



CPSC Staff Statement¹ on Westat’s “Online Review of Nine Toy Categories Final Report”

January 2022

The report titled, “Online Review of Nine Toy Categories: Social Media and Marketing Research and a Hazard Analysis of Smart Toys Final Report,” presents the findings of research conducted by Westat, under Task Order No. 61320619F1119, under the Contract No. 61320619D0101.

In 2020, CPSC staff released an update to the *Age Determination Guidelines: Relating Consumer Product Characteristics to the Skills, Play Behaviors, and Interests of Children* (“*Guidelines*”). During the public review process for the 2020 update, several stakeholders identified categories of toys that the Guidelines currently do not address, or that need additional updates, based on research. This research endeavor endeavored to investigate these stakeholder recommendations for the Guidelines.

Smart Toys were identified as a toy category in need of greater study. Other toy categories identified for additional study included novelty toys, holiday-themed toys, two-wheeled vehicles (also known as Ride-On Toys), party favors, figurines, interlocking-connecting building sets, miniature toys, and musical toys.

The objective of the study was to gather information about current toys in the categories listed above, to understand better the ages of the children who are interested in, and use these toys, as well as how these toys are marketed. Westat studied the ways these toys are presented online, along with consumer perceptions of age suitability and self-report about the ages of children who are given or use toys; and observations of children’s interest, behavior, and overall interactions with the toys, with the goal of informing future content of the Guidelines and supporting the age determination process.

¹ This statement was prepared by the CPSC staff, and the attached report was produced by Westat for CPSC staff. This statement and associated report have not been reviewed or approved by, and do not necessarily represent the views of, the Commission.

Online Review of Nine Toy Categories: Social Media and Marketing Research and a Hazard Analysis of Smart Toys Final Report

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1. Introduction

Age-appropriate toys are important for the physical, intellectual, and socioemotional development of children. They can help children learn, develop imaginative capacities, and refine motor coordination. Age determinations can be used to generate an intended age during a toy's design phase and can be used for age labeling a product accurately, thereby encouraging consumers to purchase and give a toy to a child who is most likely to fully interact with its features.

The small parts regulation at 16 CFR 1501.2(b) requires taking the following factors into account when performing age determinations on toys: (1) the manufacturer's stated intent (such as on a label) if it is a reasonable one; the advertising, promotion, and marketing of the article; and whether the article is commonly recognized as being intended for children under 3. To interpret the regulation, analysts consult the U.S. Consumer Product Safety Commission (CPSC) staff *Age Determination Guidelines: Relating Consumer Product Characteristics to the Skills, Play Behaviors, and Interests of Children* ("*Guidelines*"). The *Guidelines* cover myriad toy features that can be considered during age grading. These include the physical characteristics of the toy (e.g., size and weight of the toy and its components), the cognitive requirements for using the toy as intended, the fine motor or other physical skills required to use the toy as intended, and the toy's theme and appearance. The *Guidelines* provide expected play patterns, detailed features and examples of toys for these characteristics, and many others broken down by age group.

In 2020, CPSC staff released an update to the *Guidelines*. With this release, the 2002 version had been extensively updated based on NICHD research with novel and classic toys and children's observed play patterns at different ages. During the review process for the 2020 update, several stakeholders identified categories of toys that the *Guidelines* do not currently address, or need additional updates based on research. This research endeavor attempts to investigate these stakeholder recommendations for the *Guidelines*.

Smart Toys, in particular, were identified as a toy category in need of greater study. While Smart Toys are discussed, these toys evolve rapidly so it is possible that the recommendations for these toys already need updating. Other toy categories identified as not having been addressed include Blind Box Toys (named after consumer social media "blind bag" unboxing videos with a surprise element), Holiday-Themed Toys, popular during specific times of the year, and toys made from expanding materials. Many Two-Wheeled Vehicles (also known as Ride-On Toys) are new to the market or have innovative features that need to be addressed. Other toy categories that were mentioned include Party Favors, Figurines, Interlocking-Connecting Building Sets, Miniatures, and Musical Toys, which are all discussed in the *Guidelines*, though not extensively.

The objective of the current study was to gather information about current toys in the above categories, to better understand the ages of children who are interested in these toys, who can use them as intended, and how these toys are marketed. Studying the ways in which toys are presented online; consumer perceptions of age suitability and self-report about the ages of children who are given or use toys; and observations of children's interest, behavior, and overall interactions with the toys can inform future content of the *Guidelines* and support the age determination process.

An additional focus of the current study was to identify and better understand physical hazards associated with Smart Toys. Smart Toys may contain technology features such as enhanced interactivity, involve a user in robotic assembly, highlight STEM features, or mobile devices/apps to

enable augmented reality and hybrid play. Technology continues to transform toys due to the declining cost of electronic components, and increased availability of more detailed die-cast molds and 3D prototypes. Federal regulations have long required children's toys to undergo mechanical testing, known as Use and Abuse testing. For example, if a toy is intended for a child seated in a highchair then it must be dropped from a higher height than if play is expected at ground level. Small parts as received are banned in toys for children under 3 years of age, and are subject to a warning label through age 5 years. Additionally, there is now a mandatory standard for toy safety which has many requirements that vary by age group. The standard addresses many age-dependent hazards in toys among others, such as battery-operated toys, toys with magnets, noisy toys, and projectile toys. Toys classified as primarily intended for children need to meet safety requirements which include not exceeding certain levels of lead, phthalates, or other heavy metals. Due to the rapidly evolving toy market, and numerous safety requirements for toys, it is important to determine whether children are being exposed to physical hazards when playing with Smart Toys, and the nature of those hazards.

1.1 Objectives

The report summarizes information on representative toys from nine toy categories based on the three factors used to determine intended age of a toy at 16 CFR 1501.2(b): (1) the manufacturer's stated intent (such as on a label) if it is a reasonable one; the advertising, promotion, and marketing of the article; and whether the article is commonly recognized as being intended for children under 3.

The design involves an online review of 55 toys and a comparative analysis of the intended age, as defined by the toy manufacturer and retailers, as well as the recognized age for each toy, as defined by the consumer. The toy categories include: (1) Smart Toys, (2) Novelty-Expandable Toys, (3) Holiday Toys, (4) Party Favors, (5) Miniature Toys, (6) Interlocking-Connecting Toys, (7) Musical Toys, (8) Figurines, and (9) Ride-On Toys.

For each of the nine categories the following information is summarized:

- Marketing research showing target age range for the toy category;
- Age of child for whom consumers buy the products, or if products are purchased for adults;
- Factors influencing consumer purchasing decisions;
- Consumer opinions on the use and safety of these products;
- Consumer reviews showing the commonly recognized age range for each toy in a category; and
- Purchasing behaviors and/or opinions of consumers.

Results from a scan of potential safety hazards for the Smart Toy Category are also included.

2. Methodology

2.1 Toy Selection

The list of toys for each category comprises products currently sold in the market and determined to be popular based on initial research and expert input. While some of the categories and toys selected are addressed in the *Guidelines*, others are new to the market and are not discussed thoroughly or at all.

Selected toys do not represent the full range of toys within any of nine categories; however, they do represent a variety of designs, sizes, and functionalities. The toys have different levels of sophistication, anticipated uses, specific goals, and play objectives. They also vary in the cognitive abilities required for the child to engage appropriately in different elements of play.

2.2 Market Review

The market review for each toy includes product searches using online sources, such as product pages from a manufacturer's website, Amazon, Walmart, and other online retailers selling the toy, as well as YouTube and unboxing videos. No toys were purchased for this review, so information related to the toys' physical characteristics are limited to what was available from manufacturer websites, retailer websites, consumer reviews, and unboxing videos. The following sections discuss the key characteristics and factors documented for each toy using an online market scan.

2.2.1 Product Description

Product descriptions are documented for each toy. This includes attributes such as dimensions, materials, product features, and functions. An overall description of the toy is based on information from the manufacturer's website product page and/or other retailer websites, including:

- The main components used to construct the toy such as plastics, metals, wood, and/ or resin. Also includes a description of the intended functionality and purpose of the toy as well as any unique or identifying characteristics;
- The intended play scenario for the toy; and
- Dimensions such as the length, width, height, and weight of the toy.

2.2.2 Manufacturer's Stated Age

A manufacturer's age label on a toy indicates a reasonable user age for consumers to make purchasing decisions. When available, the manufacturer's stated age was documented from (1) online images of the product packaging¹; and/or (2) information found on the manufacturer's website.

¹ Since no toys were purchased for this analysis, we did not directly observe or document intended age from labels or tags affixed to the toy.

2.2.3 How the Toy Is Marketed

The way in which a product is marketed and promoted can be a critical factor influencing consumer purchasing decisions. When detailing how a toy is marketed, several sources were reviewed (images of product packaging, manufacturer’s website, Amazon.com retail page, Walmart.com retail page, and one other online retailer website, such as Target.com, Ebay.com, Michaels.com, etc.). The following was documented:

- Each retailer’s “recommended age”;
- The presence of images of children playing with the toy, the approximate age range of the child(ren) depicted, and the play scenarios engaged in by the child(ren);
- Marketing statements referencing age, such as “perfect for toddlers”;
- Other (non-child-related) images suggesting intended user age;
- Statements referencing how the product is intended to be played with/used; and
- Any conflicting or discrepant information presented about the toy and its intended use.

2.2.4 Consumer Perceptions

Online consumer reviews and unboxing videos (i.e., online video reviews and demonstrations of the product) mentioning the age of children for whom the toy was purchased and/or the ages of children who play with the toys were viewed to learn how consumers perceive the age suitability of the toy. When available, up to 100 reviews were documented per toy, using the following guidelines:

- Twenty-five relevant reviews, per source (Manufacturer’s website, Amazon, Walmart, Other Retailer) were viewed and documented. If there were not 25 reviews available from a particular source, more reviews were included from one of the other sources.
- The 25 reviews from each source were selected such that five reviews were documented from each star rating category. If five relevant reviews for each star rating category were not available (e.g., there were only three 5-star reviews), additional reviews were allowed from a different rating (e.g., 4 stars).

To help ensure the validity of the analyzed reviews, analysts looked at verified purchase reviews only, when available.

2.2.5 Social Media Scan

A Meltwater social media scan was conducted for the selected toys. Meltwater is a software service company that develops and markets media monitoring and business intelligence software. This particular scan reviewed several online sources, including blogs, vlogs (a blog where the medium is video), news, Twitter, comments, forums, Facebook, Instagram, Reddit, and YouTube to capture and analyze online conversations about the toys. When the Meltwater scan resulted in few or no results, a manual scan of social media was conducted.

Westat developed a list of keywords and phrases (including misspellings) to identify relevant online conversations about these toys among caregivers in the United States. Westat searched for mentions of the toys from February 16, 2019, at 12:00 AM to February 16, 2020, at 11:59 PM (unless otherwise noted).

2.2.6 Hazard Analysis

Children can be hurt by unsafe toys in many ways, including falls, choking, strangulation, burns, drowning, and poisoning. A hazard analysis was performed for the selected toys in the Smart Toys category based on data from the following sources: consumer reviews, unboxing videos, National Electronic Injury Surveillance System (NEISS) reports, lawsuits, and saferproducts.gov reports. Key information from these different sources included: a narrative description of the hazard or hazard pattern; injury(ies) reported; whether the injury actually occurred or if the narrative reported on a perceived hazard. For NEISS reports, the product code and the CPSC case number were also noted. Table 2-1 identifies the categories for the possible injuries we attempted to identify in the data sources.

