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Health Messages Presented in PBS Kids Shows

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Submitted in partial fulfilment of the requirements for

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Health Messages on PBS Kids Programs: A Content Analysis

Ronya N. Nassar

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Abstract
Previous research suggests that media can set the agenda for society simply by coverage and attention. Health messages that are put on shows help set the agenda for what kids should be thinking. The current exploratory study is a content analysis that looked at health messages presented in PBS Kids television shows. One hundred scenes of Arthur, an animated television show and Sesame Street, a live-action television show were examined. The six major public health issues that were analyzed were bullying, social and peer relationships, nutrition, obesity, physical fitness, and tobacco/substance use. Results show that social and peer relationship messages were displayed dominantly verbally and behaviorally in both television shows. Physical fitness messages were displayed dominantly after social and peer relationship messages. Tobacco/substance use and obesity messages were not present in any of the scenes that were analyzed.
Health Messages on PBS Kids Programs

According to the Centers of Disease Control and Prevention (CDC), millions of Americans are able to dispel myths and stigma around many public health concerns through the power of entertainment. Popular shows along with government agencies and non-profit organizations educate and inform the public while also reaching at-risk audiences with prevention messages. For example, the famous Disney children’s show “The Wiggles,” teaches kids through music about leading a healthy lifestyle. Producers argue that “The Wiggles” song “Fruit Salad, Yummy Yummy” can teach children to eat their fruit on a daily basis. Nickelodeon’s “Dora the Explorer” shows children that they should be more active throughout their day by encouraging them to get up and participate with the show.

According to a recent survey conducted by the C.S Mott Children’s Hospital National Poll on Children’s Health (2013), the top 10 health concerns for children and teens were childhood obesity, smoking and tobacco use, drug and alcohol abuse, teen pregnancy and bullying. Top child health concerns in 2014 included stress, internet safety, child abuse, neglect, and depression. Even though childhood obesity is consistently ranked the highest, mental health is on the rise as a growing problem in public health.

In 2013 the CDC established the top health issues; among those was mental health in children. Approximately 1 in 5 children in the U.S. will experience a mental, emotional, or behavioral disorder (MEB) with an overall economic impact of $247 billion annually. Also among the top health issues was tobacco use which leads to many health problems such as lung cancer, mouth cancer, cardiovascular disease, and many other ailments. Obesity in children has
been on the rise for years and many government organizations have put forth a tremendous amount of effort to reduce the problem. For example, first lady Michelle Obama’s *Let’s Move* campaign and the Healthy Hunger-Free Kid’s Act were implemented in schools in September 2012 which assures parents and guardians that their children are receiving healthy and well-balanced meals in schools. Also, The United States Department of Agriculture Center for Nutrition Policy and Promotion, which is in charge of ChooseMyPlate.gov, focuses on two primary objectives, to advance and promote dietary guidance for all Americans and conduct applied research and analyses in nutrition and consumer economics. Even with all the efforts put forth by the government, there are still many people who do not abide by these guidelines and suffer from nutritional health related problems.

The American Academy of Pediatrics (AAP) an organization of 62,000 pediatricians and sponsors PBS, is committed to the optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults. This non-profit organization conducts research on children and television and strives to educate the public on many health issues. In 1999, AAP issued a statement about media and children. In the statement, AAP addressed the issue of media and its impact on children under the age of two. Because of the increasing amount of entertainment that they are exposed to on a daily basis, children have been shown to be at-risk audiences. It is argued that all pediatricians should urge parents to avoid television viewing for children under the age of two years because research on early brain development shows that babies and toddlers have a critical need for direct interactions with parents and other significant caregivers for healthy brain growth and the development of appropriate social, emotional, and cognitive skills.
Public Broadcasting Service (PBS) is a non-profit American broadcast television program distributor. PBS has more than 350 member stations, many of which are owned by educational institutions or by non-profit groups affiliated with a local school, university, or by state-government owned and related entities. PBS Kids, the brand for children's programming aired by PBS since July 11, 1994, is directly aimed at children between the ages of two to seven years old. Sesame Street, which first aired on November 10, 1969, is a staple of PBS Kids. This television show bridges many cultural and educational gaps that have pleased many children and adults over the years. Arthur, which first aired on September 2, 1996, is a Canadian/American educational television series for children created by Cookie Jar Group and WGBH for PBS Kids. This current study is a content analysis and looks at both of these television shows to see what health messages they present to children. Six major issues in public health were the concentrations in this study. They were healthy peer relationships, nutrition, bullying, obesity, physical fitness, and tobacco use.

