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YOUNG KIDS AND YOUTUBE:

HOW ADS, TOYS, AND GAMES DOMINATE VIEWING

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HOW ADS, TOYS, AND GAMES DOMINATE VIEWING

Credits

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INTRODUCTION

CHILDREN ARE AVID USERS of YouTube. In 2020, for the first time, children younger than 8 are watching more videos online than on live TV or through streaming services, for an average of 39 minutes a day (Rideout & Robb, 2020). This is more than double the amount of time with online videos than just three years ago. The 2020 Common Sense data on children age 0 to 8 shows that one-third of children are watching online videos every single day (Rideout & Robb, 2020), while the Pew Research Center reports that 53% of children younger than 11 view YouTube daily, with 35% viewing multiple times per day (Auxier et al., 2020).

Although YouTube Kids was released in 2015 to provide a site for children to watch YouTube content without the data collection or behavioral advertising practices on the main YouTube platform, young children continue to use YouTube often, in some studies more frequently than YouTube Kids (Radesky & Weeks et al., 2020).

YouTube's main platform contains vast amounts of content directed to children. A 2019 Pew Research Center analysis of the most popular YouTube videos found that many were child-directed, and these had accrued triple the views of non-child-directed videos (Van Kessel et al., 2020).

However, the quality of children's content on YouTube—and potential positive or negative influence on a child's well-being—varies widely. Many YouTube channels focus on do-it-yourself (DIY) videos that offer instruction on crafts, art, music, and other hands-on activities. Well-researched educational content creators, such as Sesame Workshop and PBS Kids, also post their videos on YouTube to be viewed by children. But other content creators may have limited training in child development or best practices for child-centered design, and the educational quality of YouTube videos is largely unknown. Past work also shows that popular YouTube videos targeting children promote nutritionally poor products in advertisements (Tan et al., 2018) and in the videos themselves (Coates et al., 2019).

Child-directed YouTube videos have also been noted to have high levels of commercialism (Craig & Cunningham, 2017) (in toy unboxing videos, for example), but this has not been studied empirically. In addition, there is no research on the quantity or quality of the advertising that appears on YouTube during videos viewed by children. Studies of advertising in children's apps have shown a high prevalence of manipulative or disruptive ad designs as well as adult-oriented ad content that is easily clickable by child users (Meyer et al., 2018). YouTube's own policies state that certain kinds of ads with adult themes are not acceptable, including "content that is made to appear appropriate for a family audience but contains adult themes, including sex, violence, vulgarity, or other depictions of children or popular children's characters, that are unsuitable for a general audience" (YouTube, n.d.-a).

Children can also easily access age-inappropriate content on YouTube. Almost half (46%) of parents say their child younger than 11 has accessed inappropriate videos on the site, and 65% say they are concerned about the types of videos recommended to their child (Auxier et al., 2020). Interviews and focus groups by Common Sense also suggest that parents are concerned about their children viewing inappropriate content (Peebles et al., under review). Past work shows that there is a wide breadth of inappropriate YouTube content that children may stumble upon, even in cartoons (Kaushal et al., 2016; Papadamou et al., 2020), a genre children often gravitate toward.

Despite the fact that 1 billion hours are viewed on YouTube every day (YouTube, n.d.-b), little has been published on the content that children view on the main platform, what advertising young children may encounter on the site, and how viewing behaviors correlate with child or family characteristics. One prior study created a coding rubric for the quality of children's videos on YouTube, but did not undertake a wide-scale assessment of YouTube content, nor did it link viewing behaviors with child and family traits (Neumann & Herodotou, 2020).

Goals

Therefore, the goals of this study were to answer the following questions:

- What types of videos are children age 0 to 8 watching on YouTube?

- What is being advertised to children? How is this done, and how much?

- What kinds of negative content do children see on YouTube, and how much?

- What kinds of positive content do children see on YouTube, and how much?

- How do any of the above differ according to the child's and family's background?

To achieve these goals, Common Sense analyzed 1,639 YouTube videos watched by 0- to 8-year-olds. Between March 26 and April 1, 2020, a total of 191 parents who participated in Common Sense's 2020 study provided a list of the last videos their children watched on the main YouTube site. We chose to focus on the main site (www.youtube.com), rather than YouTube Kids, because of the high number of children who use this platform, the availability of children's content, concerns about content and advertising on this platform, and feasibility of data collection by parents. A total of 1,639 YouTube videos were coded using Common Sense's YouTube evaluation guidelines. Further details are included in the methodology section. Recommendations for YouTube design and policy are included at the end of the report.

KEY FINDINGS

1. Advertising is pervasive, occurring in 95% of early childhood videos, and 72% to 86% of other target audience categories.

Over one-third of videos in the *early childhood* category contained three or more ads, while 59% contained one to two ads. Ad design in these videos was often problematic, such as banner ads that blocked educational content, sidebar ads that could be confused for recommended videos, or ads for video games that showed doctored versions of popular characters, such as Peppa Pig.

2. One in 5 videos viewed by children 8 and under contained ads that were not age appropriate.

Inappropriate ads included those with violent content (e.g., ads for violent video games), sexual content (e.g., ads for lingerie), drugs/alcohol (e.g., whiskey), or politics (e.g., presidential candidates Trump or Biden, or political issues such as immigration). Even in age-appropriate videos, inappropriate ads appeared 9% to 22% of the time.

3. Almost half of videos (45%) viewed by children 8 and under featured or promoted products for children to buy.

Of these videos, 22% were considered high in consumerism because they centered around toys, involved YouTubers promoting their own merchandise, or prominently featured branded products.

4. More than 1 in 4 videos (27%) that children 8 and under watched are intended for older target audiences.

These included gaming videos with age-inappropriate games such as Fortnite, reality vlogs with pranks or crude behavior, and music videos or compilations with violence.

5. Young children are primarily watching entertainment, not educational content.

One-quarter of videos (25%) were classified as educational, though most of these only touched on basic educational concepts, or filled the videos with toys or vicarious experiences (like watching Blippi visit an aquarium). Only about 5% of videos had a high educational value, meaning they taught topics at a developmentally appropriate level and went beyond simple or surface concepts. Three-quarters (75%) of videos children watched had no or weak educational value.

6. Out of all the different negative content types, children 8 and under are most likely to see physical violence, with 3 in 10 videos (30%) containing at least mild physical violence.

Interpersonal violence, including bullying, meanness, pranking, or other manipulative behavior, was seen in 20% of videos. Mild or moderate sexual content was present in about 6% of videos.

7. Diverse representations and/or positive role modeling were only seen in 24% of videos.

Although YouTube could potentially be a window into a diverse set of families and perspectives, 3 in 4 videos were missing diverse representations and positive role models.

8. Almost all parents report monitoring their young children's YouTube use at least somewhat.

The majority of parent respondents said they monitor their child's YouTube main usage "very much" (63%), 34% "somewhat," and 3% "not at all." Coviewing was least likely during videos in the *early elementary* and *tween/teen* categories, which contain the highest amounts of violence and consumerism.

Overall Study Design

We conducted a content analysis of YouTube videos viewed by children whose parents were participants in a 2020 study by Common Sense, *The Common Sense Census: Media Use by Kids Age Zero to Eight* (Rideout & Robb, 2020). Parents provided the URLs their children viewed by copying and pasting a list from the "history" section of the YouTube website or app. These were then compiled for analysis by a team at the University of Michigan. Because the data was de-identified, and the analysis was performed on publicly available videos, the University of Michigan Institutional Review Board determined that this study was exempt from review.

Participants and Data Collection

Parents who completed the Common Sense study were invited to participate in a follow-up survey about children's YouTube usage. Interested parents were emailed a link to the survey, and if they met eligibility criteria (1) child watches YouTube main at least once per week, (2) videos were viewed while signed in with a Google account (not in incognito mode), and (3) gave their electronic informed consent, they were asked to provide URL links for the last 15 videos their child watched. Detailed video and print instructions were provided to show parents how to copy over video URLs from the viewing history on desktop browser and mobile app interfaces. For each video, parents indicated whether they coviewed the video with their child.

Of the 191 participants who provided consent and submitted any video links, eight were omitted from the analysis for submitting fewer than 10 video links. We decided to code only 10 out of the 15 videos submitted for two reasons: First, a smaller number of videos allowed a larger number of children with complete video data to be included in analyses, improving our statistical power for demographic comparisons. Second, most children appeared to watch similar genres of videos (i.e., within-child variability of videos was low), so we concluded that coding 10 videos would adequately represent the child's YouTube video exposure. After accounting for 136 duplicate videos (88 watched by more than one participant, 48 viewed at least twice by the same child), and 55 listed as "unavailable" on YouTube at the time of coding, 1,639 videos were coded and included in analyses.

Participant characteristics are shown in Table 1. Compared to the larger survey sample (Rideout & Robb, 2020), the participants in the current study who submitted at least 10 videos for the YouTube analysis were no different by their child's age or gender,

TABLE 1. Participant characteristics

	n (%)
Child gender	
• Male	93 (51%)
• Female	90 (49%)
Child age category	
• 0 to 2 years	47 (26%)
• 3 to 5 years	64 (35%)
• 6 to 8 years	72 (39%)
Parent gender	
• Male	95 (52%)
• Female	88 (48%)
Parent age category	
• 18 to 29	13 (7%)
• 30 to 44	136 (74%)
• 45 to 59	34 (19%)
Parent race/ethnicity	
• White, non-Hispanic	126 (69%)
• Black, non-Hispanic	20 (11%)
• Hispanic/Latinx	22 (12%)
• Other	15 (8%)
Parent education	
• High school or less	33 (18%)
• Some college	45 (25%)
• Bachelor's degree or higher	105 (57%)
Household income category	
• Lower income (<$30,000)	21 (12%)
• Middle income ($30,000 to $75,000)	37 (20%)
• Higher income (>$75,000)	125 (68%)
Number of children <18 in household	
• 1	43 (24%)
• 2	87 (48%)
• 3	34 (19%)
• 4+	19 (10%)

Note: Percentages may not add to 100% due to rounding.

but they were more likely to be White, non-Hispanic, older, and have at least a college degree and an annual income >$75,000. Almost half (47%) of children in this sample had their own smartphone, tablet, or iPod touch.

Video Characteristics

Of the 1,639 unique videos analyzed, median view count was 4,703,634 (interquartile range [IQR] 944,815–21,876,212 views; range 23–5,704,271,532). Videos ranged in length from 0.25–1,440 minutes (median 10.1 minutes, IQR 3.7–18.1). However, we are not certain whether children watched all videos in their entirety; some were copied with a timestamp showing the video had been stopped partially through.

The most popular video among sampled children was "Baby Shark Dance," which was viewed by 12 children (and also had the highest number of total views, with more than 5.7 billion), followed by "Learning at the Children's Museum" from *Blippi Videos for Toddlers*, which was viewed by five children.

The most popular channel among children in our sample was Cocomelon–Nursery Rhymes, followed by Ryan's World, Super Simple Songs–Kids Songs and Come Play With Me. Also in the top 10 were DisneyMusicVevo and Blippi as well as gaming channels Slogo and FGTeeV. However, overall children watched a wide variety of channels and video types.

Content Coding

A coding scheme was created based on Common Sense Media YouTube evaluation guidelines and adapted based on iterative review of videos randomly selected from the dataset in weekly team meetings. Research assistants were trained, through meetings and review of videos, to a goal coding reliability of weighted kappa >0.7. Discrepancies or uncertainties in coding were resolved by consensus. Due to the long duration of some videos, coders were permitted to watch each video at double speed (which still allows for audio comprehension), and were allowed to skim videos that lasted at least one hour up to two hours (e.g., livestreams) after watching the initial 20 minutes.

Positive and negative content codes were not applied to videos in languages other than English (Spanish *n*=61, Russian *n*=2, other *n*=27). If videos included religious sermons recorded in a place of worship, we did not code for positive or negative content because we did not want to misinterpret religious symbolism. Coders captured screenshots of videos that illustrated codes especially well.

Metadata. We first abstracted video duration and metadata, including video title, creator, date uploaded, views as of June 18, 2020, and duration. A Python script was written for each URL, which pulled the necessary information by opening up the YouTube pages and pinpointing the location of various data points within the pages' HTML. (Code available here: https://github.com/hdnl/youtube-metadata-scrape/blob/master/main.py.)

Videos were then classified in terms of genre (story-based, music-based, instructional/DIY, reality, games/challenges, toys, compilations, satisfying/ASMR, and information such as news/science) and content type (animation, live-action, music videos, "Let's Play" gaming videos where users demonstrate video game gameplay, puppets, and voice-overs). We created an additional code for nursery rhymes (yes/no) to identify their frequency of use.

We considered including a code to assess whether the video title could be perceived as "clickbait" (i.e., titles that make statements that are inaccurate, attention-grabbing, or hyperbolic). However, in initial reliability testing we were unable to achieve sufficient reliability, and therefore abandoned this code.

Target audience. To assess whether children were watching age-appropriate content, target audience categories were assigned to each video based on the age range for which the content apparently intended.

These age-based categories included *early childhood* (from birth to <5 years - e.g., nursery rhymes, early education content), *early elementary* school age (from about age 5 to 8 years; e.g., not apparently directed at infants/toddlers/preschoolers, but videos appropriate for children 8 and under, such as displaying toys or child-directed characters, family vlogs with younger children, Minecraft videos with age-appropriate language), *tween/teen* (~ ages 8 to 17 years - e.g., most Let's Play videos in which gamers record themselves playing and commenting on video games, pranks, reality videos with crude humor, potentially risky behaviors, bad language, or sexual content), and *adult* (from about age 18 and older; e.g., music videos or compilations with violence, high sexuality, or adult-directed humor or information).

