expression for all four emotions was presented significantly greater than the

emotion language of all four emotions. Happiness emotion expression was presented the highest among all three types of preschool television shows.

Findings from this study suggest that there is very little variation in how emotions are presented across preschool television shows, regardless of their educational status. Preschool television shows are much more likely to present happiness emotion expression than any other type of emotion expression or language. This means that if children are paying attention to and learning from their television shows, they are more likely to learn to recognize happiness emotion expressions than any other emotion. Yet, happiness is just one of many emotions that children experience; sadness, anger, and fear should also be expressed and labeled to fully represent children's emotional experiences. Therefore, preschool television programs are not great resources for parents and other caregivers to rely on for teaching children about emotions.

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APPENDICES

Appendix A

Selected Shows and Episodes

Tabled A-1

Selected Shows and Episodes

Show Category	Show Title	Season: Episode	Air Date	Edu. Rating	Duration (mins)
Entertainment	Curious George	11:02	May 13, 2019	1	23
Entertainment	Puppy Dog Pals	4:16	Nov. 19, 2021	1	26
Entertainment	Bluey	3:22	Dec. 12, 2021	0	8
Entertainment	Powerbirds	1:07	Feb. 23, 2020	0	22
Entertainment	Santiago of the Seas	1:19	Oct. 21, 2021	1	22
Entertainment	The Rocketeer	1:16	Apr. 24, 2020	0	26
Entertainment	Gabby's Dollhouse	2:08	Aug. 10, 2021	0	24
Entertainment	T.O.T.S.	2:23	May 7, 2021	1	24
Entertainment	Chip and Potato	1:09	May 17, 2019	0	24
Entertainment	Green Eggs and Ham	1:01	Nov. 8, 2019	0	28
Entertainment	True and the Rainbow Kingdom	3:03	May 17, 2019	1	22
Entertainment	Mickey Mouse Funhouse	1:09	Dec. 3, 2021	1	26
Entertainment	Spidey and His Amazing Friends	1:11	Nov. 12, 2021	0	26
Entertainment	Baby Shark's Big Show	1:10	Oct. 8, 2021	0	22
Entertainment	Pinkalicious and Peterrific	3:07	Oct. 14, 2021	0	25
Entertainment	Top Wing	2:21	June 24, 2020	1	22
Entertainment	Sunny Day	2:19	Mar. 1, 2020	1	22
Entertainment	Nella the Princess Knight	2:05	Mar. 31, 2019	1	22
Entertainment	PJ Masks	5:05	Sept. 10, 2021	0	25
Entertainment	Shimmer and Shine	4:08	Mar. 17, 2019	1	22
Balanced	Clifford the Big Red Dog	1:26	Aug. 21, 2020	3	25
Balanced	Izzy's Koala World	1:02	Sept. 15, 2020	3	15
Balanced	Jessy & Nessy	1:03	Aug. 5, 2020	3	23
Balanced	Mighty Express	1:06	Sept. 22, 2020	3	14
Balanced	PAW Patrol	7:20	Feb. 18, 2021	3	23
Balanced	Trash Truck	1:07	Nov. 10, 2020	3	15
Balanced	Doug Unplugs	1:03	Nov. 13, 2020	3	23
Balanced	Go! Go! Cory Carson	5:07	Aug. 17, 2021	3	8
Balanced	Bubble Guppies	5:01	Sept. 27, 2019	3	23
Balanced	Creative Galaxy	3:05	Nov. 20, 2019	3	30
Balanced	Helpsters	2:06	Oct. 16, 2020	3	15
Balanced	Rusty Rivets	2:20	Jan. 26, 2019	3	23
Balanced	Ridely Jones	1:06	July 13, 2021	3	28
Balanced	Buddi	1:04	Mar. 20, 2020	3	12
Balanced	Uma and Devan Namaste!	1:01	Nov. 9, 2019	3	11
Balanced	Chico Bon Bon: Monkey with a Toolbelt	4:07	Oct. 27, 2020	3	14
Balanced	Go, Dog. Go!	1:05	Jan. 26, 2021	3	24
Balanced	Mira, Royal Detective	2:02	Apr. 12, 2021	3	26