**Literature Review**

To lay the foundation for this study this literature review will cover the importance of health education and pro-health messages to children, the effects of television, and how specific messages have an impact on children. Little research focused on what specific health messages on children’s television has been conducted. Past research has shown that the amount of television that children are watching is increasingly yearly; therefore it is possible that more children are learning and being surrounded by what messages these shows provide (Peterson et. al., 1984).
Communicating public health information to the general public can sometimes be a challenge, especially if health literacy is poor (Nutbeam, 2000). To fully communicate more effectively, research has shown that positive health messages need to be more salient (Parent, Ward, & Mann, 2007). Parent, Ward, and Mann (2007) wanted to investigate the persuasive influence of health messages processed under limited attention. The results of the study reported suggest that, to be maximally effective, health messages should be tailored in a manner that ensures that positive benefits of the relevant behavior appear more noticeable, in terms of both their prominence and strength, than any potential negative side effects. This suggestion applies especially to situations in which listeners are experiencing competing demands for their attention (Parent, Ward, & Mann, 2007).

Messages are presented as either positive or negative; this can affect how each message is perceived. In a study done by Shamaskin, Mikels, and Reed (2010) participants read positive and negative pamphlets, then the participants answered self-framing questions about health-care. They hypothesized that older versus younger adults would be more influenced by positively versus negatively framed messages in personally salient health care domains. The researchers’ found that the positively framed pamphlets were rated as more informative by older versus younger adults, and the valence messages were remembered as more positive by the older adults. Emotional valence plays an important role in age differences in information processing as older adults relative to younger adults demonstrate a relative shift in preference from negative to positive information (Carstensen & Mikels, 2005).

Pro-health messages are now seen in many places: on advertisements, websites, and television shows. There are also a lot of messages that are not pro-health that are exposed to
WHAT HEALTH MESSAGES DO PBS KIDS SHOWS PROVIDE

children daily and can be linked to many health problems. Early screen media exposure has become a debate in public health as parents increasingly use computers, television, and interactive books and games as teaching tools with infants in the first year of life (Rideout & Hamel, 2006; Zimmerman, Christakis, & Meltzoff, 2007). Meltzoff (1988a) exposed television to infants as young as 14 months of age and his study was able to show that infants could imitate from television. In a follow-up study done by Zack et. al. (2009) researchers exposed 2D and 3D images to infants as young as 15 months old. The study concluded that technology such as videos and computers provide an effective model for extending our knowledge about the nature and growth of representation during infancy (Zack et. al., 2009).

Television is an important source of knowledge about other people and research has shown that the more time children and adults spend “living” in the world of television, the more likely they are to report perceptions of social reality that reflect what they see on television (Gerbner et. al., 1980). Very young children are likely to believe that images that are displayed through television and other media outlets are as real as the people and objects around them (Bushman & Huesmann, 2001). For example, three-year-olds were seen walking up to a television screen to wave at their favorite characters to try and touch them (Valkenburg, 2004).

Estimates indicate that 13% of African American children are overweight or obese and more African Americans are experiencing health problems due to obesity, such as high cholesterol, stroke, asthma, sleep apnea, and diabetes mellitus (Outley & Taddese, 2006). Limited access to high-quality foods, poor dietary choices, sedentary lifestyles, cultural norms, and low socioeconomic status are related to the high prevalence of obesity among African American children. Researchers have begun to investigate the role of the media and its
influences on obesity even though there are many other impacts that have already been accounted for in obesity problems (Outley & Taddese, 2006). Outley and Taddese (2006) examined the number of food advertisements African American children were exposed to during children's television programming aired on predominantly African American and general television stations. Black Entertainment Television, The Warner Bros, and Disney Channel served as the sample during a 1-week period in July 2005, from 3 PM to 9 PM. The results of the study showed that African American children are overexposed to numerous types of food and beverage advertisements. The messages that are exposed in television shows may weaken efforts to teach African American children about the importance of healthy living and physical activity (Outley & Taddese, 2006).