Some videos were assigned an *everyone* age category if they appeared to be directed to general audiences and did not contain negative content (e.g., DIY crafts, funny animal compilations). For analysis, video age categories were categorized either as age-appropriate (i.e., falling within the *early childhood*, *early elementary*, or *everyone* categories), or not age appropriate (i.e., *tween/teen* or *adult* categories) for children age 8 and younger.

Advertising. Advertising design and content were assessed by one coder through a Chrome browser, from which the coder was logged out of all email accounts. That way user profile data would not be used to inform the content of advertisements, and no ad blockers were installed. Each video was viewed and the types of advertisements (e.g., beginning of video, video break, banner ad, sidebar ad, end of video) were recorded, in addition to the age-appropriateness category.

Age-appropriate content included ads for early childhood learning games or age-appropriate YouTube channels or videos; neutral ad content comprised ads that appeared to be adult-directed (e.g., cars, computer software, clothing), but did not contain negative content, such as weapons, sexuality, or violence. Ads with the latter content were categorized as not age-appropriate. Dating ads, political ads, or ads promoting specific ideologies (e.g., about immigration, gun ownership) were also categorized as not age appropriate.

Embedded channel ads. We rated whether videos contained explicit, lengthy requests for the viewer to engage with the channel (yes/no). This included content at the end of the video that played for longer than 10 seconds displaying new videos to click, the channel creator teaching children how to search for more of their videos, an actor suggesting that the child comment or vote for things, or a clickable icon saying "subscribe" through the entirety of the video. A creator making a quick request like, "Remember to like, comment, and subscribe," or playing video links at the end of the video lasting less than 10 seconds counted as a "no."

Coding schemes that captured the production characteristics of videos and their negative and positive content are shown in Table 2.

TABLE 2. Coding scheme components, reliability statistics, and descriptions

Component	Reliability*	Description
• Physical violence	0.78–0.93	Cartoonish, realistic, inclusion of gore, presence of weapons
• Interpersonal violence	0.60–0.87	Bullying, pranks, meanness, humor at expense of others, controlling, talking down to, or manipulating others
• Scariness	0.82–1.00	Horror, scary themes, creepy or suspenseful themes, loud and violent content
• Sexual content	0.66–1.00	Innuendos, overt sexual behavior, nudity, sexual themes
• Stereotypes	0.75–0.93	Racial/ethnic, gender, ability, body shaming
• Bad language	0.81–0.91	Mild ("idiot," "stupid") to severe swearing
• Consumerism	0.69–0.92	Branded content, unboxing videos, video game walk-throughs, calls to purchase items/merchandise or use affiliate codes
• Wish fulfillment	0.78–0.89	Vicarious pleasures or experiences, consumer goods "hauls," showing off luxury items or large quantities of toys, candy, etc.
• Drinking, drugs, smoking	0.66–1.00	Mentions, depictions, or use of alcohol, drugs, or tobacco
• Positive role models/representations	0.71–0.96	Positive role modeling by characters, diverse representations of race, ethnicity, gender, religion
• Educational value	0.78–0.89	From simple concepts (i.e., a few facts, brief mention of early literacy/numeracy concepts) to in-depth concepts or step-by-step how-to videos
• Production quality	0.74–0.94	Audio and video quality, quality of editing and sound

*All categories coded *0* (not present), *1* (present in mild form or limited amount), or *2* (present persistently or to a major degree), except for wish fulfillment, interpersonal violence, or stereotypes, which were coded *not present/present*.

Data Analysis

Video level. Of the 1,639 unique videos, we calculated the number and proportion of videos in different target audience categories as well as the percentage of videos that were age appropriate for 0- to 8-year-olds (*early childhood*, *early elementary*, or *everyone*) versus not. We calculated the frequency and proportion of videos that belonged to different genres and content types.

We calculated the number and proportion of videos that had any advertisements versus none. For the videos that showed ads, we analyzed the frequency of age-appropriate, neutral, and non-age-appropriate ads, and type of ad placement. Then we created a summary variable for the number of different ad types that each video contained. We calculated the frequency of videos that had embedded channel ads as well as frequencies for all of the negative and positive content coding variables described in Table 2.

In bivariate analyses, we examined whether video views and duration differed by video age range category (i.e., *early childhood*, *early elementary*, *tween/teen*, *adult*, or *everyone*). We also examined whether parent-reported coviewing, number of ads, or presence of age-inappropriate ads were more common in certain age-range categories for videos.

Child level. For the list of 10 videos reported for each child, we calculated the rate of parent-reported coviewing, mean duration of videos, proportion of videos that were age appropriate, proportion of videos with any ads, total number of ad placement types across all videos, and proportion of videos with embedded channel ads. We calculated summary scores for the negative and positive ratings of all codes for the list of videos submitted for each child.

To understand the patterns of viewing across developmental windows, we plotted the proportion of different genres and content types stratified by child age group and gender.

In bivariate analyses, we examined whether parents were more likely to report coviewing on videos of different age categories. When videos were viewed by multiple children, we averaged the parent-reported coviewing and dichotomized the variable

based on a threshold of 0.5. We tested associations between child characteristics (age, gender), parent characteristics (age, gender, race/ethnicity, educational attainment), and household characteristics (number of other children in household) with media variables:

- Average duration of videos viewed

- Proportion of videos that were age appropriate

- Proportion of videos that had ads

- Number of distinct ad types per child

- Proportion of videos with embedded channel ads

- Summary scores for all negative and positive content codes in Tables 4 and 5

What Are Children Watching on YouTube?

Most videos were age appropriate for 0- to 8-year-olds.

Of the more than 1,600 videos we coded, 18% were in the *early childhood* category, which included nursery rhymes (about 47% of this category; see Screenshot 1), educational cartoons or songs teaching shapes, colors, or early literacy skills, or music videos with 3D animation, such as those from Hey Bear Kids. Videos in this category had accrued significantly more views compared to all other age categories (Table 3 on page 10, Kruskal-Wallis *p* < .0001).

About 35% of videos were in the *early elementary* category, and consisted of toy videos, family vlogs that would appeal to children and used age-appropriate language/themes (e.g., *A for Adley – Learning & Fun*, *Ryan's World*), cartoons marketed to children (e.g., *Talking Tom*), or Disney music videos (e.g., from *Frozen* or *Descendents*). Child-directed art or dancing DIY videos (e.g., *GoNoodle*, *Art for Kids Hub*) also fell in this category.

Videos in the *everyone* category (20%) included cooking shows, nature shows, or music videos with age-appropriate themes (such as those from artists Jess Glynne or Rosanna Pansino).

SCREENSHOT 1. Example of *early childhood* content with age-appropriate and neutral ads (Note that the banner ad is more salient than the video, and sidebar ads are in line with recommended videos. The video is longer than one hour.)
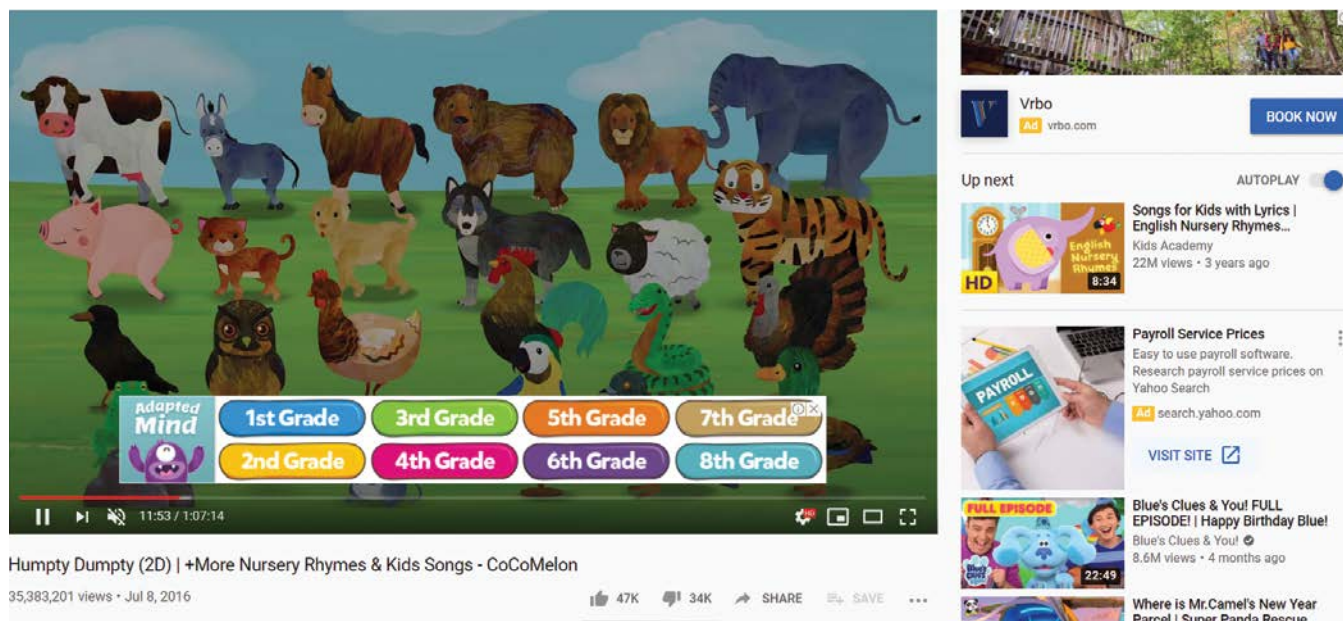
TABLE 3. Distribution of target audience age ranges, view counts, and duration of videos viewed by 0- to 8-year olds

Target audience	Frequency (% of total videos)	View count (median)	Video duration (median)
• Early childhood	286 (18%)	30,833,240.5	9.3 mins.
• Early elementary	579 (35%)	6,295,808	10.1 mins.
• Tween/Teen	386 (24%)	3,328,379.5	12.2 mins.
• Adult	60 (4%)	2,966,236.5	5.2 mins.
• Everyone	327 (20%)	1,760,415	5.1 mins.

Note: Percentages do not add to 100% due to rounding.

More than one-fourth (27%) of videos viewed by 0- to 8-year-olds were age inappropriate.

A significant proportion of videos viewed by participants were in the *tween/teen* age category (24%, see Screenshots 2 and 3 on page 11), which were usually gaming videos with non-age-appropriate games, such as Fortnite. Also common were reality channels, such as vlogs or challenges that featured teens or included age-inappropriate language or referenced sexual innuendos that would typically not be recognized by a younger age group. Almost 4% of videos were adult appropriate (e.g., music videos with explicit sexual behavior/substance use, comedy routines, or Let's Play gaming videos with high levels of gore or graphic violence).

Almost half of videos show wish fulfillment.

We found that 45% of all videos had some form of wish fulfillment characteristics, either by watching a child collect and eat candy (see Screenshot 4 on page 12), play with vast numbers of toys (see Screenshot 5 on page 12) or watching another person complete an art project (e.g., a fast-motion video of an adult coloring in a *Paw Patrol* coloring page), play video games, or YouTubers creating outlandish challenges for the purposes of entertainment (e.g., staying in a cardboard box overnight). These videos tended to create a vicarious experience for viewers, had purposefully indulgent storylines, or featured the YouTuber's luxury items.

A significant proportion (24%) of videos viewed by participants were in the tween/teen age category.

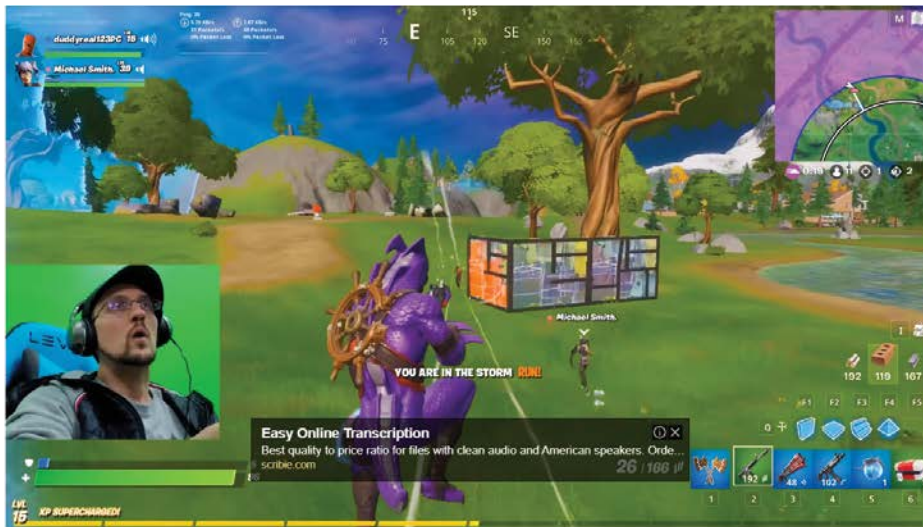**SCREENSHOT 2. Example of *tween/teen* content (reality vlog with pranks between popular YouTubers)**

10 WAYS PRESTON PRANKS UNSPEAKABLE!

30,018,793 views • Nov 14, 2019

👍 442K   👎 20K   ➤ SHARE   ≡+ SAVE   •••

SCREENSHOT 3. Example of *tween/teen* content (Let's Play video with Fortnite) with multiple ads, including one age-inappropriate ad with frightening video game content

FORTNITE x SNAKEY BUS (FGTeeV Bonus Content during Good Old Quarantine Days)

6,959,871 views • Mar 23, 2020

👍 64K   👎 3.2K   ➤ SHARE   ≡+ SAVE   •••

SCREENSHOTS 4 & 5. Examples of _early elementary_ child-directed content with wish fulfillment: Family vlog involving a story about children going to a make-believe candy shop and eating chocolate; and video involving voice-over of adult woman speaking about and opening up different LOL Surprise Eggs and Trolls World Tour dolls
(Sidebar ad has a similar theme and could be mistaken for a similar video/channel.)