Injury	Descriptor
Hair and clothing entanglement	Hair/clothing being drawn into a moving mechanism.
Tendonitis injuries (hand, wrist, elbow)	Tendonitis injuries caused by carrying a heavy object.
Falls	Tripping over moving toys, such as toys being operated by someone in another room via remote control.
Burns	Toys being left on and overheating.
Finger Pinch/Laceration	Caused by exploring moving components of the toy that are not adequately protected.
Falls with Contusions	Associated with virtual reality toys—for example, child moving without seeing the immediate environment can cause one to fall off of a couch (e.g., hit head or body on coffee table).
Walking Injuries	Associated with virtual reality toys -Walk into a wall/corner, fall down stairs. If using outside, walk into street, pool/body of water.
Eye Strain	Associated with overuse of visual displays in smart toys/virtual reality toys.
Contusions	A bruise resulting from a fall or jamming the body against a hard surface, or dropping a heavy toy on bare feet.
Choking	Associated with placing small parts in mouth, or pieces of toy breaking off in mouth.
Throat Impalement	Associated with a choking hazard and is typically a result of a child walking or playing with a toy in mouth or hand.
Other	Other injuries as noted in the reports.

Note, the information presented in this report represents a snapshot in time. Toys were reviewed during the time period of December 2019 through February 2020. Therefore, it is possible the number and content of consumer reviews as well as information related to toy marketing and availability may have changed in the interim.

2.3 Analysis and Summary of Findings by Toy Category

Individual toy summaries were produced using information described above. These summaries were reviewed and commonalities regarding marketing and consumers perceptions among the selected toys within the toy categories were identified and further summarized in Section 3.0 of this report. Note, depending on their features and functionality, toys in a given category can be appropriate for children of different ages. Thus, it is not advisable to make generalizations about other toys from these findings.

3. Results

3.1 Smart Toys

According to the 2020 *Guidelines*, Smart Toys are defined as “...toys that can respond to the user’s play actions through sound, voice recognition, visual effect, or movement. This new line of toys has various levels of sophistication, but essentially a smart toy is computer chip-based. Unlike simple battery-operated toys from past generations, smart toys and educational software/applications interact in more creative ways with the user. They also connect to computers through an Internet connection, or a cord right into the computer, for increased personalization and ability to respond to the user.”² Ten toys were selected in the Smart Toys category. Table 3-1 provides a brief description of each toy. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

Toy	Product description	Dimensions
Smart Toy 1 – Robotic Animal 1	A hard plastic push toy with wheels that comes in the shape of different animals. The toy can sing songs, teach the alphabet letters, and interact with a separately sold playset.	Length: 3.3 inches; Width: 3.6 inches; Height: 2.1 inches; Weight: 6.4 ounces.
Smart Toy 2 – Robotic Animal 2	A hard plastic toy with a plush covering that comes in the shape of different animals. The toy is poseable, motion activated, and interactive. When the child interacts with the toy, it can respond with sound-and- motion combinations.	Length: 12 inches; Width: 6 inches; Height: 14 inches; Weight: 2.2 lbs.
Smart Toy 3 – Virtual Reality Gaming Set	A virtual reality headset, game control, and controller attachment. All components are made of hard plastic. The user is required to download the game’s free app on their smartphone and place the smartphone in the headset to play.	Length: 10.8 inches; Width: 4.8 inches; Height: 8.5 inches; Weight: 1 lbs.
Smart Toy 4 – Virtual Reality Gun	A virtual reality toy that promotes precision target shooting. The user is required to download the game’s free app on their smartphone and pair their phone with the toy.	Length: 14.5 inches; Width: 2.4 inches; Height: 10.2 inches; Weight: 6 lbs.
Smart Toy 5 – Robotic Animal Plush 1	A plush toy that comes in the shape of different animals and allows the user to send messages to friends and family who have the app.	Length: 8 inches; Width: 8 inches; Height: 4 inches; Weight: 15 ounces.
Smart Toy 6 – Robotic Animal Plush 2	A plush toy with a surprise element. The toy responds verbally and moves when interacting with the child. The toy encourages the child to play with it because the more time the child “logs” with the toy, the more responses and tricks are unlocked.	Length: 10 inches; Width: 7 inches; Height: 8 inches; Weight: 1.14 lbs.

² U.S. Consumer Product Safety Commission. (2020). *Age determination guidelines: Relating children’s ages to toy characteristics and play behavior*. Available at: https://www.cpsc.gov/s3fs-public/pdfs/blk_media_adg.pdf

Toy	Product description	Dimensions
Smart Toy 7 – Robot	A hard plastic robot that comes disassembled for the child to construct. The toy has voice recognition capabilities and pre-programmed phrases and comments, and it can play games. Once assembled, the Robot stands 4 feet tall.	Length: 0.4 inches; Width: 0.4 inches; Height: 4 feet; Weight: 4.41 lbs. Given the height of the robot once assembled, the dimensions provided by a retailer for length and width may be incorrect or for individual pieces.
Smart Toy 8 – Programmable Robotic Animal	A hard plastic toy shaped like an animal. The toy is intended to teach children the basics of programming and coding.	Length: 16.5 inches; Width: 3.7 inches; Height: 5.5 inches; Weight: 1.63 lbs.
Smart Toy 9 – 3D Printing Pen	A hard plastic 3D printer in the form of a pen.	Length: 5.5 inches; Width: 1.2 inches; Height: 1.2 inches; Weight: 0.74 lbs.
Smart Toy 10 – Robotic Animal 3	A hard plastic robot that comes in the shape of different animals. Each animal comes disassembled for the child to construct. Once assembled, it can be switched on and make various movements and sounds. The toy is interactive and responds to different feedback from the child.	Length: 2.2 inches; Width: 11 inches; Height: 11.8 inches; Weight: 13.6 ounces.

3.1.1 Manufacturer’s Stated Age of Intent

The manufacturer’s stated age of intent for the selected smart toys ranges from 1+ to 10+ years, and can be found on the manufacturer’s website, and/or listed on product packaging. Seven of the toys have the stated age of intent listed in both locations. In general, when available on both the product packaging and manufacturer’s website, the information listed for the stated age of intent is consistent. However, there is a discrepancy between the two sources for the 3D Printing Pen. The product packaging lists 6- to 13-years-old whereas the manufacturer’s website lists 8+ years as the stated age of intent.

Images of product packaging for the Virtual Reality Gun are not available online, and the manufacturer’s stated age of intent is not listed images of the product packaging for the Virtual Reality Gaming Set.

The manufacturer’s website does not list a stated age for Robotic Animal 3, but a stated age of intent was identified on the product packaging. Table 3-2 lists the age of intent for the selected toys and indicates where it was identified.

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Smart Toy 1 – Robotic Animal 1	1+ years	1+ years
Smart Toy 2 – Robotic Animal 2	4+ years	4+ years

Table 3-2. Manufacturer’s stated age – Smart Toys (continued)

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Smart Toy 3 – Virtual Reality Gaming Set	Not provided on images of product packaging	8+ years
Smart Toy 4 – Virtual Reality Gun	Images of product packaging not found	8+ years
Smart Toy 5 – Robotic Animal Plush 1	3+ years	3+ years
Smart Toy 6 – Robotic Animal Plush 2	5+ years	5+ years
Smart Toy 7 – Robot	10+ years	10+ years
Smart Toy 8 – Programmable Robotic Animal	3- to 6-years*	3- to 6-years*
Smart Toy 9 – 3D Printing Pen	8+ years	6- to 13-years
Smart Toy 10 – Robotic Animal 3	4+ years	Not listed on the website

* Both product packaging and manufacturer’s website list a stated age as a range of 3- to 6-years-old.

3.1.2 How the Toys Are Marketed

In general, there is agreement between the manufacturer’s stated age and the retailer’s recommended ages for the selected toys, and consistency with respect to the recommended ages listed across the selected retailer websites. However, in some cases the retailer’s age recommendations differ from the manufacturer’s stated age.

- One online retailer recommends an age that is one year older than the manufacturer’s stated age of intent for Robotic Animal 1.
- Two online retailers of the Robot list a recommended age that is two years younger than the manufacturer’s stated age (8+ years vs. 10+ years).
- All three retailers list a recommended age that is one year older than the manufacturer’s stated age for the Robotic Animal 3.

Retailers for the 3D Printing Pen provide conflicting information on the product page. Two of the retailers list 6+ years in one location, and 8+ years in a second location on the project page. As noted in the previous section, the manufacturer’s website and product packaging for this toy list inconsistent information as well (6- to-13-years vs. 8+ years).

Images of children playing with the products were identified on the manufacturer’s website, retailer websites, and/or product packaging for all of the toys in this category. All of the children depicted appear to be within the stated age of intent for the toy. Table 3-3 provides a summary of this information related to the manufacturer’s stated age, the retailer’s recommended ages, and marketing images of children who appear on the websites.

Table 3-3. Marketing information – Smart Toys

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Smart Toy 1 – Robotic Animal 1	1+ years	1+ years	1+ years	2+ years	3- through 4-years-old
Smart Toy 2 – Robotic Animal 2	4+ years	4+ years	4+ years	4+ years	5- through 10-years-old
Smart Toy 3 – Virtual Reality Gaming Set	8+ years	8+ years	Not listed on website	8+ years	9- through 10-years-old
Smart Toy 4 – Virtual Reality Gun	8+ years	8+ years	Not sold	8+ years	8- through 10-years-old
Smart Toy 5 –Robotic Animal Plush 1	3+ years	3+ years	3+ years	3+ years	3- through 9-years-old
Smart Toy 6 –Robotic Animal Plush 2	5+ years	5+ years	5+ years	5+ years	5- through 8-years-old
Smart Toy 7 – Robot	10+ years	8+ years	Not listed on website	8+ years	9- through 12-years-old
Smart Toy 8 – Programmable Robotic Animal	3+ years	3+ years	3+ years	3+ years	3- through 4-years-old
Smart Toy 9 – 3D Printing Pen	6+ / 8+ years	6+ / 8+ years	6+ / 8+ years	8+ years	9- through 10-years-old
Smart Toy 10 – Robotic Animal 3	4+ years	5+ years	5+ years	5+ years	5- through 8-years-old

* Obtained from images of product packaging or manufacturer’s website.

A small parts warning (per 16 CFR 1500.20, the advertising for any article that is a toy or game intended for use by children who are at least three years old but less than six years of age shall bear or contain a cautionary statement if the toy or game includes a small part), is available from the manufacturer’s website, product packaging, and/or the retailer’s product page for five of the toys. Robotic Animal Plush 2 and Robotic Animal 3 have an identifiable small parts warning label on images of the product packaging. Small parts warnings for the remaining three toys were identified from online retailer websites. It is important to note that toys were not purchased for this review, and therefore our review of product packaging was limited to available images online. Those toys with a warning display the following wording: “WARNING: CHOKING HAZARD -- Small parts. Not for children under 3 yrs.”