The way these messages are presented also effect children’s health. Attention-getting production features, branded characters, and repetition were the main techniques that were found similar in many television advertisements and websites to get children’s attention (Alvy & Calvert 2008). Alvy and Calvert (2008) concluded that because online advertisements, advergames, and integrated marketing pages use many of the same techniques as television does for many sugary sweets and snacks, it is quite possible that these advertisements can be linked to childhood obesity.

Emotions also tie into the way messages are presented. A study conducted by Leshner, Bolls, and Wise (2011) explored how different combinations of fear appeal and disgust-related images engage cognitive and emotional processing in children during exposure to televised anti-tobacco ads. These researchers used threat messages to see if that had an impact on what they think about anti-tobacco-related ads. The results of the study showed that the highest unpleasant
ratings found in this study were for ads that contained both fear appeal and disgust-related images, which were also the most arousing (Leshner, Bolls, & Wise, 2011). The cardiac acceleration was also higher with those ads. How the messages are displayed on food can play a big factor, for example, people may over-indulge, think that food tastes bad, or have reactance toward food that is labeled as healthy (Wagner, Howland, & Mann, 2014). Wagner, Howland, and Mann (2014) examined the effects of explicit or subtle health messages on people’s food choices. Participants were more likely to choose the healthy food when it was labeled with the subtle health message than when it was labeled with the explicit health message. This is useful information because subtle messages can encourage people to make a healthier snack choice (Wagner, Howland, & Mann, 2014).

Framed health communication can also depend on the emotional state of the message recipient (Gerend & Maner, 2011). Gerend and Maner (2011) aimed to investigate whether the success of a framed health communication depends on the emotional state of the message recipient. Fear and anger were chosen as the emotional states because previous research has shown that these emotions are connected to health messages. The findings did show that responses to framed health communications vary as a function of people's current emotional state. These findings from this study suggest that women’s emotional reaction to a diagnosis like HPV, which would elicit fear of getting cancer or anger from her partner, could have important implications for how health recommendations, for example, repeat Pap testing or condom use, should be framed (Gerend & Maner, 2011).

Children also internalize media-conveyed messages concerning physical attractiveness (Herbozo et. al., 2004). These researchers conducted a content analysis to examine body image
related messages in top-children’s videos and literature. The results indicated that body image related stereotypes appear in many popular children’s videos, but they are not really found in literature. Himes and Thompson (2007) found that fat stigmatization commentary and fat humor were often verbal, directed toward another person, and often presented directly in the presence of the overweight target in television shows and movies. Results of the study also showed that male characters were three times more likely to engage in fat stigmatization commentary or fat humor than female characters.

In 2004, the Center for Disease Control and Prevention released a multiethnic media campaign called VERB with a goal to increase and maintain physical activity among children and tweens ages nine to 13 years old. This campaign uses refined commercial techniques to address the public health issue of the inactive lifestyles of American children (Wong et. al., 2004). By using the main social marketing principles of product, price, place, and promotion, researchers wanted to find ways that aimed to “sell” the benefits of physical activity to consumers. Advertising and promotion attempt to depict a lifestyle that consumers try to achieve, and by association, consumers perceive the product as providing the means to a desired outcome. For example, in a commercial, a big piece of cake is more than just a food, it is a social experience. This could also be applied to children’s television as well. Some experts could argue that seeing a famous character leading an unhealthy lifestyle is “selling” to the audience a social experience to them.

This present study looks at two popular PBS Kids television shows, Arthur and Sesame Street, to see what health messages are presented to children in each. Do these shows reflect health concerns of the professionals? Three hypotheses were tested for this study. Of the six most
cited issues in children’s public health, social and peer relationships will be most prevalent verbally and visually. Nutrition will also be dominant verbally and visually, but not as strong as social and peer relationships. Lastly, Tobacco use will not be as dominant in PBS Kids shows.