Lets Go Shopping Song | Nursery Rhymes and Kids Songs | Chocolate Shop

145,859,740 views • Mar 4, 2020

459K   228K   SHARE   SAVE   ...

#lolsurprise #lolbigsurprisecustom #trollsworldtour

LOL Big Surprise CUSTOM Ball Opening DIY Trolls World Tour (2020) Toys, Activities, Dolls, Coloring

3,040,586 views • Mar 19, 2020

17K   3K   SHARE   SAVE   ...

Up next   AUTOPLAY

The Fixies ★ THE GRAMOPHONE | MORE Full...
The Fixies
19M views • 2 years ago
1:32:16

NEW Secret Crush
Secret Crush
3.8M views
Ad

Trolls World Tour Bath Finger Painting Colors and Bubble...
Nat and Essie
9.5M views • 8 months ago
21:55

Escape the Babysitter Granny in Real Life! Escape Rooms &...
Trinity and Beyond
23M views • 1 year ago
36:52

LOL Big Surprise Custom Ball Opening!! Miraculous Ladybug...
Toy Caboodle
14M views • 1 year ago
13:00

GETTING CAUGHT IN A TORNADO WITH RONALD!!!
GamerGirl
22M views • 1 year ago
37:09

Snow Queen 2

## Girls watched more toy videos, while boys watched more gaming/challenge videos.

Otherwise, there were no clear patterns of genre or content type by age or gender. Live-action was the most popular content type (more among girls), followed by animation and Let's Play gaming videos (more among boys). See Figure 1.

Although YouTube has large numbers of instructional DIY videos, these were rarely found in children's viewing histories (only 3% to 11% of children's video lists, highest in 0- to 2-year-old girls). However, because data were collected during early weeks of school closures due to the coronavirus pandemic, we may have overestimated the number of book-reading and teacher-led instructional videos, or videos specific to this time (e.g., cartoons about handwashing, *Lunch Doodles with Mo Willems*).

Although not formally assessed, it was notable during coding that children's viewing histories showed little within-child variation. In other words, children tended to be nursery rhyme viewers, Let's Play gaming video viewers, toy/reality video viewers, or otherwise stayed within the same genre of video. We suspect that participants' video lists were homogeneous because they tend to click on recommended videos, which provide suggestions based on a child's prior viewing behavior (see Screenshot 6 on page 14), and therefore stay within the same overall genre or topic. For example, one participant viewed nine consecutive videos about vending machines made from Lego bricks, and another child watched 10 videos about the same college mascot.

FIGURE 1. Genre viewing and content type, differences by age and gender

GENRE VIEWING
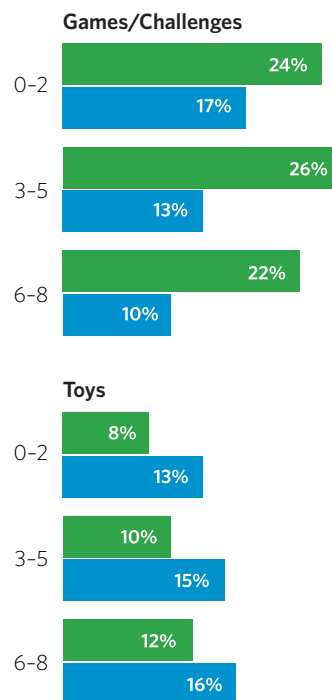
CONTENT TYPE
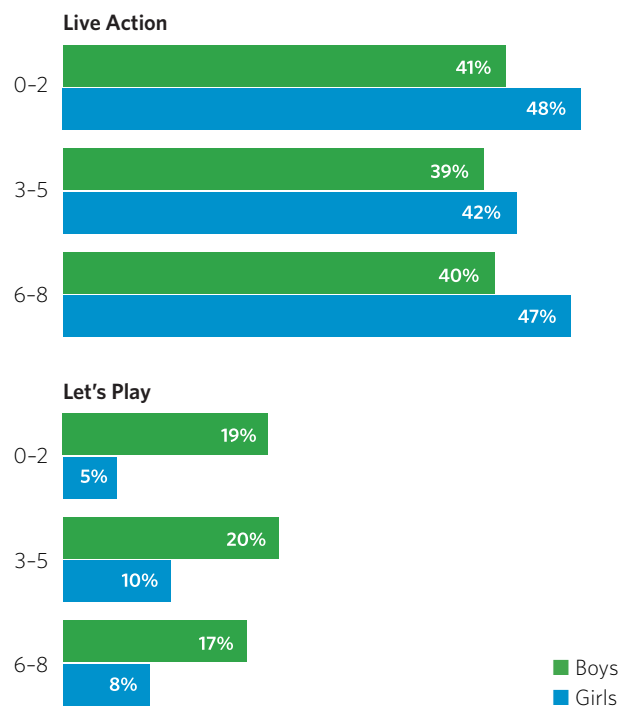
SCREENSHOT 6. Grid of recommended videos provided after watching a Roblox Let's Play video (*tween/teen*)
(Original video had crude content; similar content is recommended in video feed. Political ad is shown on sidebar.)

Production quality is relatively good.

We rated production quality as *poor* in only 4% of videos, due to shaky handheld camera work, inconsistent video resolution, or low audio quality (from compiling videos from several sources), and minimal editing. About half (50%) of videos were of *moderate* production quality, meaning that some editing had been done or there was an attempt to follow a script or storyline, and audio and video quality were reasonably good (e.g., content from a typical family vlog or gamer video). Production quality was rated as *high* in 46% of videos, indicating that there was studio-level production, steady camera work, good audio and lighting, and editing.

IMPLICATIONS

- Kids are clearly a target audience on YouTube main. Child-directed videos, such as nursery rhymes, have extremely high numbers of views and often are of long duration (one hour or more).

- Access to age-inappropriate content occurs frequently. This is an issue for YouTube to address, for content creators to understand their actual (not intended) audiences, and for families to understand what types of videos are being recommended to children.

- Wish fulfillment is a prominent type of content on YouTube, which offers children vicarious experiences that are satisfying and highly attractive to young children, but not necessarily enriching or educational.

- Algorithmically determined recommendations offer more of the same types of content to children, who appear to follow recommendations. Although we weren't able to tell whether children followed recommendations in their submitted video lists, children's videos were very similar to one another. This needs future study because the algorithm's ability to predict what a child will click on next potentially constrains the child's viewing, reinforces the viewing of negative content, or could prolong viewing.

What Is Being Advertised to Children, and How Much?

More than 8 in 10 videos contain advertisements.

Advertisements appeared in 85% of all videos (of note, data was collected from a Chrome browser while logged out to prevent ad targeting). The approximately 15% of videos without ads were typically educational videos posted by teachers, people reading children's books, religious channels, or videos that had sexual or other offensive content and therefore had likely been demonetized (i.e., their advertising revenue removed due to offensive content).

Many videos had a high volume of ads—only 22% had only one ad (usually banner or sidebar), but most had two (38%), three (23%), or as many as four ad types per video (1%). Some of the preschooler-directed shows (*Peppa Pig*, *Morphle*, *Blippi*) had numerous ads. In fact, total ad counts were higher for videos in

the *early childhood* age category (mean 2.14) compared to other age categories (*early elementary* 1.83, *tween/teen* 1.67, *adult* 1.43, *everyone* 1.31, Kruskal-Wallis *p* < .0005).

Ad placement was most commonly sidebar ads (1,098, appeared in 67% of videos), which appeared on the right-hand side of the screen while the video was playing, aligned with recommended videos. Of note, these could easily be confused with recommended videos by young children, because they often included popular characters, such as Barbie, Thomas the Tank Engine, or Hot Wheels.

Also common were banner ads (1,069, appeared in 65% of videos), which sometimes stayed constant through the whole video, or sometimes changed frequently, and could cover up educational content in the video, such as words to a nursery rhyme song (see Screenshots 7 and 8). For example, the ad would block out some of the "educational" content that videos are trying

SCREENSHOTS 7 & 8. Examples of *early childhood* educational videos in which educational content is covered by a banner ad. First video also contains a sidebar ad with neutral ad content that is not relevant to child viewers.
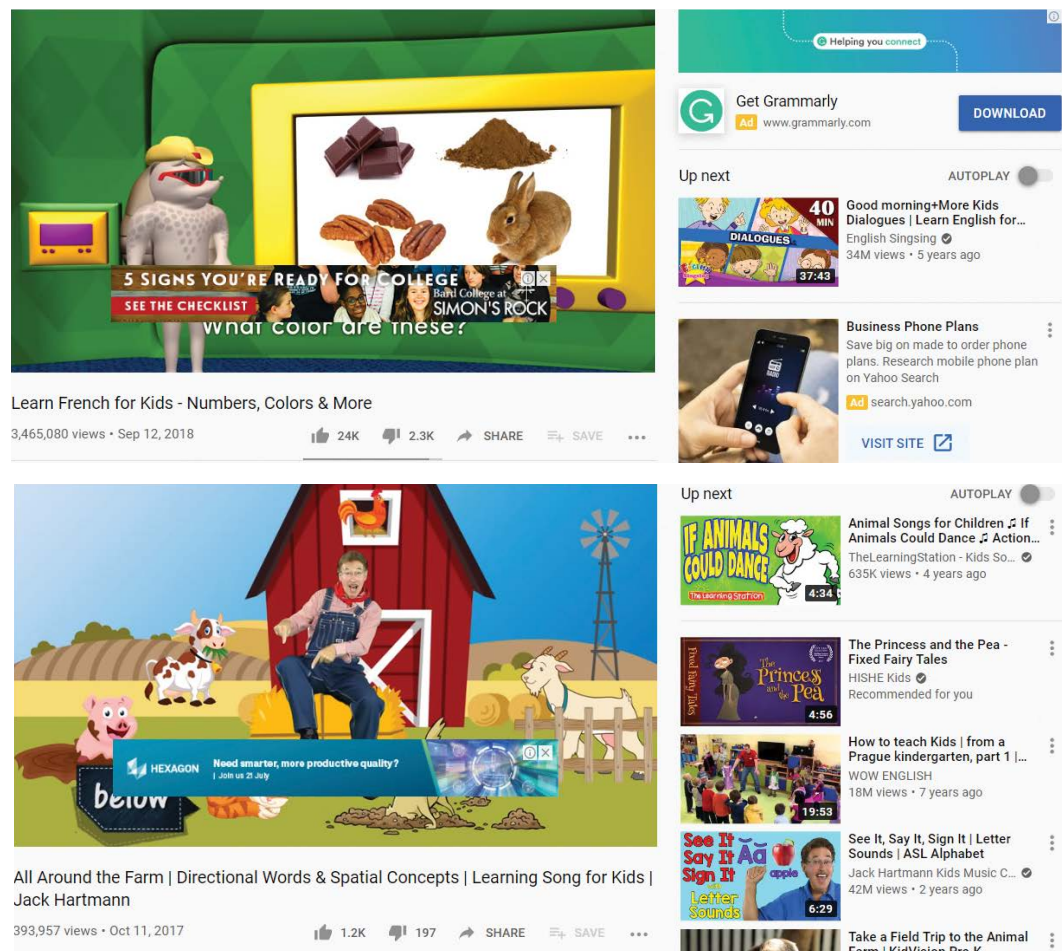
to show (e.g., Blippi saying, "blue!" with the word blue written on the bottom of the screen, completely blocked by an ad). Also common were video ads before the YouTube video played (383, appeared in 23% of videos) or at the end (170, 10% of videos) of the video, and less commonly an ad break once or more through-out the video (110, 7% of videos). Screenshot 9 provides a contrasting example where no ad is obscuring the video.