Compared to all the toy categories except for the Interlocking-Connecting Toys, online retailers market these toys to children as learning products, explicitly stating the learning objectives for the Smart Toys. Typically, the listed learning objectives are consistent with skills and learning objectives for the age of the child for whom the toy is intended. Marketing statements include:

- “Perfectly sized for small hands.” (Robotic Animal 1)
- “Your pint-size loved one can send you a voice message any time.” (Robotic Animal Plush 1)

- “Kid Safe Certified.” (Robotic Animal Plush 1)
- “Foster communication skills encouraging kids to connect with family and friends without distractions. Optional XXXX service unlocks a whole new world—expand their knowledge with vocabulary, number, and science facts.” (Robotic Animal Plush 1)
- “Our tech is made for physical toys that encourage open-ended, imaginative play.” (Robotic Animal Plush 1)
- “Get your child this top wish list gift for boys and girls ages 5 and up! This interactive plush toy is a perfect gift for your child, granddaughter, grandson, or anyone in your life that would like to care for an adorable interactive pet.” (Robotic Animal Plush 2)
- “Preschoolers can twist the dials on the XXXX to create a sequence and send their pal along the programmed path with moves like forward, turn right, and turn left”. (Programmable Robotic Animal)
- “Early coding and problem-solving toy for preschoolers ages 3-6 years.” (Programmable Robotic Animal)
- “4-7, I may need some help! 4-8, I can do it!” (Robotic Animal 3)
- “The easy Click n Create system allows kids of all ages to enjoy making, customizing, & bringing your own XXXX to life!” (Robotic Animal 3)
- “Each XXXX has a variety of hidden stem facts so entertaining that kids won’t even know they learned about STEM & robotics. Each robot is interchangeable to mix & match” (Robotic Animal 3)

In general, most of the toys appear to be marketed toward children, with only the Virtual Reality Gaming Set displaying more general use/all ages market appeal.

- “The ultimate fusion of virtual reality, action-adventure gameplay and exploration, built for casual fans and gamers of all ages.” (Virtual Reality Gaming Set)

3.1.3 Consumer Perceptions

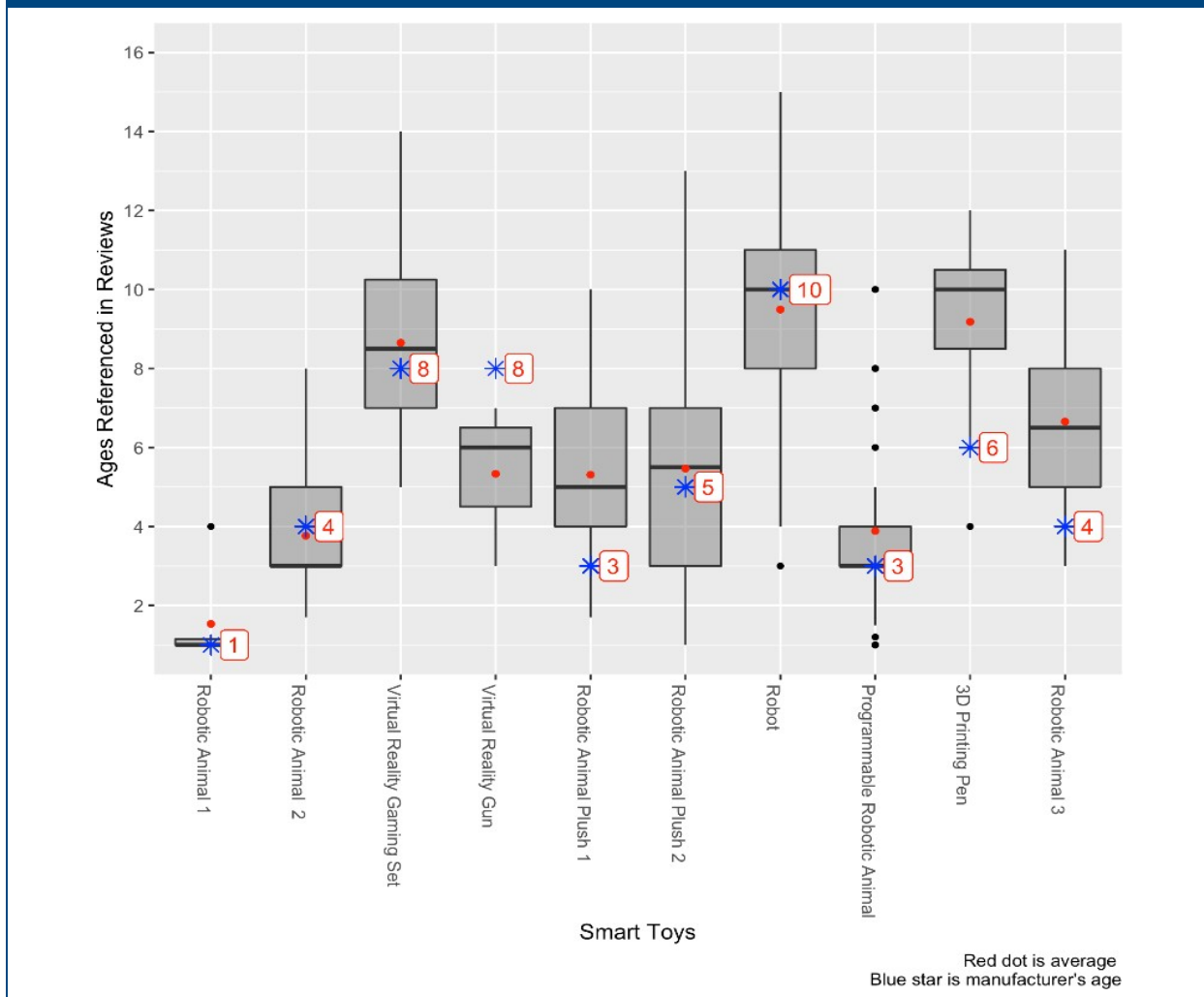
A total of 4,170 consumer reviews were examined for the Smart Toys, of which a child’s age or the age of the child for whom the toy was purchased is mentioned 378 times. Table 3-4 summarizes the total number of reviews documented for each toy, the number of reviews referencing the child(ren)’s age(s), and the age range of the children referenced in the reviews. For all of the selected toys, the age range of children for whom the toy is purchased or age of the child who uses the toy includes children who are younger than manufacturer’s stated age of intent.

Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range of children referenced in reviews
Smart Toy 1 – Robotic Animal 1	1+ years	44	7	10-months-through 4-years-old
Smart Toy 2 – Robotic Animal 2	4+ years	779	65	20-months through 8-years-old
Smart Toy 3 – Virtual Reality Gaming Set	8+ years	209	20	5- through 14-years-old
Smart Toy 4 – Virtual Reality Gun	8+ years	38	3	3- through 7-years-old
Smart Toy 5 – Robotic Animal Plush 1	3+ years	615	41	20-months through 10-years-old
Smart Toy 6 – Robotic Animal Plush 2	5+ years	1,131	86	1- through 13-years-old
Smart Toy 7 – Robot	10+ years	345	61	3-through 15-years-old
Smart Toy 8 – Programmable Robotic Animal	3+ years	850	58	8-months through 10-years-old
Smart Toy 9 – 3D Printing Pen	6+ / 8+ years	69	11	4-through 12-years-old
Smart Toy 10 – Robotic Animal 3	4+ years	90	26	3-through 11-years-old

*Obtained from images of product packaging or manufacturer’s website.

In the Smart Toy category, the age of a child mentioned in consumer reviews ranges from 8-months- old through 15-years-old. Figure 3-1 is a graphical representation of the distribution of children’s ages referenced for each toy, often referred to as a “box plot.” The box itself spans the interquartile range (25th to 75th percentiles), with the median (50th percentile) indicated by the solid horizontal line. The solid vertical lines extend to the age that is at most 1.5 times the interquartile range from the median, while black circles indicate ages reported by consumers that lie further from the median. When there are only a few reviews where consumers mention age values, the vertical lines may not appear on the box plot for a particular toy. The overlaid red circle represents the mean age mentioned in the reviews and the blue star represents the manufacturer’s stated age of intent.

Figure 3-1. Age distribution – Smart Toys



Compared to the other selected toys in this category, the Robotic Animal Plush 2 (1-year-old through 13-years-old) and Robot (3-years-old through 15-years-old) have the widest distribution of ages mentioned in reviews. This can be seen in the relatively longer boxes and vertical lines for these toys. The tightest distribution of ages referenced is for the Robotic Animal 1 (10-months-through 4-years-old), with the shortest box length as compared to other toys in this category. Of the 40 reviews referencing age, the majority referenced 3- and 4-year-olds. While Robotic Animal 1 also has a tight age distribution, only six reviews contributed to this value so it should be interpreted with caution.

A majority of consumers who report child(ren)'s age(s) in online reviews are purchasing most of these toys for children who are at the manufacturer's stated age or older. These toys include: Virtual Gaming System, Robotic Animal Plush 1, Robotic Animal Plush 2, Programmable Robotic Animal, 3D Printing Pen, and Robotic Animal 3. On the plot, most of or nearly the entire box is above the blue star for these toys. Conversely, a majority of the consumers purchasing the Virtual Reality Gun and Robot are referencing children who are younger than the manufacturer's stated age of intent; most of or the entire box is below the blue star for these toys. However, a child's age

was only mentioned in three reviews of the Virtual Reality Gun, so this measure should be interpreted with caution.

Based on the ages referenced in reviews, a majority of consumers are purchasing the Robotic Animal Plush 1, 3D Printing Pen, and Robotic Animal 3 for children who are two to three years older than the stated age of intent. This is shown on the plot by the red dot (average age), which is approximately two to three years above the blue star. See Table 3-5 for the age most frequently mentioned by consumers for each toy.