H₁: Of the six most cited issues in children’s public health, social and peer relationships will be most prevalent verbally and visually.

H₂: Nutrition will also be dominant verbally and visually, but not as strong as social and peer relationships.

H₃: Tobacco use will not be as dominant in PBS Kids shows.

Methods

The current study was conducted through a content analysis of a sampling of 100 scenes of season 42 of *Sesame Street* and season 17 of *Arthur* combined, both of their seasons concluded by 2013. *Sesame Street* is a live-action television show which teaches children about numbers, colors, the alphabet and more, contains many famous characters such as Big Bird, Elmo, Cookie Monster, Oscar the Grouch, Grover, Zoe, Abby, Bert, and Ernie. *Sesame Street* is a live-action television show, containing characters both animated and real, they have had the opportunity to host many big name stars such as popular comedian Adam Sandler and rhythm and blues songster Usher. *Arthur* is an animated television show which tries to teach the audience how to deal with childhood traumas and challenges such as homework, teachers, bullies, etc. *Arthur* Read is an aardvark and the main character of the television show. Other famous characters that the show contains are sister D.W. Read, junk food lover Buster Baxter, tomboy Francine Alice Frensky, rich girl Muffy Crosswire, smart student “Brain,” and new
character Ladonna Compson. Other main characters like Arthur’s parents, teachers, and other school children continue to play main roles in this television series as well.

Procedure

Netflix, a provider of on-demand internet streaming media available to viewers in North America, South America, and parts of Europe was used to access the television shows. A coding sheet was created to categorize key variables. The coding sheet specifically defined all the key messages that were being analyzed (Appendix A). I was the principle investigator for this study and there was no intercoder reliability because this was an individual study for an undergraduate senior thesis.

The coding for this study took about two months to complete. One hundred scenes from the beginning episodes of Arthur and Sesame Street were coded. Each scene was watched at least three times to make sure that all aspects of the frames were seen. All the notes were then recorded to be analyzed. The opening songs and intermissions for both shows were not included.

Results

Out of the 100 scenes that were coded for, 56% of them were from Arthur and 44% were from Sesame Street. Cross tabulations were then run first on SPSS to compare the television show with what public health message was prominent.

H1:

In the first chi square that was conducted $X^2 (4,109) = 21.80, p< .05$, obesity, bullying, or tobacco use messages were not present in Sesame Street, but of the other messages, 60% showed
social and peer relationship content, 16% showed nutrition content, and 48% showed physical fitness content. Obesity and tobacco use messages were not present in Arthur, but of the other messages, 61% showed social and peer relationship content, 27% showed nutrition content, and 10% showed bullying and physical fitness content respectively. These findings are statistically significant.

A Pearson’s correlation was computed to assess the relationship between the messages and the television shows, $r = -.04$, $n=109$, $p=.00$. This shows that the relationship between these two variables were weak and indirect.

$H_2$:

In the second chi square that was run $X^2 (1, 104) = 5.154$, $p>.05$, 97% of scenes that were coded for Sesame Street had positive messages and 3% had negative messages. For Arthur, 61% of the scenes had positive messages while 39% had negative messages. Overall 74% of the messages were positive and 26% of the messages were negative. These findings were not statistically significant.

A Pearson’s correlation was computed to assess the relationship between the positive and negative messages and the television shows, $r = .03$, $n = 109$, $p=.07$. This shows that the relationship between these two variables was weak, but direct.

Table 1: PBS Kids Message Breakdown

<table>
<thead>
<tr>
<th></th>
<th>Sesame Street</th>
<th>Arthur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obesity</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
WHAT HEALTH MESSAGES DO PBS KIDS SHOWS PROVIDE

<table>
<thead>
<tr>
<th></th>
<th>Verbal</th>
<th>Visual</th>
<th>Gestural</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bullying</td>
<td>0%</td>
<td>10%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Tobacco/Substance Use</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Social and Peer Relationships</td>
<td>60%</td>
<td>61%</td>
<td>60%</td>
<td>61%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>16%</td>
<td>27%</td>
<td>16%</td>
<td>27%</td>
</tr>
<tr>
<td>Physical Fitness</td>
<td>48%</td>
<td>10%</td>
<td>48%</td>
<td>10%</td>
</tr>
<tr>
<td>Positive</td>
<td>97%</td>
<td>61%</td>
<td>97%</td>
<td>61%</td>
</tr>
<tr>
<td>Negative</td>
<td>3%</td>
<td>39%</td>
<td>3%</td>
<td>39%</td>
</tr>
</tbody>
</table>