SCREENSHOT 9. Example of *early childhood* video with no ads distracting from or blocking content for the duration of the video
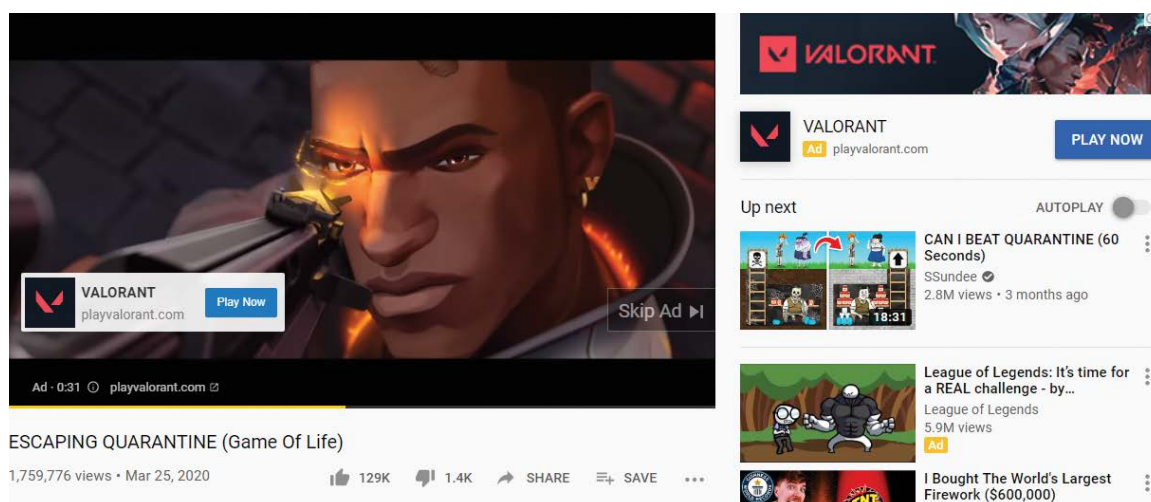(Neutral ad is shown on sidebar.)
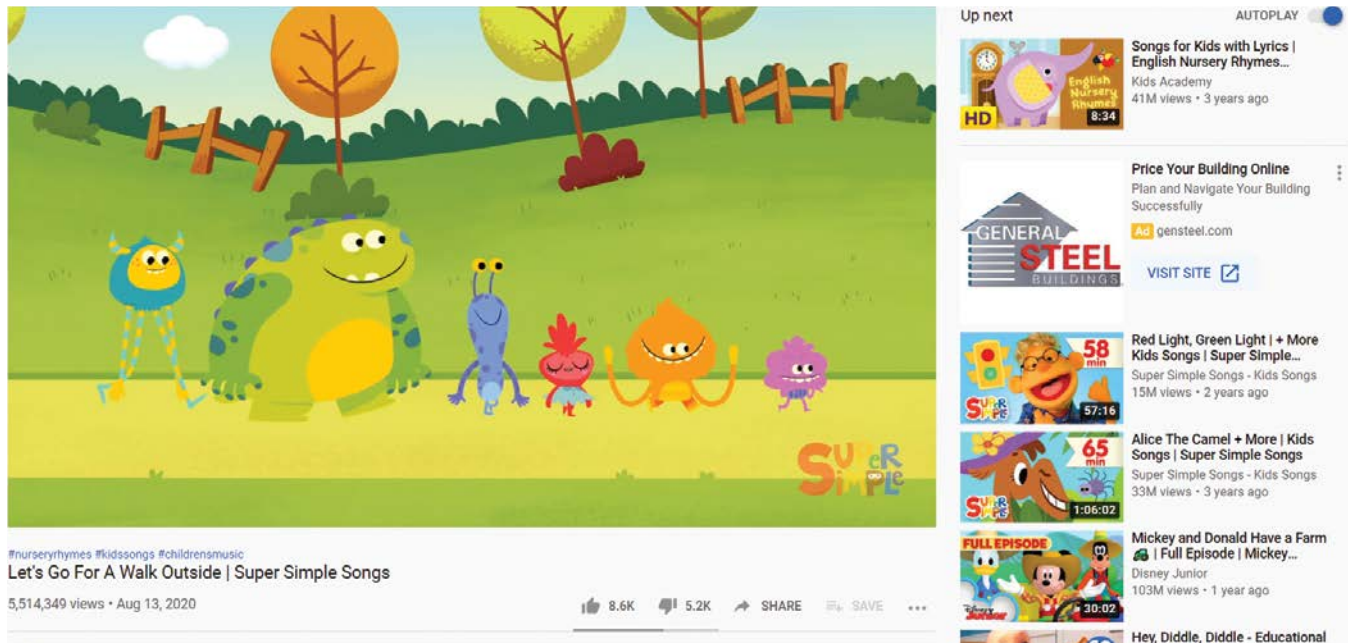
About one-fifth of videos contained age-inappropriate ads.

About one-quarter (440, 27%) of videos contained ads that were age appropriate (e.g., ads for AdaptedMind educational system, Polly Pocket, American Girl dolls, and kids' movies appeared on the sidebar when a clip was being shown). Most videos (1,213, 74%) contained ads that were deemed not child-directed but neutral in content (e.g., Volvo, Casper mattresses, Honey, Liberty Mutual insurance, State Farm insurance, Grammarly, ROMWE clothes, and vacation sites such as northern Michigan or VRBO).
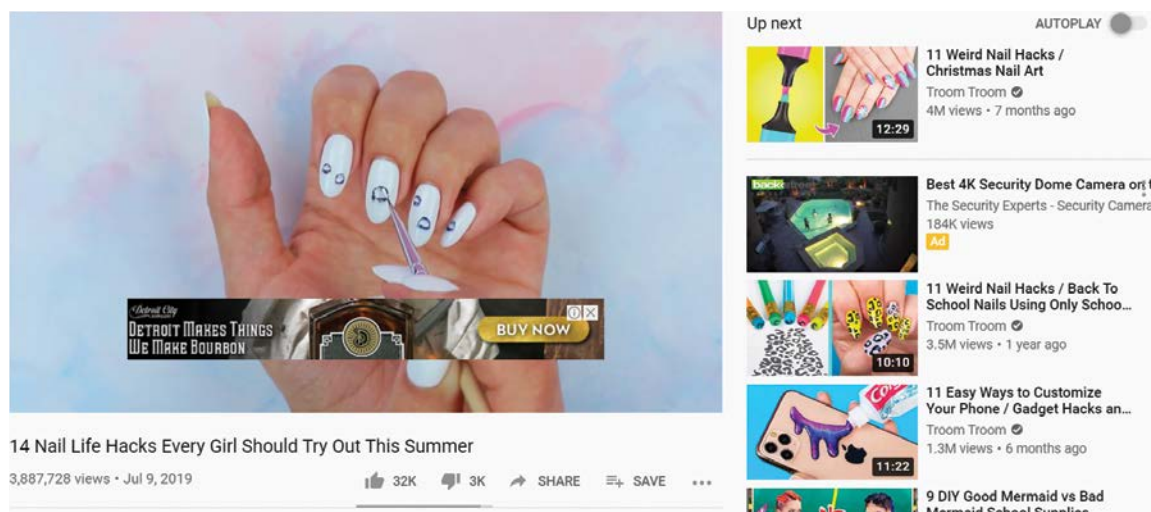
About one-fifth (326, 20%) of videos contained age-inappropriate ads because they had violent content (e.g., ads for video games such as Valorant) (see Screenshot 10), sexual content (e.g., ads for lingerie), drugs/alcohol (e.g., whiskey) (see Screenshot 11), or politics (e.g., presidential candidates Trump or Biden, political issues such as immigration) (see Screenshots 12 and 13 on page 18). However, since coding was performed in Michigan—considered a swing state in the 2020 presidential election—political ads may have appeared more frequently than they might have in other settings.

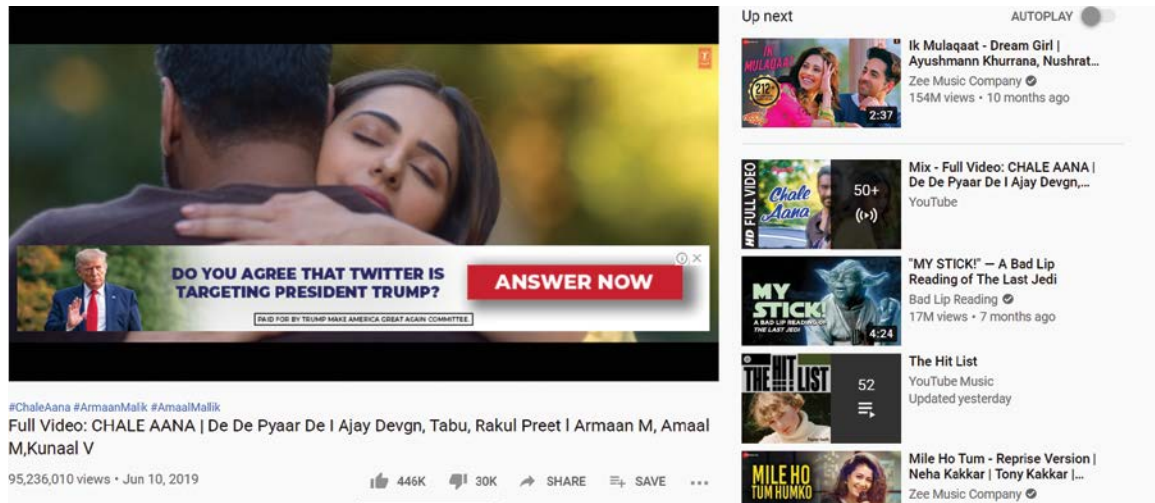**SCREENSHOT 10. Example of violent ad content appearing before a video (*tween/teen*)**

SCREENSHOT 11. Example of bourbon whiskey ad in "nail hacks" video (*everyone*)

SCREENSHOT 12. Example of political advertisement during a video in a language other than English (*everyone*)

SCREENSHOT 13. Example of political/ideological ad during a Let's Play gaming video (*tween/teen*)
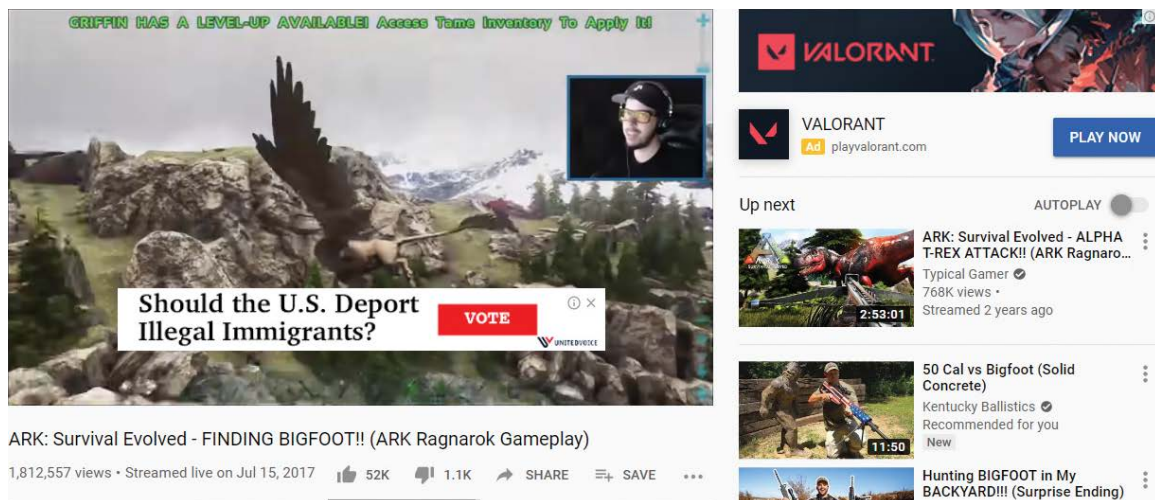
Particularly inappropriate advertisements included a banner ad for the "Human Biospecimen Marketplace," sports betting during soccer videos, and Dream Singles "7 women to 1 man" (see Screenshots 14 and 15 on page 19). Also notable was that some videos would cycle through multiple different ad types (ABC Mouse followed by violent multiplayer game ad or Trump ad), or there were ironic juxtapositions, such as a Nutrisystem ad during "World's Best Brownie!" video and a National Rifle Association ad during a kitten compilation.

However, other viewers may experience different ads, depending on their viewing behaviors, profiles for advertising collected by Google, and whether they are signed in to the browser or app.

Non-age-appropriate ad content was significantly (chi square *p* < .0001) more likely to occur in *tween/teen* videos (39% of ads appearing during these videos, many for violent video games), compared to videos in the *everyone* (17%), *early elementary* (14%), and *early childhood* categories (9%). Most of the age-inappropriate ads in the early childhood category were for video games with altered characters (see Screenshot 16 on page 19).

SCREENSHOTS 14–16. Examples of age-inappropriate ads: Human Biospecimen Marketplace during a "Frozen 2 in Real Life" music video (*everyone*); a dating website during a Fortnite Let's Play gaming video (*teen/tween*); and a video game website sidebar ad with manipulated image of Peppa Pig falling off a bike with eyes crossed out during a video (*early childhood*)

Channels keep telling young children to subscribe/like and engage.

Embedded channel ads—in which characters encourage engagement with the channel, or additional videos are shown for longer than 10 seconds at the end of the video—occurred in 59% of videos. For example, Blippi teaches children how to search for his name, Pinkfong shows children how to search for the name "Pinkfong" in a search bar, and Masha shows children how to search using the microphone (see Screenshot 17).

Children in live-action videos tell the viewers to click "like" and "subscribe" (see Screenshots 18 and 19 on page 21). Some actors were noted to say, "What's your favorite color? Comment below!" and "Click 'like' to make Mr. Puppet happy!" Creators do this in hopes of garnering new viewers because YouTube's algorithms are more likely to promote channels with more engagement to wider audiences.

Some YouTubers would take up time at the beginning or end of the videos to talk about liking their videos, subscribing, using affiliate codes, and encouraging comments before they actually get to the topic of the video at hand.

SCREENSHOT 17. Example of embedded channel ad in a video (*early childhood*) during which a character shows children how to search for her name

Masha y el Oso - Primer Encuentro 👧🐻 (Capítulo 1)

161,592,277 views • Feb 18, 2016   👍 502K   👎 291K   ➔ SHARE   ☰ SAVE   ...