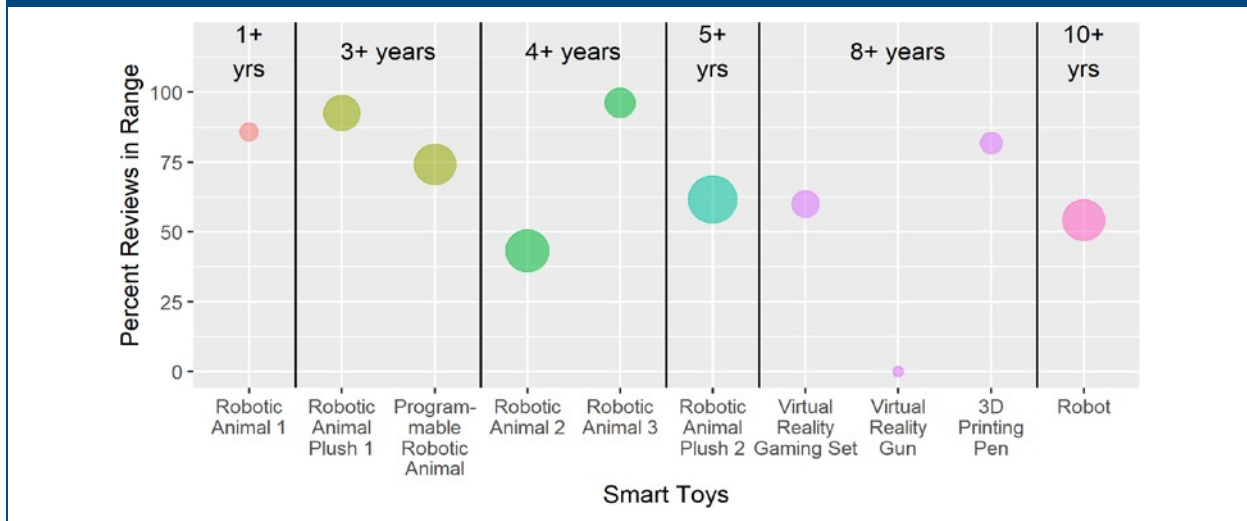
Toy	Manufacturer’s stated age*	Most frequent user age in consumer reviews (mode)
Smart Toy 1 – Robotic Animal 1	1+ years	1-year-old
Smart Toy 2 – Robotic Animal 2	4+ years	3-years-old
Smart Toy 3 – Virtual Reality Gaming Set	8+ years	7-years-old
Smart Toy 4 – Virtual Reality Gun	8+ years	3-years-old
Smart Toy 5 – Robotic Animal Plush 1	3+ years	4-years-old
Smart Toy 6 – Robotic Animal Plush 2	5+ years	6-years-old
Smart Toy 7 – Robot	10+ years	9-years-old
Smart Toy 8 – Programmable Robotic Animal	3+ years	3-years-old
Smart Toy 9 – 3D Printing Pen	6+ / 8+ years	10-years-old
Smart Toy 10 – Robotic Animal 3	4+ years	5-years-old

* Obtained from images of product packaging or manufacturer’s website

The box plots show the distribution of the referenced ages, but they do not provide any information about the total number of reviews considered, and it is difficult to tell what proportion of reviews mention an age greater than or equal to the manufacturer’s stated age. This information is included below. Figure 3-2 shows the percent of reviews referencing a child’s age that is equal to or above the manufacturer’s stated age of intent for each of the toy. The age heading at the top of each plot panel identifies the manufacturer’s stated age for the toy(s) (1+ years, 3+ years, 4+ years, etc.). The size of each “bubble” is proportional to the number of reviews contributing to the percentage, so that larger bubbles correspond to toys with relatively more reviews.

Most of the reviews referencing a child’s age for the Robotic Animal Plush 1 (93%), the Robotic Animal 3 (96%), and the 3D Printing Pen (91%) mention an age equal to or greater than the manufacturer’s stated age of intent. Conversely, consumers of the Robotic Animal 2 (43%), Robot (54%), and Robotic Animal Plush 2 (61%) mention children equal to or older than the manufacturer’s stated age less frequently. While no reviews of the Virtual Reality Gun reference an age that is equal or greater than the manufacturer’s stated age, a child’s age is mentioned only in three reviews, so this statistic should be viewed with caution. The very small size of the “bubble” for this toy reflects the low sample size.

Figure 3-2. Percent of reviews referring to ages at or above manufacturer’s stated age of intent – Smart Toys



Overall, reviews for the selected Smart Toys are mixed. While some reviews indicate the products are fun and their children enjoy interacting with them, others suggest the toys are difficult to assemble, children do not fully understand how to interact with the toy as it is intended, and some children became disinterested quickly. Others also point out some of the potential hazards with the toy. It is important to note that in some of the reviews, consumers reference children who are younger than the manufacturer’s stated age of intent. Below are examples of some of the positive comments:

- “Works with the slightest pressure so little hands are able to get it to light up and play its song. Sturdy and should hold up to rigorous play.” (Robotic Animal 1)
- “... fun game for a child just getting into VR gaming. Very simple walk through for a child to handle. Light weight.” (Virtual Reality Gaming Set)
- “Be good for a small child.” (Virtual Reality Gaming Set)
- “This game was given to my 11-year-old son for Christmas and was a hit! He is not a huge video game player (not that this is a video game) and I wasn’t sure if he would love it, but he did. I would definitely recommend this for children in his age range.” (Virtual Reality Gaming Set)
- “I definitely recommend this for the younger kids too, as it’s a baby.” (Robotic Animal Plush 2)
- “I don’t give her the smaller XXXX because of the potential of putting them in her mouth or my newborn’s. This toy enables her to have fun with the egg and me to have the peace of mind that she won’t choke on it.” (Robotic Animal Plush 2)
- “...is best suited for older kids, because it is so interactive there is a lot to learn with it.” (Robotic Animal Plush 2)

- “This is a great gift or project for any tween interested in mechanics, electronics, or computing.” (Robot)
- “I think age 8 and under would be a good fit.” (Robot)
- “This toy has all three of them (ages 2-, 4-, and 5-years-old) very engaged. It’s very easy to learn so don’t be alarmed by it saying ‘coding.’ It’s definitely age-appropriate.” (Programmable Robotic Animal)
- “My youngest loves it (7) and my oldest (8) doesn’t really care for it. This would be great for kids 4-6 years of age, but any older, and they call it a baby toy, lol.” (Programmable Robotic Animal)

Some consumers addressed the age appropriateness of the toy and potential hazards:

- “Definitely needed a grown up to help assemble and get started” (reviewer mentioned a 9-year-old). (Virtual Reality Gaming Set)
- “We got this for 7-year-old for Christmas as he is into Jurassic World and Park but this is just a little too old for him and he is not able to really play or figure out how to do much with the hand piece.” (Virtual Reality Gaming Set)
- “Bought for my 7-year-old who loves Jurassic Park...and he’s seemingly entertained by just the (difficult to calibrate) 3D effect of the goggles...but he gets frustrated with the difficult/impossible to engage gameplay.” (Virtual Reality Gaming Set)
- “I wouldn’t recommend to children under 5 without adult help.” (Robotic Animal Plush 1)
- “The button is not easy to use.” (Robotic Animal Plush 1)
- “Really difficult for a 4-year-old, maybe better for an older child.” (Robotic Animal Plush 1)
- “The message cuts off really quickly, she gets really frustrated.” (Robotic Animal Plush 1)
- “My 4-year-old became uninterested quickly.” (Robotic Animal Plush 1)
- “I would recommend it for a little bit older kids than mine. My 3-year-old twins play with it and have fun when the XXXX moves around the room, but I do not think they understand at this stage that it is able to do whatever they want it to.” (Programmable Robotic Animal)
- “My son is 3 1/2-years-old and already use to tablets and smart phones and other technology. He played with it for a minute, but it’s more geared for toddlers, ages 1-2 years of age.” (Programmable Robotic Animal)
- “My kiddo is 3 months shy of 3 and she isn’t ‘getting’ the back buttons right away but I think with repeated practice she will learn it.” (Robotic Animal Plush 1)
- “The toy is a bit advanced for younger children as you have to learn how to care for it by the eyes changing color but overall easy to play with.” (Robotic Animal Plush 2)

- “The box says ages 10 and up. If you have a child that can assemble this and get it working properly, you should consider engineering courses for your child.” (Robot)
- “It claims 5+, but I knew there would need to be adult help during assembly. That said, this thing will fall to pieces if you look at it wrong, those pieces are not toddler safe.” (Robotic Animal 4)
- “Assembly too hard for children under 10, even my wife had some troubles assembling.” (Robotic Animal 4)
- “My granddaughter was very excited to put this together, which she did all on her own at 8-years-old.” (Robotic Animal 4)
- “Outside of assembling the toy, which I had to do, it was too complicated for my 6-year-old.” (Robotic Animal 4)

Unboxing videos were also identified and viewed for nine of the selected toys. For most of these toys, the children in the videos appear to be within the age range of the manufacturer’s stated age, meaning there are no children who appear to be substantially younger than the stated age.

However, unboxing videos for the Robotic Animal Plush 2 and the Robot show children younger than the manufacturer’s stated age. In the two videos for the Robotic Animal Plush 2, the children playing with the toys range from 3- through 9-years-old. In one video, sponsored by the manufacturer, an older sister (~ 8-years-old) helps the younger sister (~3-years-old) engage with the toy. They demonstrate use of the toy accessories and function with a group of friends. Another video shows a girl (~ 3-years-old) unboxing the toy with the help of her parents. The video shows how she interacts with the toy. Her parents help decipher the directions on how to operate the toy.

The unboxing videos for the robot include children from 3- or 4-years-old through about 12-years-old. None of the children engage very much with the toy, sometimes only playing with it briefly. In the videos with the younger children, there is an adult present helping to control the robot. Table 3-6 summarizes this information.

Toy	Manufacturer’s stated age*	Number of unboxing videos viewed	Age range of children in unboxing videos
Smart Toy 1 – Robotic Animal 1	1+ years	5	1- through 4-years-old
Smart Toy 2 – Robotic Animal 2	4+ years	6	4- through 8-years-old
Smart Toy 3 – Virtual Reality Gaming Set	8+ years	5	10- through 12-years-old
Smart Toy 4 – Virtual Reality Gun	8+ years	0	-
Smart Toy 5 – Robotic Animal Plush 1	3+ years	2	3- through 6-years-old
Smart Toy 6 – Robotic Animal Plush 2	5+ years	6	3- through 9-years-old

Table 3-6. Unboxing video age range – Smart Toys (continued)

Toy	Manufacturer's stated age*	Number of unboxing videos viewed	Age range of children in unboxing videos
Smart Toy 7 – Robot	10+ years	8	3- through 12-years-old**
Smart Toy 8 – Programmable Robotic Animal	3+ years	5	3- through 8-years-old
Smart Toy 9 – 3D Printing Pen	6+ / 8+ years	6	8- through 10-years-old
Smart Toy 10 – Robotic Animal 3	4+ years	4	6- through 7-years-old

* Obtained from images of product packaging or manufacturer's website.

**Several videos had more than one child present. The breakdown of ages represented in the videos included two 3- or 4-year-olds, three 8-year-olds, two 10-year-olds, one 11-year-old, and two 12-year-olds.

3.1.4 Social Media Scan

The Meltwater social media scan resulted in 590 mentions for the selected toys in the Smart Toy category. Several of these posts mention the age of children interacting with the toy. The Virtual Reality Gun, Robot, and 3D Printing Pen each have posts mentioning children within the intended age range. For the remaining toys in this category, reviewers mention children younger than and within the manufacturer's intended age range engaging with the toy. However, when discussing the Programmable Robotic Animal and the Robotic Animal 3, reviewers express concern regarding the difficulty users below the intended age experience when interacting with the toy. Additionally, the social media scan identified posted images of children playing with the toy for only two of the selected toys (Robotic Animal Plush 1 and Robotic Animal Plush 2). For both of these toys the children appear to be younger than or within the manufacturer's stated age range for the toy. See Table 3-7 for a summary of this information.

Table 3-7. Social media scan – Smart Toys

Toy	Manufacturer's stated age*	Number of social media mentions	Comments about age-related mentions
Smart Toy 1 – Robotic Animal 1	1+ years	52	Most mention children within the intended age range. Two blog posts mention purchasing the product for children younger than 1 year. General sentiment is that the toy is age-appropriate.
Smart Toy 2 – Robotic Animal 2	4+ years	23	Most mention children within the intended age range. Several posts mention purchasing the product for children younger than 4 years. General sentiment is that the toy is age-appropriate.
Smart Toy 3 – Virtual Reality Gaming Set	8+ years	53	Most mention children within the intended age range. Very few mention purchasing the product for children younger than 8 years. No information on age- appropriateness.