H₃:

Each message was coded for communication mode: verbal, visual, gestural, and behavioral. Social and peer relationships were coded for 84% verbally, 48% visually, 77% gesturally, and 66% behaviorally. Bullying was coded for 8% verbally, 7% visually, 10% gesturally, and 9% behaviorally in the scenes. Nutrition was coded for 10% verbally, 30% visually, 15% gesturally, and 17% behaviorally in the scenes. Physical fitness was coded for 12% verbally, 31% visually, 18% gesturally, and 28% behaviorally in the scenes. Obesity and tobacco use did not code for anything verbally, visually, behaviorally, or gesturally.

A Pearson’s correlation was computed to assess the relationship between message type and communication mode, r = .36, n = 109, p = .00. This shows that the relationship between the two variables was moderate and direct.

Table 2: Mode Of Communication Breakdown
<table>
<thead>
<tr>
<th></th>
<th>Verbal</th>
<th>Visual</th>
<th>Gestural</th>
<th>Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social and Peer Relationships</td>
<td>84%</td>
<td>48%</td>
<td>77%</td>
<td>66%</td>
</tr>
<tr>
<td>Bullying</td>
<td>8%</td>
<td>7%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>10%</td>
<td>30%</td>
<td>15%</td>
<td>17%</td>
</tr>
<tr>
<td>Physical Fitness</td>
<td>12%</td>
<td>31%</td>
<td>18%</td>
<td>28%</td>
</tr>
<tr>
<td>Obesity</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Tobacco/Substance Use</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Discussion**

The results of this study show that social and peer relationship messages were present dominantly in both *Arthur* and *Sesame Street* (See Table 1.) Social and peer relationship messages were displayed dominantly verbally (84%), followed by behaviorally (66%) (See Table 2.) These findings are somewhat consistent with my first hypothesis, except social and peer relationship messages were shown mainly verbally and behaviorally rather than visually. Also, the Pearson’s correlation for this test was very weak. Verbal and behavioral social and peer relationship messages in *Sesame Street* consisted of positive encouragement between the characters. For example, in one scene Elmo was having trouble bouncing his basketball more than two times. Zoe then comes along in her cheerleading outfit and cheers (verbally and behaviorally) Elmo along to encourage him to bounce his ball three times. With the help of Zoe, Elmo is able to accomplish his goal by the end of the scene.
Nutrition messages (27%) were also presented dominantly after social and peer relationship messages, but this was only true for *Arthur*. Physical fitness messages (48%) were more prominent after social and peer relationship messages for *Sesame Street*. This is also somewhat consistent with my hypothesis because nutrition messages were prominent after social and peer relationships, but this finding was only seen in *Arthur*. The Pearson’s correlation that was run for this test showed a moderate relationship.

Tobacco use messages were not seen in any of the scenes for both television shows. This finding was consistent with my third hypothesis. Obesity messages were also not seen in any of the scenes for both television shows. A possible explanation for this finding could have been because tobacco use messages may be geared more towards teenagers today and because nutrition messages are the first step to preventing obesity.

Studies have shown that for new students, having earlier healthy peer relationships allows the child to have more favorable school perceptions (Ladd, 1990). Watching prosocial television content has also revealed higher levels of social interaction and altruism and lower levels of aggression and stereotyping (Mares & Woodward, 2005). Overall, for both *Arthur* and *Sesame Street*, the messages that were conveyed were positive.

In most of the messages that were presented, the main characters played a big part. In the scenes that were coded for, 75% had main character involvement, 40% had background character involvement, and 25% of the scenes had the message as a part of the background. According to Alvy and Calvert (2008) that main characters can play a huge roll in communications messages because they can influence a child more easily. The use of famous television characters is a big
strategy for advertisement along with repetition and can have a big effect on children (Alvy & Calvert, 2008).