SCREENSHOTS 18 & 19. Examples of embedded channel ads: Child YouTuber dressed like Elsa asks viewers to "like" the video (*early elementary*); and YouTuber (FGTeeV) shows prolonged recommendations of other videos, asks for likes/subscriptions, and promotes their merchandise (*teen/tween*)
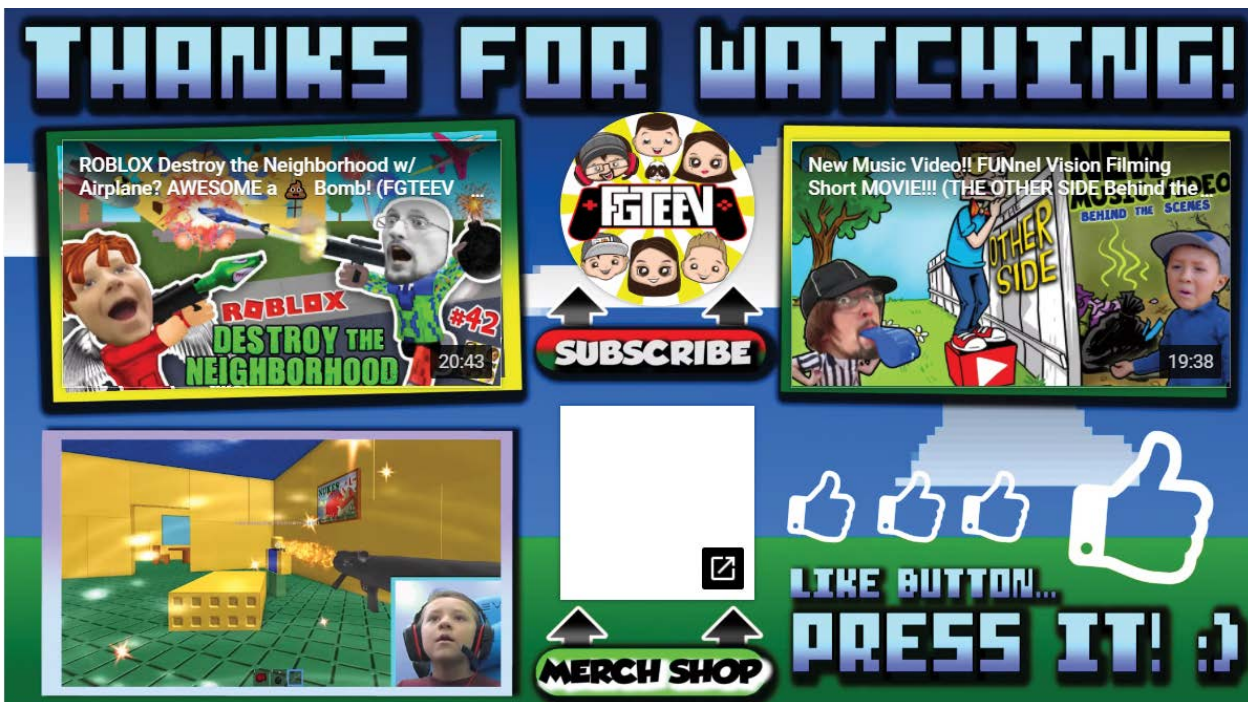

#ElsaAndAnna #PretendPlay #videoforkids
Alice Pretend Princess Frozen Elsa And Anna The Best videos of 2018 by Kids smile tv

113,232,710 views • Dec 30, 2018   👍 498K   👎 207K   ➤ SHARE   ☰+ SAVE   •••

ALIEN SHARKS FOUND vs. MY SHARPY!! 🎵 FGTEEV Gets the Stank Walrus (Subnautica Survival #2)

3,903,942 views • Mar 29, 2018   👍 23K   👎 1.6K   ➤ SHARE   ☰+ SAVE   •••

Consumerism is a major component of almost half (45%) of all videos watched.

Moderate levels of consumerism were found in 23% of videos, and high levels of consumerism in 22%. Examples included trailers for movies, music videos associated with branded characters, or 3D animation of popular toys, such as Polly Pocket. Other examples include a Let's Play gamer playing a new game, telling people to download it, and advertising their own merchandise. The father on FGTeeV acknowledged the need to disclose that he gets a percentage of merchandise by actually saying, "I know FCC is watching, so I have to tell you."

Toy play channels, such as Tic Tac Toy, would disclose that their videos were sponsored by Mattel or Spin Master, usually in a brief voice-over or written disclosure (see Screenshot 20 on page 23). Other toy/play videos did not include sponsorship disclosures, but usually consisted of (1) a voice-over while an adult described the toys, took them out of boxes, or showed them to the camera (see Screenshot 5 on page 12), (2) a parent and child playing with toys they got in the mail and unboxed/constructed together, or (3) a scripted play in which toys were featured as props (see Screenshot 21 on page 23).

In addition, some Let's Play videos showed added layers of commercialism, such as wagering/racing for V-Bucks or other types of in-game currency when competing on a livestream. Popular Let's Play gamers urged viewers to use their affiliate links or codes for Fortnite and Roblox (see Screenshot 22 on page 24), which provides them additional revenue.

IMPLICATIONS

- Advertising and branded content promotion appear to be prominent in YouTube videos.

- Ads in *early childhood* videos are problematic for several reasons. First, these advertisements were mainly not relevant to child viewers; they may have been intended for coviewing parents. Second, ad placement as a banner or video break would disrupt children's attention to educational content, and thereby render it less beneficial. Age-inappropriate ads occurred 10% of the time, even when children were watching age-appropriate videos, which suggests that ad placement is not being coordinated appropriately.

- Watching age-inappropriate videos on YouTube—particularly in the *tween/teen* category—was more likely to lead to age-inappropriate ads containing violence, sexual content, or political/ideological content.

- Even without ads, the YouTubers themselves promote their channels, asking children to subscribe and engage in various ways. Children younger than 6 or 7 cannot understand the persuasive intent of advertisers or promotions on screen media (Radesky & Chassiakos et al., 2020), so this behavior is manipulating children's strong affinity for characters. Children are known to build emotional bonds (sometimes known as parasocial relationships) with characters and influencers, and are more likely to follow their recommendations (Brunick et al., 2016; Richards & Calvert, 2017). YouTubers are not disclosing to child viewers that their engagement (e.g., likes, comments) allows the creator to make more money, and child viewers do not understand the profit mechanisms on YouTube.

- Branded content (video games, toys) frequently appears in YouTube videos, both with the hope of attracting child viewers, but also due to industry sponsorships, which were not always disclosed. During coding, there was a sense among coders that some videos promoted a materialist lifestyle—for example, showing over-the-top depictions of the toys children have, or the elaborate layouts of their homes. Toy unboxing videos informally emphasize the importance of accumulation; only one content creator noted that he gives all unboxed products to charity after filming. This may influence children's norms about play or ownership of material goods.

- Presence and appropriateness of ads did not differ by child, parent, or family characteristics, suggesting that their high prevalence is evenly distributed.

SCREENSHOTS 20 & 21. Examples of scripted videos (*early elementary*) centering on branded toys
(20: disclosing being a paid advertisement for Mattel)

▶ ⏭ 🔊 0:03 / 15:18   This is a paid advertisement for Mattel   CC ⚙ ▣ ▭ ⛶

#ad
CRAZY Weather Day !!!
1,873,674 views • Feb 28, 2020   👍 LIKE   👎 DISLIKE   ➤ SHARE   ⊞ SAVE   ...

Bubble Machine ! Elsa & Anna toddlers - Ariel's Birthday party - pool - playdate - LOL toys
12,768,158 views • Mar 28, 2020   👍 LIKE   👎 DISLIKE   ➤ SHARE   ⊞ SAVE   ...

SCREENSHOT 22. Example of YouTuber asking fans to use his affiliate code when making in-game purchases (*tween/teen*)

SUPPORT A CREATOR

Declare your support for a Creator! Your in-game purchases will help support this Creator.

Jelly

View Approved Creators   Accept   ESC Close

▶ ▶| ◀) 12:26 / 12:40   CC ⚙ ▣ ▭ ⛶

STEALING 25,000,000 V-BUCKS From A FORTNITE BANK!

6,079,656 views • Sep 17, 2019   👍 235K 👎 4.8K ↗ SHARE ≡+ SAVE •••
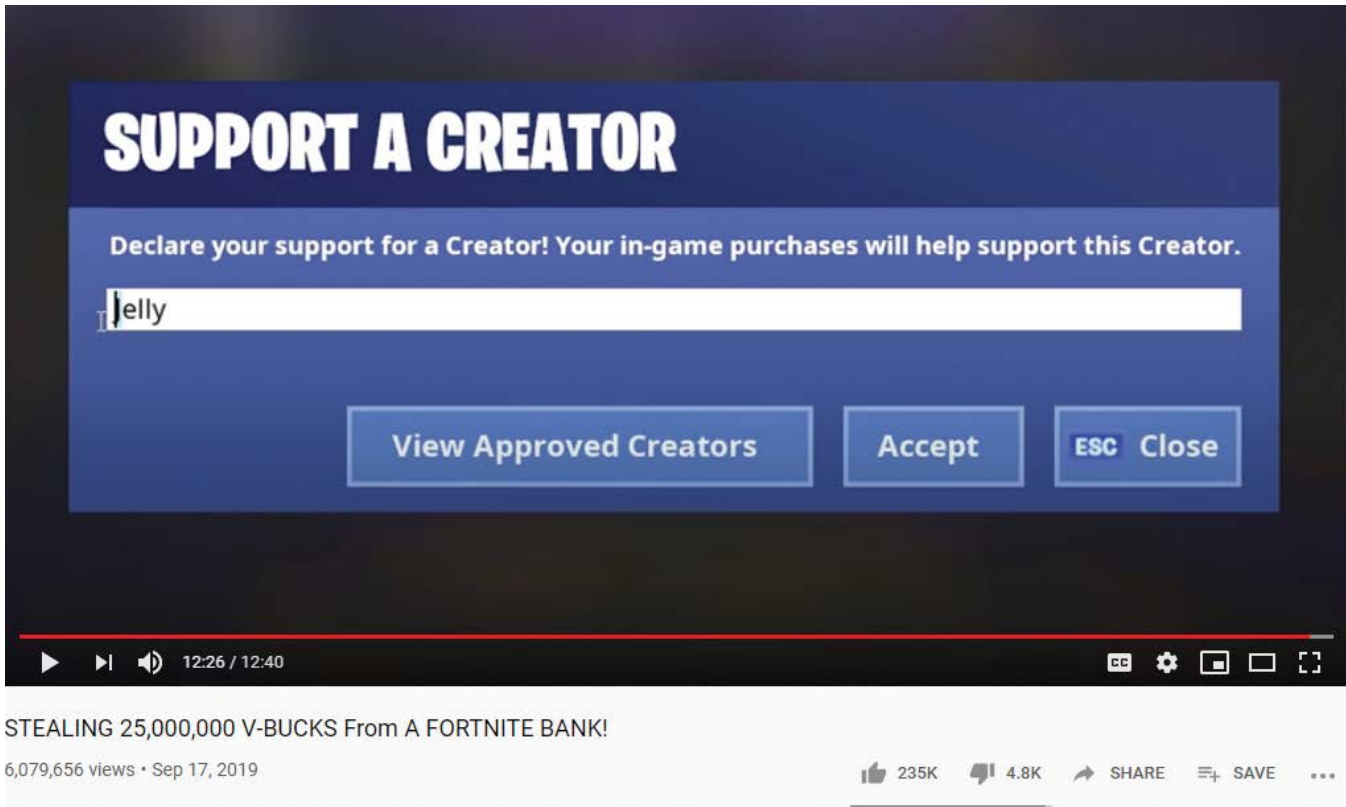
What Kinds of Negative Content Are Children Seeing, and How Much?

Violence (physical)

Physical violence occurred to a mild degree in 16% of videos, and major in 14%. The most extreme depictions of weapons or gore occurred in Let's Play videos, while real-world violence tended to be seen in compilations of car crashes (see Screenshot 23 on page 25) or personal injury. For example, in one Let's Play video, the gamer displayed taking hostages at a bank, who he executed with a semiautomatic rifle at close range (see Screenshot 24 on page 25).

In other video game videos, gamers intentionally ran over their characters, or intentionally drowned other players or covered them with lava. Gun violence in video games was common.

SCREENSHOT 23. Example of real-world physical violence (*adult*)
(compilation of car crashes, with cartoon faces drawn on)

#WOADoodles #WOAVideos #carcrash
Funny Car Crashes #2 | Funny Fails moments - Woa Doodles
6,476,999 views • Jan 23, 2020   👍 16K   👎 4.3K   ➤ SHARE   ☰+ SAVE   •••

SCREENSHOT 24. Example of gory physical violence in Let's Play gaming video (*adult*)

I TOOK HOSTAGES AT THE BANK (Stick Em Up)
1,481,559 views • Sep 5, 2019   👍 30K   👎 611   ➤ SHARE   ☰+ SAVE   •••

Violence (interpersonal)

We also created a code for interpersonal violence to capture the existence of bullying, meanness, pranking, or other manipulative behavior, which occurred in 20% of videos. Overall, these types of videos seemed to promote entertainment driven by laughing *at* other people, rather than laughing *with* them. For example, the creator Flamingo teamed up with other players (recruited from his fan forums) to chase another Roblox player around a virtual setting, laughing at the way other players were following his lead. He made sarcastic comments at the end of the video such as, "Wow, guys, I really think we showed how nice of a community we are." (see Screenshot 25)

Scariness

Children's video histories showed videos with frightening themes that were mild 14% of the time, major 4% of the time. These usually involved Let's Play videos in which gamers were playing horror or jump-scare games (e.g., *Five Nights at Freddy's*) or included frightening characters, such as Granny (see Screenshots 26 and 27 on page 27), or spooky themes, such as navigating a deserted house. Videos that foreshadowed a sense of peril, impending death, and bloody themes were also included. Some children had watched compilations of scary TikToks or other ghost-sighting videos.