Table 3-7. Social media scan – Smart Toys (continued)

Toy	Manufacturer's stated age*	Number of social media mentions	Comments about age-related mentions
Smart Toy 4 – Virtual Reality Gun	8+ years	26	Very few age-related posts. All mention children within the intended age range. No information on age- appropriateness.
Smart Toy 5 – Robotic Animal Plush 1	3+ years	137	Most mention children within the intended age range. Several posts mention purchasing the product for children younger than 3 years. No information on age- appropriateness.
Smart Toy 6 – Robotic Animal Plush 2	5+ years	38	Most mention children within the intended age range. Several posts mention purchasing the product for children younger than 5 years. General sentiment is that the toy is age-appropriate.
Smart Toy 7 – Robot	10+ years	65	Several age-related posts. All mention children within the intended age range. No information on age- appropriateness.
Smart Toy 8 – Programmable Robotic Animal	3+ years	87	Most mention children within the intended age range. Few mention children younger than 3 years; those that do indicate engagement with the product is not optimal.
Smart Toy 9 – 3D Printing Pen	6+ / 8+ years	37	Several age-related posts. All mention children within the intended age range. No information on age- appropriateness.
Smart Toy 10 – Robotic Animal 3	4+ years	72	Several posts mention children below and within the intended age range. These posts express concern about the safety of the toy for children below the intended age and the level of difficulty in assembling the product.

* Obtained from images of product packaging or manufacturer's website.

3.1.5 Hazard Analysis

When conducting the hazard analysis for the Smart Toys, consumer reviews, unboxing videos, lawsuits, saferproducts.gov reports, and the National Electronic Injury Surveillance System (NEISS) were examined. In addition to searching for the different toys by name and manufacturer, a list of toy features for selected toys was searched for in the NEISS database.

Key information from these different sources included: a narrative description of the hazard or hazard pattern; injury(ies) reported; and whether the injury(ies) actually occurred or if the narrative reported on a perceived hazard. It is important to note that NEISS data *does not* identify product name or manufacturer. Therefore, we cannot know if any of these injury reports involve the selected toys, but rather toys with similar features to the selected toys (e.g., a small push toy or a small toy with wheels).

No lawsuits involving any of the smart toys reviewed were identified during this scan. However, the hazard analysis identified seven consumer reviews or unboxing videos that specifically mention

actual or perceived hazards. A review for the Robotic Animal 1 identifies a perceived hazard related to the smell of the rubber. Reviews for the Robotic Animal 1 and Robotic Animal 3 specifically reference the potential of a choking hazard, because parts of each toy broke off. One consumer expressed concern that children may run into walls or fall and get injured when using the Virtual Reality Gaming Set. A reviewer for the 3D Printing Pen noted that the pen is extremely hot when in use, and could potentially burn children.

Four consumer reviews of the Virtual Reality Gaming Set explain that users experienced physical discomfort due to nausea. Consumers made mention that their child was afraid of the noises made by the Robotic Animal 2 and the LED lights from Robotic Animal Plush 2 hurt the child's eyes. Below are some examples of comments made by consumers who wrote reviews.

- "XXXX smelled like rubber and could potentially be unsafe (to breathe). I hope the smell will dissipate because it does not seem all that safe." (Robotic Animal 1)
- "The ears of this toy broke off too easily and could cause a potential choking hazard. Luckily I noticed the ear piece going into his mouth before it caused any trouble." (Robotic Animal 1)
- "LED lights in the eyes are too bright. They hurt our/her eyes so we had to turn it off and remove batteries." (Robotic Animal Plush 2)
- "I found this pen is not very safe for kids to play. It gets extremely hot during the process that could potentially hurt your kids." (3D Printing Pen)
- "This thing will fall to pieces if you look at it wrong, those pieces not toddler safe". (Robotic Animal 3)

A scan of Saferproducts.gov identified references to three of the smart toys:

- While playing with the Robotic Animal 1 a child fell to the floor and their hair became entangled in the wheels of the toy.
- Battery acid was leaking from the battery compartment of Robotic Animal 2. It is unclear from the report if an actual injury occurred or if a possible hazard was identified.
- A 4-year-old child broke out in major hives after interacting with Robotic Animal Plush 2.

The NEISS database resulted in 42 mentions. As noted above, these mentions are not necessarily referring to the selected toys but toys with similar features. Overall most of the injuries reported were for toys similar to the Robotic Animal 1, Robotic Animal 2, and Robotic Animal Plush 2. The injuries identified for the Robot, and Robotic Animal 3 were the result of the child falling onto the toy, tripping over the toy, sitting on the toy, or being struck by the toy when playing with the toy themselves or being struck by another child. Reports for injuries involving toys similar to the Robotic Animal 1 specifically report injuries resulting from children falling onto the toy as they push it.

While reports for injuries resulting from toys similar to the Virtual Reality Gaming Set reference children falling on the toy, reports also reference injuries caused by the child inadvertently running into the wall or punching a wall when wearing the goggles. Reports also reference neck pain as a

result of wearing the goggles or poking their eye then putting the goggles on. Reports on toys similar to the Robot and the Robotic Animal Plush 1 also reference ingesting foreign bodies such as pieces of the toy or batteries.

Table 3-8 provides a summary of the hazards discussed above.

Table 3-8. Hazard Analysis – Smart Toys					
Toy	Number of consumer reviews/unboxing video mentions	Number of lawsuit mentions	Number of safer products. gov mentions	Number of NEISS mentions	Comments about hazard related mentions
Smart Toy 1 – Robotic Animal 1	2	0	1	12	<ul style="list-style-type: none"> • Consumer reviews – a possible hazard associated with a chemical smell and a choking hazard due to small parts breaking off. • SaferProducts.gov – an injury due to hair being caught in the wheel. • NEISS <ul style="list-style-type: none"> – Search terms: push toy, wheels, rolling toy, and light-up. – Most common injuries: falls, finger pinch/laceration, falls with contusions, and several other injuries (head, nasal, ingestion). – Age range of children: 11 months – 24 months.
Smart Toy 2 – Robotic Animal 2	0	0	1	15	<ul style="list-style-type: none"> • SaferProducts.gov – battery acid leaking from battery compartment. • NEISS <ul style="list-style-type: none"> – Search terms: <i>animal name</i>¹ – and robot. – Most common injuries: falls, finger pinch/laceration, falls with contusions, and corneal abrasion. – Age range of children: 5 months – 6 years.

Table 3-8. Hazard Analysis – Smart Toys (continued)

Toy	Number of consumer reviews/unboxing video mentions	Number of lawsuit mentions	Number of safer products. gov mentions	Number of NEISS mentions	Comments about hazard related mentions
Smart Toy 3 – Virtual Reality Gaming Set	1	0	0	7	<ul style="list-style-type: none"> • Consumer reviews – a possible hazard associated with children running into walls or falling and while wearing the headset. • NEISS <ul style="list-style-type: none"> – Search terms: virtual reality and interactive. – Most common injuries: falls, finger pinch/laceration, walk into walls/fall down stairs, and several other injuries (neck strain, mouth injury, fracture). – Age range of children: 5 years – 11 years.
Smart Toy 4 – Virtual Reality Gun	0	0	0	0	<ul style="list-style-type: none"> • Not Applicable
Smart Toy 5 – Robotic Animal Plush 1	0	0	0	1	<ul style="list-style-type: none"> • NEISS <ul style="list-style-type: none"> – Search term: walkie talkie. – Injury reported: ingestion of foreign object. – Age of child: 15 months
Smart Toy 6 – Robotic Animal Plush 2	2	0	1	1	<ul style="list-style-type: none"> • Consumer reviews – a possible hazard associated with the brightness of the LED lights in the toy’s eyes that may result in eye strain. • SaferProducts.gov – a breakout of hives after playing with the toy. • NEISS <ul style="list-style-type: none"> – Search term: <i>container name</i>.² – Injury reported: contusion. – Age of child: 8 months
Smart Toy 7 – Robot	0	0	0	4	<ul style="list-style-type: none"> • NEISS <ul style="list-style-type: none"> – Search term: robot. – Most common injuries: falls, finger pinch/laceration, foreign body aspiration, and head injury. – Age range of children: 9 months – 4 years

Table 3-8. Hazard Analysis – Smart Toys (continued)

Toy	Number of consumer reviews/unboxing video mentions	Number of lawsuit mentions	Number of safer products. gov mentions	Number of NEISS mentions	Comments about hazard related mentions
Smart Toy 8 – Programmable Robotic Animal	0	0	0	0	• Not Applicable
Smart Toy 9 – 3D Printing Pen	1	0	0	0	• Consumer reviews – a possible hazard associated with the temperature of the pen that may result in burns.
Smart Toy 10– Robotic Animal 3	1	0	0	2	<ul style="list-style-type: none"> • Consumer reviews – a possible choking hazard. • NEISS <ul style="list-style-type: none"> – Search terms: <i>animal name</i>³ and robot. – Most common injuries: falls, finger pinch/laceration, and corneal abrasion. – Age range of children: 6 years –13 years.

¹ The name of the animal that the toy is modeled after.

² The container that houses the toy.

³ The name of the animal that the toy is modeled after.

Since many of the selected Smart Toys have battery packs, typical injuries associated with batteries are possible for toys in this category. These include burns due to battery acid leaking and accidental ingestion of the battery. Additionally, if the toy has a small parts warning, there are possible choking or foreign body aspiration hazards.

3.1.6 Summary of Age-Related Findings – Smart Toys

The manufacturer’s stated age of intent for all the selected toys ranges from 1+ through 10+ years. A stated age of intent can be found on the manufacturer’s website and/or listed on product packaging for each toy. Overall, when available on both the product packaging and manufacturer’s website, the information listed for the stated age of intent is consistent. However, there is a discrepancy between the two sources for the 3D Printing Pen. The product packaging lists 6+ years and manufacturer’s website lists 8+ years as the stated age of intent.

Information related to age recommendations for the selected toys is relatively consistent across the various retailers, and in most cases, concurs with the manufacturer’s stated age of intent. The same also applies to promotional images and marketing statements. However, for two toys the retailers list a recommended age that differs from the manufacturer’s stated age. Two retailers for the Robot list 8+ years, and the manufacturer lists 10+ years. Conversely, three retailers list 5+ years for the recommended age for the Robotic Animal 3, and the stated age of intent is 4+ years. In addition, two retailers for the 3D Printing Pen provide conflicting information on the product page.

Because these toys are marketed as educational products, online retailers and manufacturers explicitly state the learning objectives. A majority of consumers who report child(ren)'s age(s) in online reviews are purchasing most of these toys for children who are at the manufacturer's stated age or older.

Overall, reviews for the selected Smart Toy Category are mixed. Some reviews are positive, while other consumers express concerns related to the overall safety of the toy and the ability of the child to assemble or use it as intended by the manufacturer as well as potential hazards.

A review of hazards associated with this category yields a variety of potential injuries that may result from interacting with the various toys. Since many of the toys include battery packs, injuries such as burns due to battery acid leaking and accidental ingestion of the battery are possible. Other possible injuries include: contusions, sprains, and lacerations resulting from falls on the toy or falls resulting from interaction with the toy; hair entanglement in wheels; and skin rash as a reaction to the toy material. As with any toy, the presence of small parts introduces the potential for choking or foreign body aspiration. The virtual reality toys present the potential for inducing nausea as well as injuries resulting from falls or running into objects when wearing the virtual reality headset or looking at the virtual reality projector screen.