Bullying and nutrition messages were presented negatively. Although messages were not analyzed at a more detailed character level, it is interesting to note some patterns that emerged. Most of the bullying messages that were presented in Arthur came from Arthur himself, the dominant male character. For example, in one scene Arthur scolds Francine about being an attention hog during their soccer game when she did not mean to be. Additionally, when female character Ladonna was first introduced, her family just moved in from Louisiana and Ladonna and her little brother were worried about making friends right away. The producers stereotypically portray her and her family as middle class “hicks” who have very strong southern accents, watch soap operas, and like alligators. Ladonna, an outsider, made friends easily at first with her crazy Louisiana stories. Things start to go downhill when she runs out of stories to tell Arthur and his friends. A situation then happened when Ladonna was telling Arthur a story about her hat being stolen by a raccoon. She then found a golden watch that she returned to the owner who then gave her a lousy quarter for her kindness. Ladonna used the money to get a juice drink from a vending machine which gave her back a lot of money instead of a drink. This allowed her to buy another hat that looks exactly like the one that was taken from her. Eventually, Arthur (a patriarchal figure) refused to believe her (negative social peer relationship) and scolded her for lying and threatened her that they would not be friends anymore (negative bullying.) This pattern occurred often in Arthur, but they were always fixed at the end with positive messages. Parent, Ward, and Mann (2007) suggested that positive messages should be tailored to always outweigh the negative messages so that it can have a noticeable effect in terms of both their prominence
and strength. At the end of that episode, Arthur apologizes to Ladonna and the two characters become good friends again.

Nutrition messages were also found to be more negative than positive. Surprisingly, Cookie Monster from *Sesame Street* was not present in any of the negative nutrition messages; rather most of these negative messages came from *Arthur*. Many nutrition message presented mixed signal messages. For example, in a lot of the scenes from *Arthur* when the children were in the cafeteria, there were plenty of fruits and vegetables around, but the dessert options always visually overpowered the other foods on their trays. This was a common occurrence in the cafeteria, which could cause public health communication problems to children. Also, the ice cream parlor was a common after-school hangout place for the main characters in *Arthur*. Scenes showed the kids hanging out here while enjoying piled high scoops of ice cream with many unhealthy toppings.

Physical fitness messages were the only messages that were presented as 100% positive, making up 17% of all messages that were coded. These messages were the second most present messages that were displayed overall and were tied with nutrition messages, healthy peer relationship messages accounted for 45% overall which were the highest presented. *Sesame Street* and *Arthur* presented these messages well and displayed a wide variety of physical fitness activities. For example, in *Arthur* the activities that were shows consisted of soccer and playing games on the playground. The characters were seen often playing soccer, a popular sport in the United States that is now on the rise according to “Business Insider.” Also, right after this season of *Arthur* ended; the 2014 Fifa World Cup was starting up. *Sesame Street* physical fitness activities consisted of swimming, hopping on a pogo stick, and jumping over hurdles like a track
athlete. It was also interesting to see Elmo and Mr. Noodle teaching kids how to hurdle during
the Elmo’s World segment. Right before this season of Sesame Street began, the 2012 Summer
Olympics in London just ended, which contains track and field events each time.

Research suggests that there is a relationship between media consumption and knowledge
however media are considered one out of many socializing agents (Peterson et. al., 1984). Even
though Sesame Street and Arthur are not really known as health education shows, 70 out of 100
scenes were analyzed to have some type of health message in them. Agenda setting is the idea
that media does not tell people what to think, but rather what to think about. Media sets the
agenda for society, therefore the health messages that are put on shows help set the agenda for
what kids should be thinking for society (McCombs & Shaw, 1972).

Limitations and Future Directions

Since I was not able to have an intercoder, I tried to control my study by watching each
scene at least three times while pausing in between to make sure all aspects were accounted for
such as the background and what the characters were doing. The study could have been a little
stronger if I was able to have an additional coder, who would have been able to view the scenes
multiple times. Also, my sample size was very small, only 100 scenes, which could have impact
the statistical analysis of my study. This was also an exploratory study because there was no
recent research connecting government identified health concerns and children’s television
programing.