Bad language

Mild bad language, such as "idiot," "stupid," or "Jesus Christ," occured in 12% of videos, while 6% of videos included cursing or repetitive use of bad language.

SCREENSHOT 25. Example of interpersonal violence/bullying of a character in Roblox (*tween/teen*)
(Gamer has asked fans to follow him chasing another person around calling her a "noob" and telling her to die.)

SCREENSHOTS 26 & 27. Examples of scariness in video games (*tween/teen*) (Gaming video creators find mods of popular games that incorporate familiar cartoon characters, often with a horror/scary twist. These usually cute or comedic characters are modified to take on tyrannical roles in the mod. In Screenshot 26, the game combines realistic physical violence themes [fighting] with popular horror game characters.)

MY BABYSITTER IS..... SPONGEBOB .EXE !! Minecraft w/ Little Kelly Little Carly and Sharky

3,383,766 views • Oct 29, 2017   👍 23K   👎 1.4K   ➤ SHARE   ≡+ SAVE   ...

GRANNY WWE WRESTLING! Buff Baldi vs. FGTeeV Family Tag Team (Bendy + Hello Neighbor Match)

21,828,762 views • Feb 27, 2019   👍 156K   👎 12K   ➤ SHARE   ≡+ SAVE   ...

Sexual content

Although sexual content was rare (mild in 4% of videos, major in 2%), incidences of sexual behavior or references were highly age inappropriate. For example, some reality vloggers try to create vague situations that can be interpreted in several ways, while making references to sexual innuendos or positions (see Screenshot 28), and some Roblox players had characters mimicking sexual positions (see Screenshot 29 on page 29). Although sexual behavior is not allowed in Roblox, some players find ways to get around the Roblox content filters (Helm, 2020).
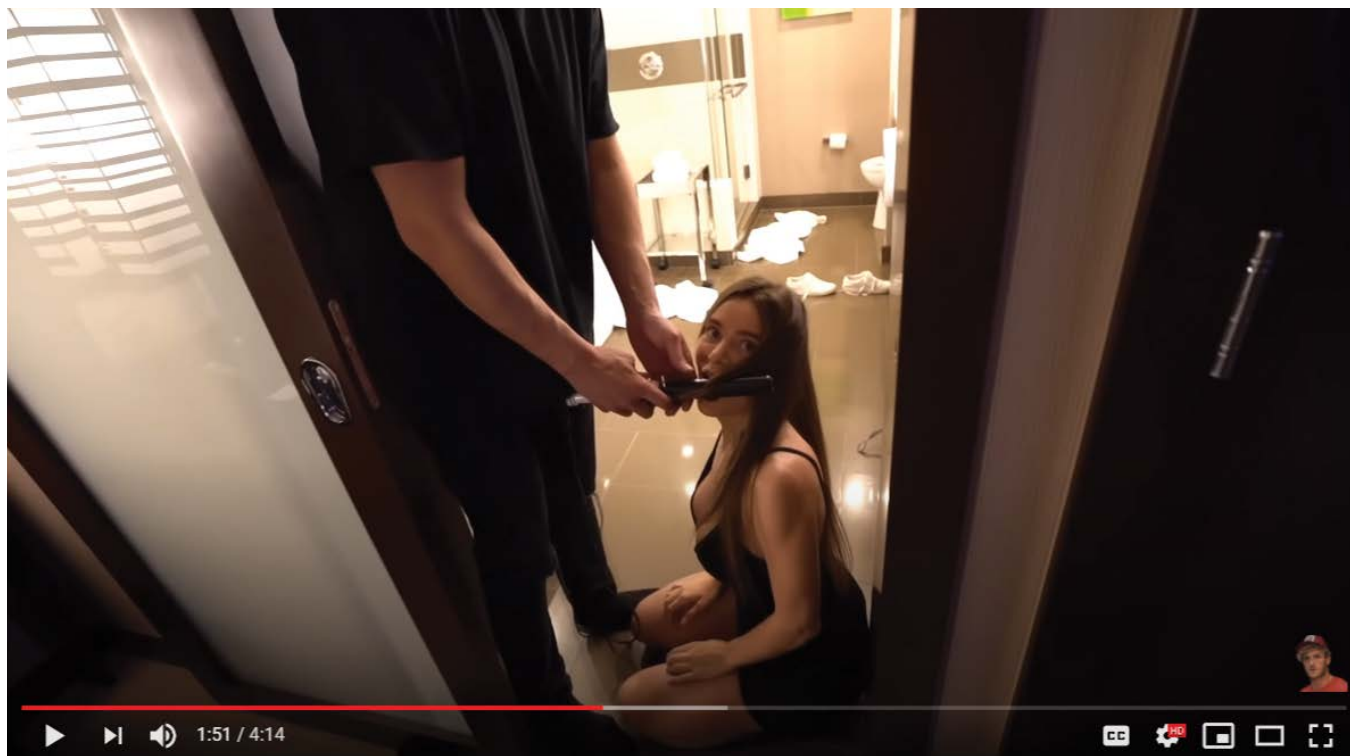
Drinking, drugs, smoking

Alcohol, drugs, and tobacco were also relatively uncommon (mild in 3% of videos, major in 2%). These often appeared in music videos (see Screenshot 30 on page 29) or reality vlogs. They are most often depicted implicitly through scripted sketches, like people pretending to be under the influence, and references in song lyrics.

Stereotypes

Stereotypes were coded in 9% of videos, usually involving gender depictions of girls' play (e.g., putting on makeup, trying on princess dresses, and collecting dresses) (see Screenshot 31 on page 30). Coders reported difficulty drawing the line between references to gendered depictions (e.g., female characters wearing princess dresses, preferring certain toys, or always wearing pink) or casual references to gender roles (e.g., the female *Ninja Kidz TV* character, preparing meals for male characters). Comments during Let's Play gaming videos were also common, such as, "Don't be such a girl" or "You're a girl baby, so you can have the pink cot, and I'm a boy baby, so I'm blue." One video about "Daily Juicy Memes 191" included several racial or gender stereotypes (see Screenshot 32 on page 30).

Content creators also used inappropriate ethnic accents/impressions, or made comments about others' body size, such as the parents on FGTeeV making fun of each others' weight.

SCREENSHOT 28. Example of a video with sexual content (*adult*) (segment in which the two subjects are filmed from a perspective that tries to misconstrue the actual situation and hints at a sexual scenario)

▶ ▶❙ 🔊 1:51 / 4:14   CC 🔲 ▢ ▢ ⛶

KNOCKED OUT BY PROFESSIONAL UFC FIGHTER!

6,820,587 views • Mar 9, 2020   👍 313K   👎 9.7K   ➤ SHARE   ≡+ SAVE   ••••

SCREENSHOT 29. Example of sexualized Roblox images/characters in recommended videos after a Let's Play video in which he followed around online daters, or ODers (*tween/teen*)
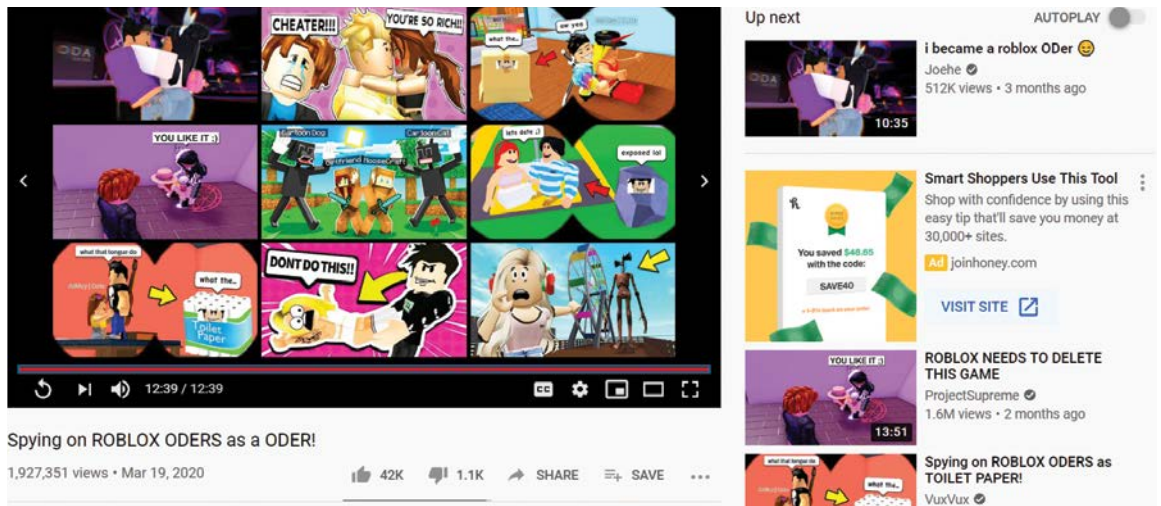
SCREENSHOT 30. Example of marijuana being featured in a music video (*adult*)

SCREENSHOTS 31 & 32. Examples of gender stereotypes in a toy/reality video (*early elementary*) and a meme compilation video (*tween/teen*)
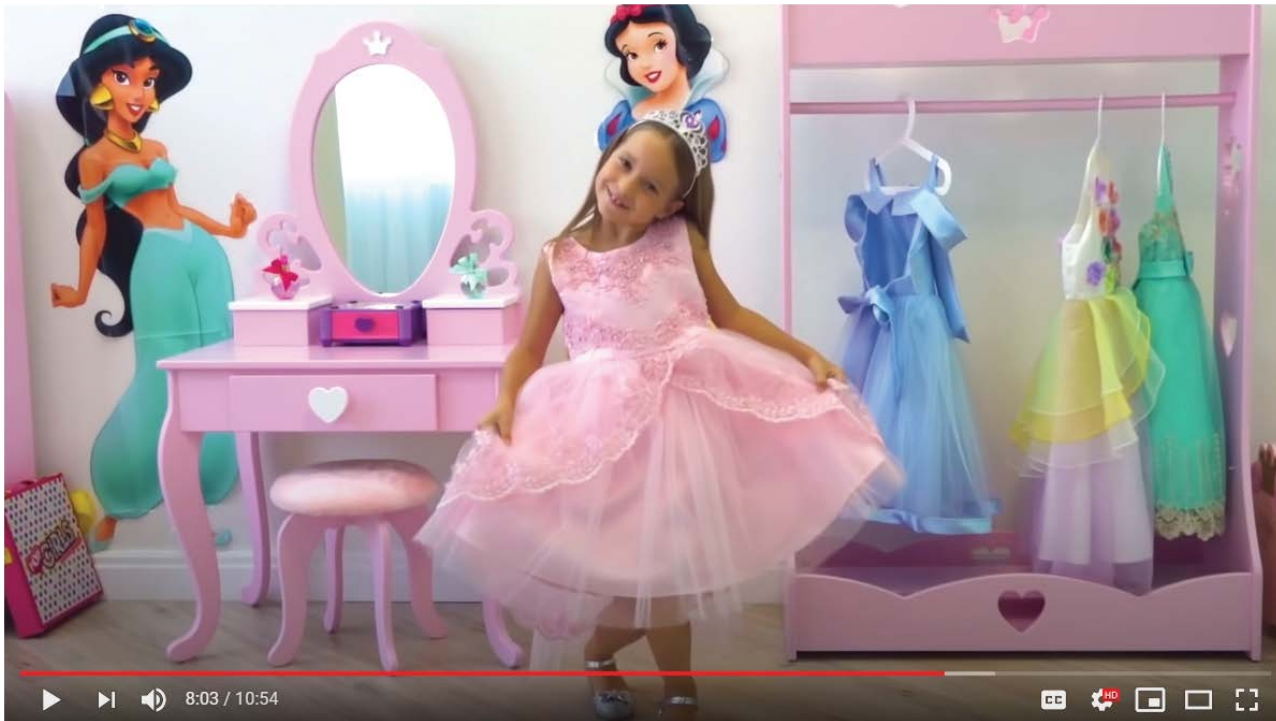
Sofia Dress Up in Princess and Playing With Toys - Funny Stories for Kids