3.2 Novelty-Expandable Toys

Novelty items are generally products with whimsical purpose and cover a range of small manufactured goods, such as collectibles, gadgets, and executive³ toys. Novelty toys are typically marketed for their uniqueness, humor, vintage styling, or as something new or novel. According to the Toy Association Inc., novelty toys "include lower-priced toys developed for kids of all ages, may often be licensed, and reside near a check-out counter".⁴ These toys can encourage sensory, motor, cognitive, social, and/or creative play. While some novelty toys are marketed for children, others appeal to adults and are marketed for general use. With the exception of novelty musical instruments, novelty toys are not widely addressed in the most recent edition of the *Guidelines*.

Expandable water toys or grow-in-water toys are novelty items made from a superabsorbent polymer that expands after being placed in water for a period of time. The polymer material can absorb and retain extremely large amounts of liquid relative to the mass of the toy. These toys come in many different shapes and sizes, including reptiles and dinosaurs as well as fish and insects.

Eleven toys were selected in the Novelty-Expandable Toys category; a brief description of each toy is provided in Table 3-9. Dimensions were obtained from the manufacturer's website when available; otherwise, they were obtained from a retailer website.

³ Executive toys are desktop toys that are displayed on people's desks and used to reduce stress or as a distraction.

⁴ Toy Association Inc. (2020). Definitions Document: Toy Industry Product Categories. Available at: https://www.toyassociation.org/App_Themes/tia/pdfs/membership/definitions.pdf

Table 3-9. Selected toys – Novelty – Expandable Toys

Toy	Product description	Dimensions
Novelty Toy 1 – Interconnecting Balls	Interconnected wooden balls that can be twisted and turned to build geometric shapes and asymmetrical sculptures.	Length: 7 inches; Width: 1.8 inches; Weight: 5.9 ounces; Diameter: 1.25 inches.
Novelty Toy 2 – Squishies	Soft toys made of polyurethane (PU) foam molded in different shapes; for example, food or animals. Users can squeeze and compress. When released, the product slowly resumes its form.	Length: Not Available; Width: Not Available; Height: 5 inches; Weight: 8 ounces.
Novelty Toy 3 – Foam Ball Launcher	Soft plastic toy that shoots foam balls from its “mouth” up to 20 ft. when squeezed around the “abdomen.”	Length: 2 inches; Width: 2 inches; Height: 6 inches; Weight: 2.08 ounces.
Novelty Toy 4 – Blind Box 1- Plush Toy	Hard plastic containers with a surprise plush toy inside. The plush toy is formed in the shape of an animal. Each plush has large, hard plastic eyes. A key play pattern for these toys is the surprise element whereby children do not know which animal they have until the container is opened. Children can collect the different plush toys.	Height: 2.5 inches. Other dimensions not available.
Novelty Toy 5 – Blind Box 2- Plastic Doll	Plastic containers with multiple surprises including a small doll and accessories. The surprise and collectible elements are a large component of this toy’s appeal.	Dimensions for container. Length: 3.8 inches; Width: 3.8 inches; Height: 3.8 inches; Weight: 4.2 ounces.
Novelty Toy 6 – Surprise Hatch & Grow	A realistic-looking egg that, when submerged in water, will “hatch” by cracking open. Inside the egg is one of four different “surprise” dinosaurs. After being submerged in water, the dinosaur grows in size up to 12 inches. Once fully grown, the dinosaur body is somewhat rubbery. The design is simplistic - each dinosaur has limited facial features.	Length: Not Available; Width: Not Available; Height: up to 12 inches; Weight: 3.2 ounces.
Novelty Toy 7 – Surprise Grow Capsules	The toy starts as different-colored pill-shaped capsules. When placed in water, the capsule dissolves into a sponge-like material that grows into the shape of an animal. A main element of the toy’s appeal is its surprise component.	Dimensions for product packaging. Length: 5 inches; Width: 6 inches; Height: 0.5 inches; Weight: 3.04 ounces.
Novelty Toy 8 – Water Beads	Small non-toxic gel beads that expand when placed in water. The gel can absorb and hold water. When a bead absorbs water, it has a squishy consistency. They are marketed for several uses, including sensory play for children, general décor, and as a means of watering potted plants.	Dimensions of product packaging. Length: 5 inches; Width: 0.5 inches; Height: 5 inches; Weight: 8 ounces.
Novelty Toy 9 – Light up Fidget Spinner	Toy that consists of a ball bearing in the center of a multi-lobed (typically two or three) flat structures (like wheel spokes). It is made from plastic and designed to spin along its axis with very little effort.	Length: 3.1 inches; Width: 0.4 inches; Height: NA; Weight: 0.8 ounces.
Novelty Toy 10 – Blind Box 3- Plastic Miniatures	A toy packaged in an opaque hard plastic container. Inside each container is miniature toy. The toys are meant to be collected. A main element of the toy’s appeal is its surprise component.	Dimensions of container. Length: 3.4 inches; Width: 3.4 inches; Height: 3.4 inches; Weight: 0.32 ounces.

Toy	Product description	Dimensions
Novelty Toy 11 – Blind Box 4	A hard-packed mixtures of dry ingredients which effervesce when wet. The bath bombs each contain a surprise toy inside. A main element of the toy’s appeal is its surprise component.	Length: 2.5 inches; Width: 2.5 inches; Height: 2.5 inches; Weight: 5 ounces.

3.2.1 Manufacturer’s Stated Age

The manufacturer’s stated ages for nine of the eleven Novelty Toys range from 3+ years to 5+ years. The stated age of intent is listed on both the manufacturer’s website and product packaging for only one toy (Interconnecting Balls). For the remaining toys the stated age of intent is:

- Only listed on the manufacturer’s website (Blind Box 2-Plastic Doll);
- Only listed on product packaging (Foam Ball Launcher, Blind Box 1- Plush Toy, Surprise Hatch and Grow, Surprise Grow Capsules, Water Beads, Blind Box 3-Plastic Miniatures, and Blind Box 4);
- Unavailable because the manufacturer’s website and images of product packaging were not found (Squishies); or
- Unavailable because the age of intent was not listed on the manufacturer’s website or images of product packaging (Light up Fidget Spinner).

Note, the Blind Box 2-Plastic Doll lists the stated age on the manufacturer’s website; however, the stated age is not provided on the product page for the toy, but was identified by clicking additional links to access the toy manual. In addition, while the manufacturer’s website for the Blind Box 4 does not list a stated age of intent, it includes a marketing statement, indicating the product will “enhance bath time fun for your 3, 4, 5, 6, or 7-year-old.”

Table 3-10 listed the age of intent for all products and indicates where it was located.

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Novelty Toy 1 – Interconnecting Balls	3+ years	3+ years
Novelty Toy 2 – Squishies	Images of product packaging not found	Website not found
Novelty Toy 3 – Foam Ball Launcher	4+ years	Not listed on website
Novelty Toy 4 – Blind Box 1-Plush Toy	3+ years	Not listed on website
Novelty Toy 5 – Blind Box 2- Plastic Doll	Not listed on images of product packaging	3+ years*
Novelty Toy 6 – Surprise Hatch & Grow	5+ years	Not listed on website
Novelty Toy 7 – Surprise Grow Capsule	4+ years	Not listed on website
Novelty Toy 8 – Water Beads	3+ years	Not listed on website

Table 3-10. Manufacturer’s stated age – Novelty – Expandable Toys (continued)

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Novelty Toy 9 – Light up Fidget Spinner	Not listed on images of product packaging	Not listed on website
Novelty Toy 10 – Blind Box 3-Plastic Miniatures	3+ years	Not listed on website
Novelty Toy 11 – Blind Box 4	3+ years	Not listed on website**

* This information was not provided on the main page for the toy, but was identified by clicking additional links to access the toy manual.

** A marketing statement indicating the product will “enhance bath time fun for your 3, 4, 5, 6, or 7-year-old.”

3.2.2 How the Toys Are Marketed

Overall, there are inconsistencies in how the recommended ages for the Novelty Toys are presented to the consumer. Not all retailers list a recommended age for a toy on its product page. There are also inconsistencies across retailers with respect to recommended age listed on their websites. For example, while two retailers listed 3+ years for the Interconnecting Balls, a third retailer listed 5+ years. Similar discrepancies were noted for the Blind Box 2 – Plastic Doll, Surprise Grow Capsule, and Blind Box 3 – Plastic Miniatures, where one or more retailers list different recommended ages for the same product (see Table 3-11).

Two retailer websites provide conflicting information at different locations on the product webpage (Surprise Hatch & Grow and Squishies). A retailer for the Surprise Hatch & Grow lists 5+ years as the recommended age in one location, and in a second location lists 3+ years. Similarly, a retailer for Squishies identified 3+ years as the recommended age in one location and in a second location lists a range from 2- through 4-years-old.

In addition, when a manufacturer’s stated age is identified for a toy, at least one retailer selling the toy lists a recommended age that conflicts with the manufacturer’s stated age of intent for six of the toys. In fact, there are only two cases where all of the retailers selling the toy list a recommended age that is consistent with the manufacturer’s state age of intent (Blind Box 4 and Foam Ball Launcher).

Finally, there is evidence that some of the retailers are incorrectly entering product information when setting up the product page. To illustrate, one retailer for the Blind Box 1 – Plush Toy recommends the toy for ages 6+ months, and two retailers for the Light up Fidget Spinner list recommended ages of 2+ months and 3+ months, respectively (see Table 3-11). It is likely these retailers intend to list years rather than months.

Images of children playing with the products were identified either on the manufacturer’s website or other retailer websites for four toys—specifically, three of the Blind Box toys (Blind Box 1, 3, and 4) and the Surprise Grow Capsules. All of the children depicted appear to be between the ages of 5- through 10-years-old, which is older than the stated age of intent of each toy. Table 3-11 provides a summary of this information.

Table 3-11. Marketing information – Novelty – Expandable Toys

Toy	Manufacturer's stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Novelty Toy 1 – Interconnecting Balls	3+ years	3+ years	5+ years	3+ years	No images found on manufacturer or retailer websites
Novelty Toy 2 – Squishies	Website/images of product packaging not found	3+ years	3+ years/ 2-4 years**	3+ years	No images found on retailer websites
Novelty Toy 3 – Foam Ball Launcher	4+ years	4+ years	4+ years	4+ years	No images found on manufacturer or retailer websites
Novelty Toy 4 – Blind Box 1-Plush Toy	3+ years	6+ months***	Not listed on website	3+ years	5- through 8-years-old
Novelty Toy 5 – Blind Box 2- Plastic Doll	3+ years	5+ years	6+ years	6+ years	No images found on manufacturer or retailer websites
Novelty Toy 6 – Surprise Hatch & Grow	5+ years	5+ years/3+ years**	Not listed on website	5+ years	No images found on manufacturer or retailer websites
Novelty Toy 7 – Surprise Grow Capsule	4+ years	3+ years	4+ years	4+ years	5- through 8-years-old
Novelty Toy 8 – Water Beads	3+ years	3+ years	Not listed on website	Not listed on website	No images found on manufacturer or retailer websites
Novelty Toy 9 – Light up Fidget Spinner	Not listed on website or on images of product packaging	3+ months***	2+ months***	3+ years	No images found on manufacturer or retailer websites
Novelty Toy 10 – Blind Box 3-Plastic Miniatures	3+ years	13+ years	3+ years	6+ years	5- through 8-years- old on manufacturer's website; 9- through 10-years-old on retailer websites
Novelty Toy 11 – Blind Box 4	3+ years	3+ years	Not Sold	Not Sold	5- through 8-years-old

*Obtained from images of product packaging or manufacturer's website.