For further research I would like to try and do a bigger study that contains a larger sample
size. I would also like to try and code more animation series and live action series television
shows from PBS Kids. With this, I would like to look at newer shows rather than longer standing shows such as *Dinosaur Train, Sid the Science Kid, The Electric Company* and *Design Squad*. It will be interesting to see if there are different dynamics between these newer PBS Kids shows compared to older, longer standing shows, live action vs. animation, differences in gender and social roles and main character involvement. Future research could also explore the producer perspective, the perspective of the young viewer, and the larger narrative of programs in relationship to health and wellness discourse.
References


## Appendix A

### Coding Book

<table>
<thead>
<tr>
<th>Name of the Show:</th>
<th>Sesame Street and Arthur, these are both PBS television shows. Sesame Street is a live action while Arthur is all animated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Episode #:</td>
<td>The number order at which the show appeared in.</td>
</tr>
<tr>
<td>Title of Episode:</td>
<td>The title name of the episode.</td>
</tr>
<tr>
<td>Scene #:</td>
<td>The number of the scene in order. A scene changes when the background changes. For example, when it goes from the kitchen to outside.</td>
</tr>
<tr>
<td>Time:</td>
<td>The total time for the scene according to Netflix.</td>
</tr>
<tr>
<td># of Characters in each scene:</td>
<td>The amount of characters in each scene includes main (the consistent characters according to their online sites) and background that play important roles.</td>
</tr>
<tr>
<td>How many main:</td>
<td>The number of main characters in the scene, main characters were the ones that were posted on the respected show’s online website</td>
</tr>
<tr>
<td>How many guests:</td>
<td>The number of background characters, any other character that was not a main character.</td>
</tr>
<tr>
<td>Place where the scene takes place:</td>
<td>Describes location where the characters are at.</td>
</tr>
<tr>
<td>Was the message:</td>
<td>Part of the background means not directly involved. Main character involved means that the usual characters were part of the message. Background character involved means that the not usual characters were part of the message.</td>
</tr>
<tr>
<td>Is the message:</td>
<td>Verbal- spoken Visual- seen Gestural- implied, using hands to show emotion or request Behavioral- was done</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>What characters were involved:</td>
<td>Main or background</td>
</tr>
<tr>
<td>Was the message positive or negative:</td>
<td>Positive meaning good and negative meaning bad</td>
</tr>
<tr>
<td>What Messages were conveyed:</td>
<td>Bullying:</td>
</tr>
<tr>
<td></td>
<td>This message will be defined when a character uses superiority or influence to intimidate another character and forces him or her to do what one wants. Also, a character will be considered a bully if they scold another character for something that they did.</td>
</tr>
<tr>
<td></td>
<td>Social and Peer Relationships:</td>
</tr>
<tr>
<td></td>
<td>This message will be defined when a character displays confidence in another character through conversation, acts/gestures, or fair play, and displays friendly competition along with encouragement. Helps one another and apologizes for their wrong-doings. Confides in each other and displays trust.</td>
</tr>
<tr>
<td></td>
<td>Nutrition:</td>
</tr>
<tr>
<td></td>
<td>This message will be defined as any type of food nourishment that is healthy and follows MyPlate guidelines of healthy eating such as plenty fruits and vegetables, protein, whole grains, and dairy. Candy, sweets, etc. are not considered to be under proper nutrition.</td>
</tr>
<tr>
<td></td>
<td>Physical fitness:</td>
</tr>
<tr>
<td></td>
<td>This message will be defined as any form of exercise. For example, running, cycling, lifting, etc.</td>
</tr>
<tr>
<td></td>
<td>Obesity:</td>
</tr>
<tr>
<td></td>
<td>This message will be defined when a character is shown to be overweight with non-proper nutrition eating habits along with poor physical fitness habits.</td>
</tr>
<tr>
<td></td>
<td>Tobacco/Substance Use:</td>
</tr>
</tbody>
</table>
This message will be defined as any scene that contains a tobacco related item or any other substance such as alcohol or illegal drugs.

Comment box:

END.