4,583,486 views • Feb 1, 2020   👍 16K   👎 6K   ➡ SHARE   ＋ SAVE   •••
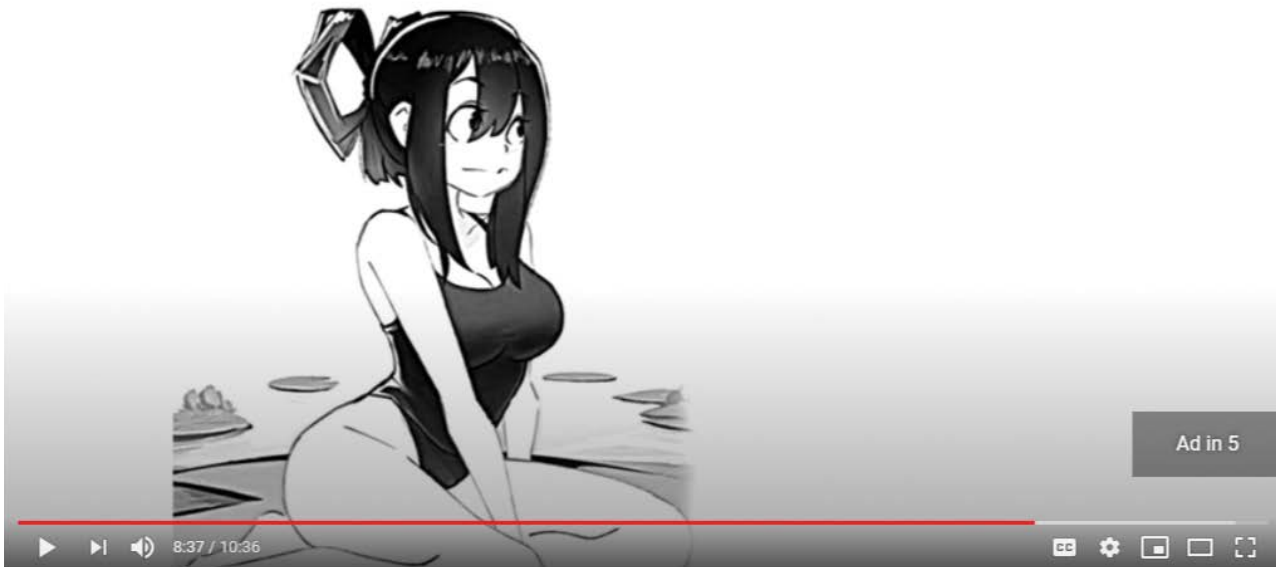
Daily Juicy Memes 191

539,099 views • Dec 18, 2019   👍 14K   👎 315   ➡ SHARE   ＋ SAVE   •••

IMPLICATIONS

- Violent content appeared frequently enough in this sample of videos viewed by 0- to 8-year-olds to raise concern that it is accessed too easily on the main YouTube site. Extensive research has shown that young children exposed to violent media content have higher rates of sleep problems, aggressive behavior, or attentional problems (Browne & Hamilton-Giachritsis, 2005). Moreover, videos of real-life violence are also arousing and upsetting to children, especially in the current context of social unrest and racial injustice (Boyd & Swanson, 2016).

- Bullying, scariness, sexual content, and bad language were seen occasionally in Roblox and other Let's Play videos, which parents and children may not expect.

- It is worth noting that violence and adult content were more likely to be viewed in ads by some children, compared to the actual videos they were viewing

- Exposure to any of these negative content types did not differ by child age, sex, parent education, income, race/ethnicity, or other characteristics. However, the fact that children 8 and under can access such content as easily as they do needs to be considered in design considerations for YouTube's main platform.

TABLE 4. Prevalence of negative content in videos viewed by children 8 and under

Negative content code	Frequency (% of videos)
Physical violence	
• 0	1,092 (70%)
• 1	249 (16%)
• 2	212 (14%)
Interpersonal violence	
• 0	1,243 (80%)
• 1	306 (20%)
Scariness	
• 0	1,281 (83%)
• 1	212 (14%)
• 2	58 (4%)
Sexual content	
• 0	1,454 (94%)
• 1	60 (4%)
• 2	27 (2%)
Bad language	
• 0	1,240 (81%)
• 1	189 (12%)
• 2	95 (6%)
Drinking, drugs, smoking	
• 0	1,471 (96%)
• 1	44 (3%)
• 2	23 (2%)
Stereotypes	
• 0	1,401 (91%)
• 1	145 (9%)

Note: Percentages may not add to 100% due to rounding.

What Kinds of Positive Content Are Children Seeing, and How Much?

Positive role models and representations were rare.

Although YouTube could potentially be a window into a diverse set of families and perspectives, diverse representations with positive role modeling were only seen in a small fraction of videos (3%), with moderate levels in 21% of videos. Multicultural stories occurred within producers such as PBS Kids, but did not appear to be on the radar of some nursery rhyme channels, which tended to include only white families or characters. Given the high number of views accrued for many children's channels, this seems to be a missed opportunity.

Seventy-five percent of videos were rated as having no or limited educational content.

Most videos had no or limited educational quality (75%), while moderate educational value was seen in 20% of videos, and high in only 5%. Preschooler-directed content such as *Blippi* or nursery rhyme songs that focus on different colors or experiences usually scored a 1 because they only touched on basic educational concepts, and otherwise filled the video with toys or vicarious experiences (e.g., seeing a children's play space, watching animated children visit a playground).

Many DIY videos had a moderate level of educational content, but the instruction provided was merely enough to show viewers the process of getting through the project, without offering alternatives or reasons to explain the purpose of each step. Videos scoring a 2 had scripts or concepts that were deeper and more developmentally appropriate (e.g., *Veggie Tales* about moral concepts; *Daniel Tiger's Neighborhood* about social emotional concepts; *Art for Kids Hub* with step-by-step instructions for drawing).

Educational content and presence of diverse role models did not differ by any child, parent, or household characteristics.

IMPLICATIONS

- Many parents hope that YouTube could be a source of more diverse representations or exposure to other cultures (Auxier et al., 2020), but these results suggests that is not the case. Many popular channels featured primarily white characters, such as CoComelon, Come Play With Me, or FGTeeV. This may be influenced by the fact that this sample of child viewers was predominantly White (69%).

- Moreover, stereotypes were noted in 9% of videos, whether based on gendered depictions of female characters, mimicking different accents insensitively, or jokes at the expense of people based on body size. During a time in history when children need to learn more about empathy and perspective taking through inclusive storytelling, or to not treat people as "other," this finding is discouraging.

- Videos with strong role modeling and educational quality clearly exist on YouTube (see Screenshots 33 and 34 on page 33), but have far fewer views than videos of lower educational value or those involving toys or vlogs. Discussions about how to elevate the diverse, positive content on YouTube are needed, so that children are not just clicking on "trending" videos with lower quality content.

- DIY and instructional videos are a genre with high educational ratings that could be elevated in children's recommendations or homepages.

TABLE 5. Prevalence of positive content in videos viewed by children 8 and under

Positive content code	Frequency (% of videos)
Positive role models and representations	
• 0	1,128 (76%)
• 1	320 (21%)
• 2	46 (3%)
Educational value	
• 0	1,134 (75%)
• 1	301 (20%)
• 2	72 (5%)

SCREENSHOTS 33 & 34. Examples of positive role modeling and educational content in a video (*early elementary*)

(33: science video, featuring positive interactions and curiosity; and 34: art instruction)

Home & Family - DIY Lava Lamps and Film Canister Rockets

1,624 views • May 8, 2014

👍 11　👎 2　➡ SHARE　☰+ SAVE　...

#howtodraw #artforkidshub
How To Draw A Turtle - Preschool

25,197 views • Aug 20, 2020

👍 314　👎 19　➡ SHARE　☰+ SAVE　...

Do Parents Use YouTube with Their Children?

The majority of parent respondents say they monitor their child's YouTube main usage "very much" (63%), 34% "somewhat," and 3% "not at all." Of the YouTube links parents submitted, they reported coviewing that video with their child 52% of the time. (However, since our question was not validated, it is possible that estimates are inflated by social desirability bias.) Most parents said they were "not at all surprised" (54%) or "not very surprised" (35%) by the videos they pasted over that their child had watched, leaving 11% of parents who were surprised by what their child was watching.

Coviewing was significantly (chi square $p < .0001$) less common for the *early elementary* (42%), and *tween/teen* (44%) categories compared to the *adult* (77%), *early childhood* (61%) and *everyone* (65%) categories. This is notable, as physical violence was more common in *tween/teen* videos (70% of videos scored a 1 or 2), as was interpersonal violence (43% scored a 1) and moderate/high levels of consumerism (73% of videos), higher than all other categories. Consumerism was present in moderate/high levels in 48% of *early elementary* videos as well, the second highest rate.

IMPLICATIONS

- Parents reportedly know that YouTube has iffy content (Auxier et al., 2020), and therefore may monitor YouTube viewing closely.

- Parents who do not monitor as much should be urged to do so (e.g., coview, occasionally review the viewing history, have the child use a device in a common room, talk about what they see on YouTube videos), especially if the child usually consumes more mature content. Processing consumerism, advertising, and violence or stereotypes are very important aspects of teaching digital literacy and require conversations with a trusted adult.

- About half of participants also used YouTube Kids: Children were split between being YouTube main-only users (53%), and using both YouTube main and the YouTube Kids site (47%). Therefore, YouTube could try to find ways to get these users onto YouTube Kids only.

CONCLUSIONS AND RECOMMENDATIONS

THIS CONTENT ANALYSIS OF young children's YouTube viewing habits reveals several important insights into this popular digital space. Overall, the types of child-directed content available (and popular) on YouTube appear to be strongly motivated by financial interests. Namely, the most commonly viewed content for young children—nursery rhymes—contained several advertisements that disrupted the viewing experience and possibly reduced any educational potential of the video.

Also, family vlogs usually centered around branded products and toys that may be enticing to child viewers, but also carry commercial intent or implicit persuasion to use featured products. Gamers and reality YouTubers frequently promote their own channel and merchandise, urge children to "like, comment, and subscribe," or request that fans use their affiliate codes to make purchases. Many videos on YouTube are trailers or commercials for other programs. Parents should be aware that all of these content creation approaches have some commercial intent.

In addition to the commercially driven content, YouTube content differs significantly from traditional platforms (e.g., television, streaming video platforms, such as Netflix or Amazon Prime) in that it requires no production or script-writing experience. This can lead to poorly produced content, or "filler" in which the YouTuber simply talks or seems to make the video longer. Whether low-quality content is worth children's time and attention is up to parents to decide. However, parents should know that much of children's YouTube content is of limited educational quality and does not follow the long history of quality educational programming from groups such as Sesame Workshop, PBS Kids, or Nick Jr.

Although positive and creative content definitely exists on YouTube, and was viewed by some of our participants, it is not reaching the highest number of viewers. More discussion of the YouTube algorithms is needed, to determine whether they elevate more "fluff" as engaging content or whether it should be used at all, given how they may constrain or control children's viewing habits.

Finally, our results demonstrate that young children are accessing content with age-inappropriate features—such as ads, violent video games or real-world violence, pranking/bullying, and stereotypes—which will influence children's norms and behavior.

Limitations

Limitations in the collection and coding of videos are worth mentioning. Videos and advertisements analyzed in this study represent only a snapshot in time (collected in March 2020), when some schools were closing due to the coronavirus pandemic. The children whose video lists we reviewed were not a nationally representative sample. Although we instructed parents to copy over the URLs for videos viewed by their index child by name, it is possible that parents copied over videos viewed by another child. For example, 0- to 2-year-old boys often had Let's Play video game videos in their video lists, but it's possible that these were viewed by older siblings.

We categorized videos based on presumed intended audience, but the concept of age-appropriateness will differ by individual children and families. In terms of our coding, there were many long videos, so we may have under-ascertained negative or positive content in those longer than 40 minutes due to skimming. Some codes, such as interpersonal violence, had slightly lower reliability in some coders, so may have been underestimated or overestimated. In addition, the ads we saw only represented a snapshot in time (the videos were viewed by coders in July and August 2020) and may have overestimated the presence of political ads.

Our coding scheme on diverse representations and role models was not detailed enough to estimate the frequency of characters or persons of different races or ethnicities, which needs further study. In addition, future research on advertising on YouTube should count the number of distinct ads that appear for each video; we only counted the number of different ad types (e.g., banner, sidebar, etc.).

We attempted to analyze differences in video content by child and family characteristics, but did not find many statistically significant associations; this may have been due to our sample size. Further research should examine how YouTube viewing differs by gender, race/ethnicity, parent education, or household income.

Recommendations

Platform

YouTube has made many recent changes to its main platform to accommodate child viewers, such as stopping data collection and behavioral advertising on any child-directed videos. Further changes to consider include:

- All child-directed content could all be moved to YouTube Kids to ensure that ads are age appropriate, and parents have more control over how to curate their child's feed. Recent estimates show that 80% of children younger than 11 watch the main YouTube platform (Auxier et al., 2020), and more young children use the YouTube app on mobile devices than YouTube Kids (Radesky et al., 2020). More effort could be made to ensure that children access videos through the age-appropriate platform.

- If child-directed content stays on the main YouTube site, there should be limits on ad frequency in child-directed content, especially for toddlers and preschoolers who have the heaviest dose and whose experiences are most negatively affected by disruptions. Although videos are available ad-free through the paid YouTube Premium service, this may exacerbate inequities in the quality of media experiences between lower- and higher-income children.

- In addition, a better system of vetting of ads for age-appropriateness is needed.

- Allow parents or the child to easily turn off recommendations, so that the child can actively search for videos and diversify their viewing. YouTube should not amplify misleading, dubious, or harmful content.

- Work with content creators to improve the quality of videos, and consider developing metrics for higher-quality content, role modeling, or diversity to elevate these videos.

- Overall, if the main YouTube platform continues to have child-directed content—or content likely to be watched by children—then the user interface should be redesigned to empower children to search for more diverse content, plan out and set limits for themselves, turn off the recommendations feed, or understand why they get different video recommendations; or, to allow the parent and child to work together to set expectations about how YouTube will be used. This could include labels on high-quality content so that parents and kids can easily find it, or elevating positive content in algorithms that determine children's recommendations.