**Retailer provides conflicting information, in one location lists 3+ years as the recommended age for Squishies. However, in a second location on the web page lists 2-4 years. Similarly, for Surprise Hatch and Grow a retailer lists 5+ years as the recommended age in one location and 3+ years in a second location on the web page.

***Months may have been incorrectly entered on the retailer website.

Compared to the other toy categories, manufacturers and online retailers seem to market Novelty Toys for general use as well as for children. While all of the Novelty Toys are marketed to children, statements on the website product pages for the Interconnecting Balls, Squishies, Foam Ball Launcher, Surprise Grow Capsule, Water Beads, and the Light up Fidget Spinner seem to market to adults as well. Examples of marketing statements include:

- “Large round balls each with 1.25 inches diameter make it easy for young children to manipulate.” (Interconnecting Balls)
- “Great office/desk toy supplies limitless creativity, wonderful coffee table display for artistic, sculptural designs.” (Interconnecting Balls)
- “In addition to stimulating your creative energy, the balls can be easily arranged to hold pens, notes, cell phones, and other odds and ends around your home or office.” (Interconnecting Balls)
- “Squishies are Great Sensory Toys for Kids!” (Squishies)
- “Whether you’re at home, at work or on the road our stress relief squishy toys provide you with an effortless, simple and incredibly effective way to reduce stress and anxiety!” (Squishies)
- “... will entertain and delight the young and the young at heart.” (Foam Ball Launcher)
- “Play fun for kids and toddlers.” (Surprise Grow Capsule)
- “Perfect for girls, boys or kids at heart.” (Surprise Grow Capsule)
- “Promotes Learning: Helps kids with color recognition, counting & fine motor skill and language development. Parents, teachers, and therapists love these beads for home & clinical use.” (Water Beads)
- “Kids of all ages will love them.” (Water Beads)
- “Help reduce ADHD whilst eliminating bad habits like biting your nails or picking your nose!” (Light up Fidget Spinner)

All toys except for the Squishes have a small parts warning listed on the manufacturer’s website, at least one of the retailer product pages, or on the product packaging indicating the toy is not intended for children under 3-years-old. Examples of wording used:

- WARNING. Choking Hazard – Contains small parts, not for children under 3 years. (Interconnecting Balls)
- WARNING. CHOKING HAZARD – This toy is a small ball. Not for children under 3 yrs. (Interconnecting Balls, Foam Ball Launcher).

- WARNING. CHOKING HAZARD – Small parts. Not for children under 3 yrs. (Blind Box 1- Plush Toy, Blind Box 2 Plastic Doll, Surprise Hatch & Grow, Surprise Grow Capsule, Light up Fidget Spinner, Blind Box 3 – Plastic Miniatures)
- WARNING. CHOKING HAZARD – Toy contains a small ball. Not for children under 3 yrs. (Water Beads)

3.2.3 Consumer Perceptions

A total of 5,835 consumer reviews were scanned for the Novelty Toys, of which a child’s age or the age of the child for whom the toy was purchased was mentioned 227 times. Table 3-12 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)’s age(s).

In the Novelty Toy category, the age of the child mentioned in consumer reviews ranged from younger than 9-months-old through 18-years-old. Based on the ages referenced in the consumer reviews, most of the toys (10 out of 11 toys) are purchased for users across a wide range of ages. For example, Interconnecting Balls are purchased for users between the ages of 9-months-old and 18-years-old, and Surprise Grow Capsule is purchased for users between the ages of 18-months-old and 8-years-old.

Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range referenced in reviews
Novelty Toy 1 – Interconnecting Balls	3+ years	176	22	9-months through 18-years-old
Novelty Toy 2 – Squishies	Website/Images of Product Packaging Not Found	230	13	3- through 11-years-old
Novelty Toy 3 – Foam Ball Launcher	4+ years	363	32	10-months through 11-years-old
Novelty Toy 4 – Blind Box 1- Plush Toy	3+ years	85	2	through year-old
Novelty Toy 5 – Blind Box 2- Plastic Doll	3+ years	680	34	3- through 10-years-old
Novelty Toy 6 – Surprise Hatch & Grow	5+ years	155	17	18-months through 8-years-old
Novelty Toy 7 – Surprise Grow Capsule	4+ years	254	28	18-months through 18-years-old
Novelty Toy 8 – Water Beads	3+ years	2866	23	1- through 12-years-old
Novelty Toy 9 – Light up Fidget Spinner	Not Listed on Website or on Images of Product Packaging	250	23	3- through 10-years-old

Table 3-12. Consumer reviews – Novelty – Expandable Toys (continued)

Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range referenced in reviews
Novelty Toy 10 – Blind Box 3- Plastic Miniatures	3+ years	360	12	4- through 12-years-old
Novelty Toy 11 – Blind Box 4	3+ years	416	21	2- through 9-years-old

* Obtained from images of product packaging or manufacturer’s website.

Figure 3-3. Age distribution – Novelty – Expandable Toys

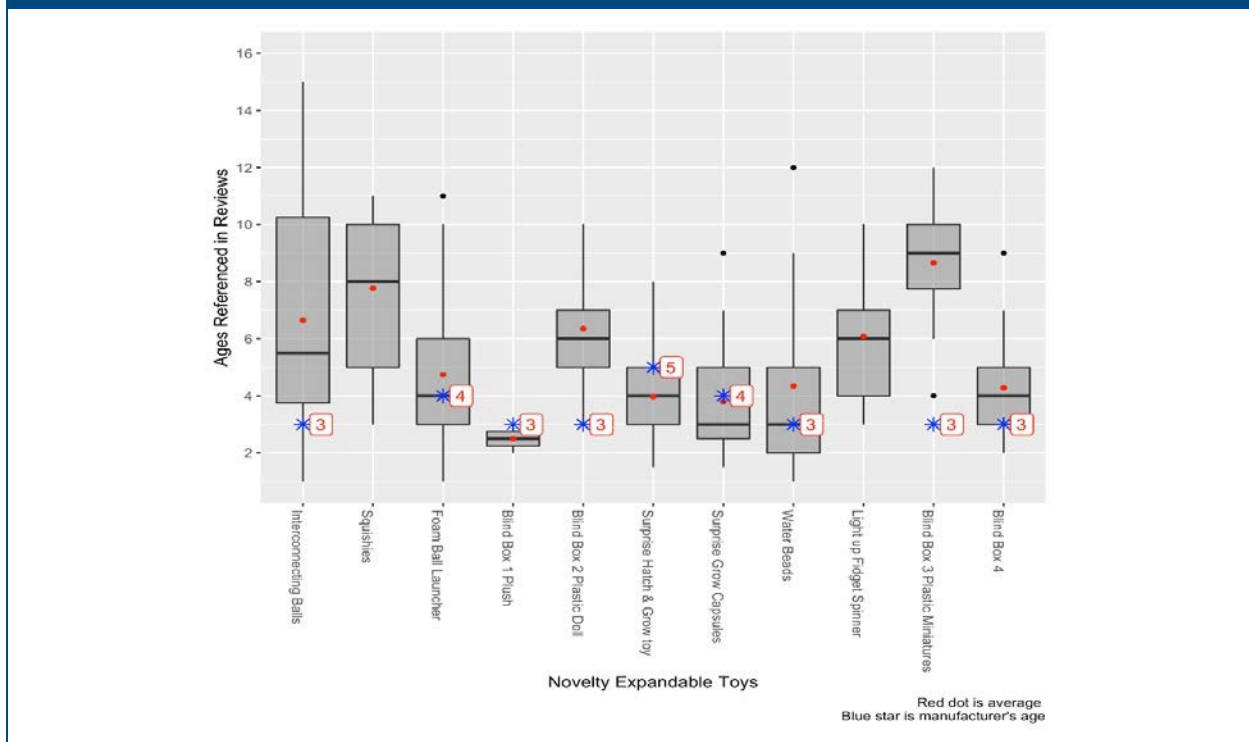


Figure 3-3 is a graphical representation of the distribution of children’s ages referenced for each toy. The gray box and black lines display the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer’s stated age. Note, a manufacturer’s stated age could not be identified for the Squishies and the Light up Fidget Spinner, so the associated box plots do not have blue stars.

Compared to the other selected toys, the Interconnecting Balls have the widest distribution of ages mentioned in reviews,

9-months through 18-years-old, with consumers most frequently mentioning children between the ages of 3-years through 10-years-old. The tightest distribution of ages referenced in reviews is for the Blind Box 1 - Plush Toy (1- through 2-years-old).

Based on reviews, most consumers are purchasing the following novelty toys for children who are at or older than the manufacturer’s stated age:

- Interconnecting Balls
- Water Beads
- Foam Ball Launcher
- Blind Box 3 - Plastic Miniatures
- Blind Box 2 - Plastic Doll
- Blind Box 4

In fact, for Interconnecting Balls, Blind Box 2 - Plastic Doll, and Blind Box 3 - Plastic Miniatures, most consumers are purchasing the toys for children who are 4- to 7-years older than the manufacturer’s stated age. Conversely, most consumers purchasing the Surprise Hatch and Grow, Surprise Grow Capsule, and the Blind Box 1 - Plush Toy are giving them to children who are younger than the manufacturer’s stated age of intent.

See Table 3-13 for the most frequent purchasing age mentioned by consumers for each toy.