(*table continues*)

Show Category	Show Title	Season: Episode	Air Date	Edu. Rating	Duration (mins)
Entertainment	Curious George	11:02	May 13, 2019	1	23
Balanced	Motown Magic	2:24	June 28, 2019	3	15
Balanced	Rainbow Rangers	2:20	Nov. 29, 2020	3	22
Educational	Sesame Street	50:24	Apr. 25, 2020	5	25
Educational	Ask the Storybots	3:02	Aug. 2, 2019	4	28
Educational	Blue's Clues and You!	3:03	Nov. 13, 2019	4	22
Educational	Charlie's Colorforms City	1:10	Mar. 22, 2019	4	25
Educational	Daniel Tiger's Neighborhood	4:15	Sept. 20, 2019	5	26
Educational	Pikwik Pack	1:04	Nov. 21, 2020	4	24
Educational	Super Wings	5:13	2021	4	23
Educational	Word Party	5:09	Mar. 2, 2021	4	14
Educational	Doc McStuffins	5:09	Jan. 4, 2020	4	25
Educational	Ready Jet Go!	2:22	Apr. 17, 2019	5	23
Educational	Snoopy in Space	1:07	Nov. 1, 2019	4	8.5
Educational	Get Rolling with Otis	1:03	Oct. 8, 2021	4	23
Educational	Hello, Jack!: The Kindness Show	1:02	Nov. 5, 2021	5	22
Educational	Alma's Way	1:06	Oct. 11, 2021	4	23
Educational	Dinosaur Train	5:01	Aug. 26, 2019	4	26
Educational	Waffles + Mochi	1:04	Mar. 16, 2021	4	26
Educational	Let's Go, Luna!	1:19	Oct. 7, 2019	5	25
Educational	Donkey Hodie	1:03	May 4, 2021	5	23
Educational	Ada Twist, Scientist	1:06	Sept. 28, 2021	5	29
Educational	Octonauts: Above and Beyond	1:11	Sept. 7, 2021	5	25

Appendix B

Codebook

Codebook

Name of TV Show

- Enter full title of the show

Type of Show

- Select from the drop-down menu whether the show is entertainment, balanced, or educational

Name of Coder

- Select your name from the drop-down menu

Total Minutes

- Give the total running time rounded up to the nearest 30-seconds
    - Example: 8:24 = 8.5, 16:48 = 17

Each Time Stamp (0:00-0:30, 0:30-1:00, etc):

- Physical – Happy (Happiness Emotion Expression)
    - Indicate yes/no as to whether a happy non-verbal expression or vocalization by a character occurs within those 30-seconds
    - Examples: smiling; laughing; squealing; jumping up and down
- Physical – Mad (Anger Emotion Expression)
    - Indicate yes/no as to whether a mad non-verbal expression or vocalization by a character occurs within those 30-seconds
    - Examples: burrowed eyebrows; yelling; frowning (with burrowed eyebrows); folding arms
- Physical – Scared (Fear Emotion Expression)
    - Indicate yes/no as to whether a scared non-verbal expression or vocalization by a character occurs within those 30-seconds
    - Examples: screaming; raised eyebrows; running away; gasping
- Physical – Sad (Sadness Emotion Expression)
    - Indicate yes/no as to whether a sad non-verbal expression or vocalization by a character occurs within those 30-seconds

    - Examples: frowning (with raised eyebrows); crying; wailing or whining; head down/looking down

- Verbal – Happy (Happiness Emotion Language)
    - Indicate yes/no as to whether a happy word is spoken by a character within those 30-seconds
    - Examples: happy, excited, joy(ful), delighted
- Verbal – Mad (Anger Emotion Language)
    - Indicate yes/no as to whether a mad word is spoken by a character within those 30-seconds
    - Examples: mad, angry, annoyed, offended
- Verbal – Scared (Fear Emotion Language)
    - Indicate yes/no as to whether a scared word is spoken by a character within those 30-seconds
    - Examples: scared, worried, afraid, surprised
- Verbal – Sad (Sadness Emotion Language)
    - Indicate yes/no as to whether a sad word is spoken by a character within those 30-seconds
    - Examples: sad, upset, sorry, hurt