Content Creators

YouTubers and channel content creators also have a role to play in making the platform more child-centered, and to use more ethical practices when it comes to sponsored or branded content.

- Know that young kids watch your channel.

- In accordance with Common Sense's recommendations to the Federal Trade Commission (Fox-Johnson, 2020), YouTube and content creators should limit commercial exhortations to children younger than 12. Children are especially susceptible to pressure from their favorite characters, including their favorite YouTubers.

- Don't promote unhealthy foods, drinks, or risky behaviors to kids.

- Work with YouTube to achieve editorial control over the ads that appear on your content.

- Recognize when your ad types will block or disrupt young children's viewing, and aim to reduce the sheer volume of ads during child-directed videos. For example, Nick Jr. and Disney do a good job of showing no ads during videos, just a sidebar prompt to purchase the full movie or season.

- Resources are available for developing positive and enriching content, such as YouTube's Creating for YouTube Kids Field Guide (YouTube, n.d. -c)

- More information is needed about the well-being of child performers in live-action videos. Child performers need protections from coercion (e.g., from taking too much time to film videos, taking part in videos that have violent or scary themes, or not being able to stop filming when tired).

Advertisers

Companies that advertise on YouTube may not be aware that their ads are showing up in nursery rhymes, toy videos, or other child-directed content.

- Advertisers should ask for more control over where their ads are placed, and reduce or eliminate placement in child-directed videos if this is not desired.

- Understand that reported coviewing during *early childhood* videos is only about 60%, so many ads intended for adults may be wasted.

Parents

Parents can also act as media mentors if their child watches YouTube:

- Continue to be savvy about the YouTube content your child watches, see if the channels and shows align with your goals and values, and coview content with your children.

- Consider moving your child's viewing to YouTube Kids or other child-directed platforms instead. Ads do occur in the YouTube Kids app, but there are prohibitions against many ad product categories, including food and beverage, illegal or regulated items, or dangerous or violent games and media (YouTube, n.d. -d).

- Subscribe to channels that you know have diverse role models, teach about science and discovery, tell great stories, or show how to do new crafts or art.

- Much YouTube content is not professionally produced, so it may contain themes or behavior that don't align with your values—make a point to "unpack" this with your child when you see it. This is important to build digital literacy.

- Help your child identify ads and what products videos seem to be trying to sell. Help kids understand why the characters are saying things like, "like, comment, and subscribe!" and how money-making works on YouTube.

- Rather than letting your child view YouTube content as an automatic behavior, try to teach them to be intentional about their YouTube use. Parents can ask questions such as: *What are you searching for? What was fun about it? What did you learn from it? Was there anything weird in it that we should talk about?* Help your child subscribe to the channels they've had positive experiences with, rather than just following the recommended feed.

Parents' Decision Guide to YouTube for Young Kids

Is your kid:

A regular user of the YouTube site or app?

Yes →

Also a regular user of YouTube Kids?

No →

Unwilling to use YouTube Kids?

Yes →

No →

No →

A regular user of YouTube Kids?

Yes →

No →

Make a deal with your child to use only YouTube Kids, which doesn't have behavioral advertising and has safer content—but you'll still need a lot of the YouTube sleuth skills on the YouTube Kids app.

That's OK. There are a lot of other good platforms out there for kids!

Guiding your child around the YouTube site or app takes more effort. Follow our steps to become a YouTube sleuth so you can help your child navigate to the good stuff.
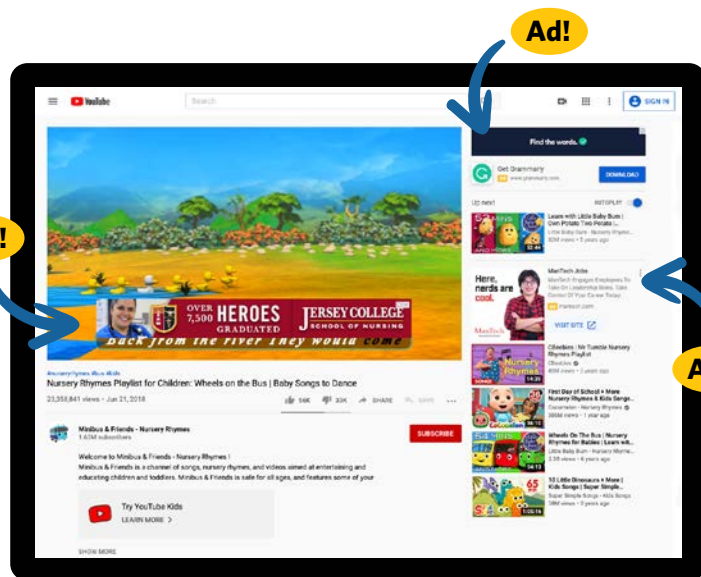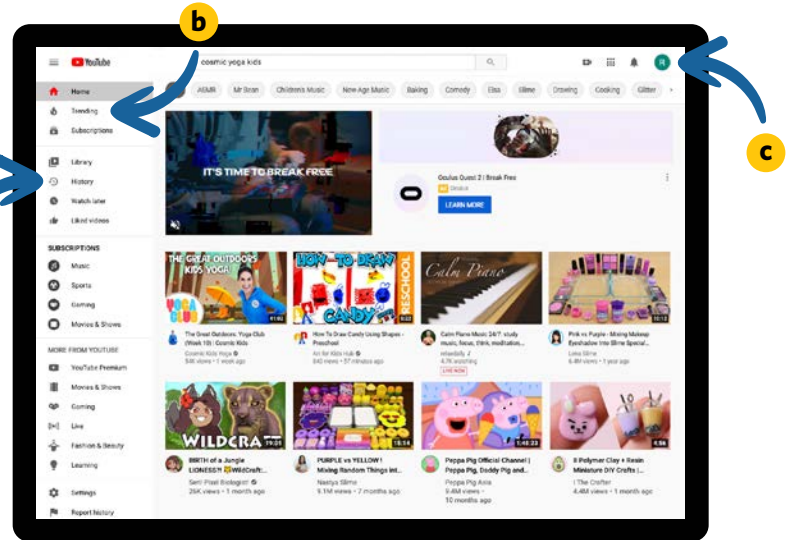
Follow These Steps to Be a YouTube Sleuth

STEP 1: What's being fed to my child? Why?

The YouTube algorithm combines:

a what you've watched

+ b videos currently getting the most attention

+ c other information about you that YouTube has

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= your feed.*

*Ads will also appear mixed in with the recommended video feed—suggested videos in your feed may be inappropriate for kids!

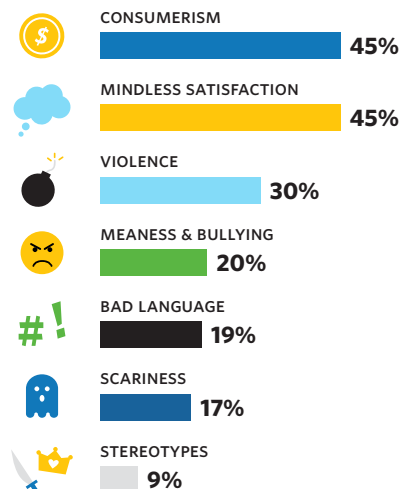## STEP 2: What's with all the ads?

- Ads are how YouTube and YouTubers make money from your viewing.
- Some ads appear in predictable ways (before the video, on the sidebar), while others pop up and disrupt viewing (ad breaks, banner ads).
- Ads can have content similar to what your child is watching (which is called "context-based advertising"), but others may seem inappropriate for kids (such as political ads).
- Kids should know that YouTubers make money through paid promotions and sponsored content by big brands, which often isn't acknowledged visually or verbally, or through selling merchandise.

STEP 3: Are my children's favorite videos appropriate for them?

Your family is the best judge of what's appropriate for your kids. However …

- It's important to watch along with your kids to see whether you like the messages and role models in the videos they watch.
- YouTubers do not always plan for kids to watch their videos, or they purposely avoid saying their videos are not for kids so that they can get more ad revenue.
- Many videos are designed to grab children's eyeballs (and more ad profits) by featuring toys or branded products. They're essentially long commercials.
- We found lots of problematic content in videos kids watch, including physical violence in about a third, and meanness/bullying in 1 out of 5.

Percent of videos watched that included problematic content

- CONSUMERISM **45%**
- MINDLESS SATISFACTION **45%**
- VIOLENCE **30%**
- MEANESS & BULLYING **20%**
- BAD LANGUAGE **19%**
- SCARINESS **17%**
- STEREOTYPES **9%**

What Parents and Kids Can Do

STEP 1: Understand the feed

- Remember, just because something is "engaging" or "trending" doesn't mean it's good for kids!

- When you look at the feed, try helping your kids be a good judge. Are the thumbnails misleading? Are the titles "clickbait"? Why did YouTube recommend this video, and is it OK for you?

- Use the search box! That way, you can find the hidden gems and follow your child's ideas, not the algorithm's.

- Turn on restricted mode. By toggling this switch on the homepage, YouTube uses algorithms to remove content that might not be appropriate for children. It's not perfect, but it's better than nothing!

STEP 2: Be smart about ads and monetization

- Ads may be positioned to look like videos. See if your kids can identify them, and why they think they got them.

- Teach your kids not to click on ads. They can try to "X" them out instead.

- Show your child how to skip or mute ads.

- When YouTubers ask viewers to "like, comment, and subscribe," it's fine to decide with your child whether to subscribe, but kids shouldn't leave comments on YouTube.

- Choose channels that don't overload your kid with ads.
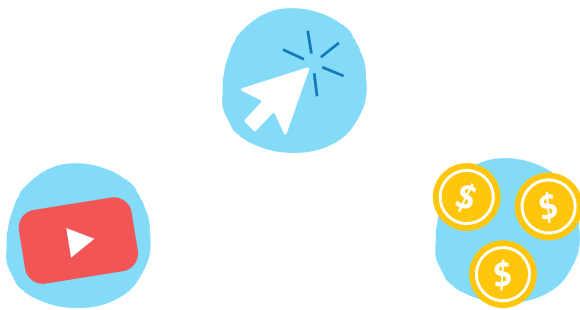
STEP 3: Find the best content

- Subscribe to channels that you know have great role models, teach about science and discovery, tell great stories, or show how to do new crafts or art. Make a deal that your kids will stick with these channels.

- Seek out creators from different backgrounds who have unique perspectives and experiences to share.

- Let your kids know they can talk to you when they run into upsetting or confusing content, and watch with them when you can. Examples include:

    - Physical violence, whether animated, virtual (video game), or real-life footage

    - Mean behavior, such as YouTubers pulling pranks, or being rude and snarky to each other

    - Gamers who play really violent/scary games, or use bad language

    - Stereotypes about gender, race/ethnicity, body size, or ability

    - Consumerism, especially false expectations that every kid needs tons of toys, an extravagant house, or lots of unhealthy foods

    - Pressure to buy merchandise or use affiliate codes from popular YouTubers

OUR FAVES 👍	CATEGORY	NOT SO MUCH 👎
Art for Kids Hub. These videos give step-by-step instructions for a variety of drawing projects, and show how to scaffold a child with hints and positive support. **Lunch Doodles with Mo Willems.** Although the content is pandemic-specific, these how-to videos also give children a window into the process of illustrating a book and are worth continuing to watch.	**DIY/Art instruction**	**5-Minute Crafts and Troom Troom.*** Their DIYs are usually not practical or feasible for kids to do, and projects often need more materials or take more steps than the viewer is told. These videos are mainly just satisfying to watch. *Or any video that just shows sped-up coloring
Sqaishey Quack. This positive YouTuber uses kid-friendly language and plays exclusively kid-friendly games with encouraging themes, such as teamwork, kindness, and creativity.	**Let's Play gaming videos**	**FGTeeV.** This group of family gamers is often crude and loud. They play exclusively violent and horror-themed games, and sometimes the children seem scared of horror videos they play. There is also a lot of mocking each other and imitating ethnic accents. **Jelly.** Although he claims to be child-friendly, he often has inappropriate themes and pressures viewers to purchase merchandise.
Moriah Elizabeth. She recycles old squishies and has a sense of humor that doesn't mock others; intelligent but a little snarky.	**Satisfying/Reality videos**	**Like Nastya.** This channel focuses on toys and is very gender-stereotyped. Nastya frequently tricks her father. **Annoying Orange.** This series features mean-spirited sketches and is also kind of scary (and yes, annoying).
KidTime StoryTime. The host interacts with the book, has a cast of recurring puppet characters, and reinforces the main points taught in the books.	**Read alongs**	**Pop-up and banner ads.** Many read-alongs have banner ads, which block the story and could disrupt a young child's comprehension.
Moose Tube. This channel features dancers who are diverse, positive, and humorous, and dances are choreographed well. **The Parent Jam.** This online class is diverse, positive, and shows real families trying new dance moves.	**Dance instruction**	n/a
Turbo Toy Time. The videos on this channel show positive interactions, focus on having fun together, and avoid making gender assumptions about toys. The father and son team also talk about donating toys, rather than accumulating them.	**Toy reviews**	**Tic Tac Toy.** Skits are stilted, with lots of product endorsement.
National Geographic Kids. Well-produced videos involve diverse children, and inspire curiosity about the natural world.	**Science/Nature shows**	**Mutual of Omaha's Wild Kingdom.** This and other older nature shows often show outdated, aggressive management of animals.

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