Toy	Manufacturer’s stated age*	Most frequent user age referenced in consumer reviews (mode)
Novelty Toy 1 – Interconnecting Balls	3+ years	5-years-old
Novelty Toy 2 – Squishies	Website/images of product packaging not found	5-years-old
Novelty Toy 3 – Foam Ball Launcher	4+ years	4-years-old
Novelty Toy 4 – Blind Box 1-Plush Toy	3+ years	2-years-old
Novelty Toy 5 – Blind Box 2- Plastic Doll	3+ years	6-years-old
Novelty Toy 6 – Surprise Hatch & Grow	5+ years	4-years-old
Novelty Toy 7 – Surprise Grow Capsule	4+ years	3-years-old
Novelty Toy 8 – Water Beads	3+ years	2-years-old
Novelty Toy 9 – Light up Fidget Spinner	Not listed on website or on images of product packaging	4-years-old
Novelty Toy 10 – Blind Box 3-Plastic Miniatures	3+ years	10-years-old
Novelty Toy 11 – Blind Box 4	3+ years	4-years-old

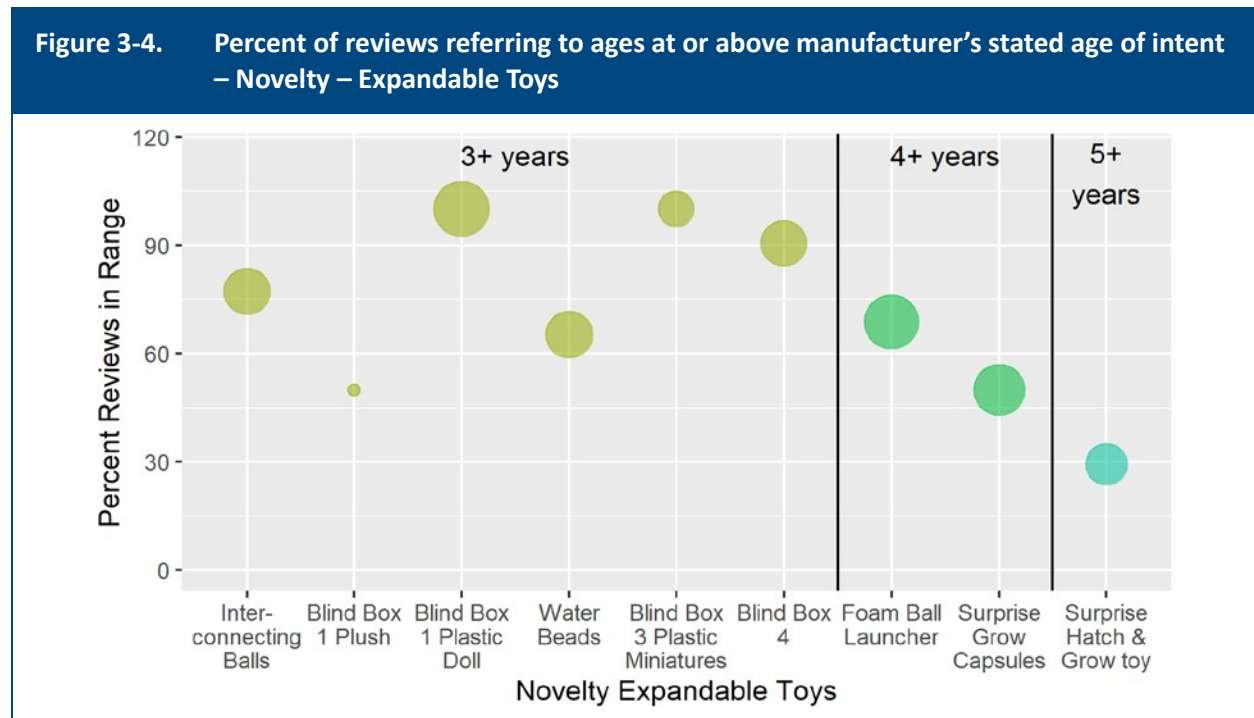
* Obtained from images of product packaging or manufacturer’s website.

Figure 3-4 displays the percentage of reviews for which the age mentioned was equal to or greater than the manufacturer’s stated age of intent for each toy; the size of each “bubble” is proportional to the number of reviews referencing a child’s age, so that toys with larger “bubbles” have more reviews and these percentages can be considered more reliable. A manufacturer’s age of intent was not identified for the Squishies or the Light up Fidget Spinner, so neither are represented in the bubble plot below.

Overall, consumers referencing a child’s age mention an age equal to or greater than the manufacturer’s stated age of intent between 90 percent and 100 percent of the time for the Blind

Box 2 - Plastic Doll, Blind Box 3 - Plastic Miniatures, and Blind Box 4. This plot also demonstrates that none of the reviews for the Blind Box 2 - Plastic Doll and Blind Box 3 - Plastic Miniatures, and 10 percent of the reviews for the Blind Box 4, reference a child younger than the manufacturer's stated age. Conversely, only 29 percent of reviews referencing a child's age for the Surprise Hatch and Grow mention an age that is equal to or older than the manufacturer's stated age of intent.

Note, although 50 percent of the reviews for the Blind Box 1 - Plush Toy refer to a child equal to or greater than the manufacturer's stated age, the size of the bubble is an indication that only two reviews contributed to this statistic and therefore should be interpreted with caution.



Overall, reviews for the selected Novelty Toys were mixed. There are some reviews that do not mention a specific age but instead refer to “children” when discussing the toy. In addition, some express concerns related to the age-appropriateness of some of the toys and potential hazards:

- “This is extremely dangerous for babies and toddlers who like to put everything in their mouth. My 10-month-old kept on putting this in her mouth. Yes it’s cute, yes they laugh a lot but NEVER! NEVER LEAVE THEM ALONE WITH THIS.” (Foam Ball Launcher)
- “My 4-year-old nephew really loved the toy. Unfortunately, for my 2-year-old niece, the balls were possibly a choking hazard, so I couldn’t give her a XXXX.” (Foam Ball Launcher)
- “My 4- and 3-year-old love these squeeze type toys. Not so great with a 1-year-old around but they’re so fun and make a cute little popping noise when the ball pops out. (Makes my 1-year-old giggle and I adore that sound). If you can manage to keep track of all the foam balls, it is fun to play with again and again.” (Foam Ball Launcher)
- “Fun for kids- easy for small hands to squeeze and balls are really soft foam.” (Foam Ball Launcher)

- “Cute toy for (children ages) 3- to 5-years-old.” (Foam Ball Launcher)
- “The balls are exactly the same size as a child’s windpipe.” (Foam Ball Launcher)
- “Nice gift for toddlers they love this kind of toy.” (Blind Box 2- Plastic Doll)
- “There is a boy line (series) so I’m not quite sure why a boy would be included with the regular line. But anyway, I was giving to a small child and this doll showed all body parts. Shock was all I can say.” (Blind Box 2- Plastic Doll)
- “They are very cute, but there are so many tiny pieces. They are on display for my daughter, but just too small to play with right now.” (Blind Box 2- Plastic Doll)
- “The boy has inappropriate private parts. This was a gift for my 7-year-old daughter. She cried when opening it...” (Blind Box 2- Plastic Doll)
- “These expanding sponges worked great and were a lot of fun with the kids. The only issue is that my 18-month-old thought they looked tasty so I had to make sure she didn’t eat any.” (Surprise Grow Capsule)
- “Although a simple toy, they are a hit with my toddler at bath time. He loves to watch the small foam animal pop out of the capsule in the warm bathwater.” (Surprise Grow Capsule)
- “I admit these kind of scare me as a parent because a toddler could potentially swallow one, but as long as they’re supervised they’re great.” (Surprise Grow Capsule)
- “These were fun for my toddler because of the novelty, but the animals were thin, flimsy, and sometimes unrecognizable.” (Surprise Grow Capsule)
- “Thought my preschooler would love these but waiting a day for a sponge blob didn’t do it for him.” (Surprise Grow Capsule)
- “We used these as prizes for activities on our ‘Alice in Wonderland’ day. They were PERFECT prizes for middle school students.” (Surprise Grow Capsule)
- “Not fun for kids. They capsules sat for water in bowls and took FOREVER for the outer covering to dissolve. I teach a Sunday school class. By the end of the class, over an hour later, they still weren’t dissolved. Not for kids with short attention spans.” (Surprise Grow Capsule)
- “These are so much fun for kids of all ages. This is an old toy, but still works to keep kids entertained.” (Surprise Grow Capsule)
- “My toddler loves to mix these around in water and guess what animal she got. Great toy that allows your kid to see a little pill transform into an animal.” (Surprise Grow Capsule)
- “I know a lot of therapists and teachers buy these for children, but I highly suggest you not. My 5.5-year-old shoved one deep into his ear, which resulted in an ER trip and emergency ENT visit. Turns out it’s a common problem.” (Water Beads)

- “They are marketed as fun toys for children. And they are, however, they are also extremely inviting for a child to insert them into their nose. My 4-year-old did that today. Tomorrow he has to be put under full anesthesia for exploratory surgery.” (Water Beads)
- “I bought these water beads for our three boys and two of them have sensory processing disorder. They were a big hit and my husband and I really enjoy them, too!” (Water Beads)
- “So I bought these for my son who has autism. He has sensory disorders and we filled the bathtub with these and let him lay in them.” (Water Beads)
- “I put a bowl out at my son’s birthday party, and the small kids, teens, and adults all played with them.” (Water Beads)
- “The starting bead is teeny tiny so definitely not for younger children. But overall, for the price, I think the older kids I bought these for will have fun with them.” (Water Beads)
- “Made them as directed and put them in his water table. I put a bunch of small toys in with them and let all the kids go find the hidden toys. This lasted less than 10 minutes before the water beads started to fall apart and turn into mush. Because it caused such a mess and some of the smaller kids really hated having the mush stuck to them.” (Water Beads)
- “Not good for under 2. Very tiny.” (Water Beads)
- “The toys inside of these are VERY, VERY SMALL. I think it’s extremely hazardous to advertise this for kids under 5. I caught my 3-year-old putting one in her mouth and it fit entirely inside her cheek.” (Blind Box 4)
- “The fizzy ball was great. But the toy is less than ½ inch. We were shocked as to how little the toy is. \$25 to kill your kids by choking.” (Blind Box 4)

Some reviews describe the appeal of the toy for all ages or reference the therapeutic value, relaxation, the nostalgia, or value as art when discussing the toy. These comments tend to reflect more of a general use sentiment:

- “I remember having a great time playing with these as a kid. The surprises are really neat. Great for all ages in my opinion and always super fun.” (Surprise Grow Capsule)
- “Great for Kids and Adults.” (Squishies)
- “They are easy to squeeze for adults and kids.” (Foam Ball Launcher)
- “My husband and 18-month-old had a ball checking on it every day.” (Surprise Hatch & Grow)
- “I bought these for sensory play and to create stress balls for my gifted students.” (Water Beads)
- “Fun for kids and adults too!” (Water Beads)
- “This is a great desk toy, especially for high school students.” (Interconnecting Balls)

- “Keep your hands nimble (great for arthritis, circulation to hands, coordination, dexterity and creativity), kids love them and adults too.” (Interconnecting Balls)
- “Captivating for adults and children.” (Light up Fidget Spinner)
- “Great hobby for a child or adult.” (Blind Box 3- Plastic Miniatures)
- “Great for all ages. The kids love them and Mom always tried to sneak for herself.” (Blind Box 4)
- “I found this item on an Alzheimer’s website. It was recommended as an activity for people with Alzheimer’s. I gave it to my father-in-law... it seems to calm him down.” (Interconnecting Balls)
- “Not just a child’s toy. Also useful for individuals who need to exercise their hands. A different and interesting way to exercise the joints and tendons in my hands.” (Interconnecting Balls)
- “Everyone that comes to my office plays with this and it’s fun for me to play with while I’m on a conference call as well.” (Interconnecting Balls)
- “I ordered this for a house warming gift for a very artistic couple.” (Interconnecting Balls)

Unboxing videos were also identified and viewed for nine of the selected toys. For most of the toys, the children in the videos appear to be equal to or older than the manufacturer’s stated age for the toy, meaning there are no children who appear to be substantially younger than the stated age.

Table 3-14 summarizes this information.

Table 3-14. Unboxing video age range – Novelty – Expandable Toys			
Toy	Manufacturer’s stated age*	Number of unboxing videos viewed	Age range of children in unboxing videos
Novelty Toy 1 – Interconnecting Balls	3+ years	1	15-years-old
Novelty Toy 2 –Squishies	Website/images of product packaging not found	1	10-years-old
Novelty Toy 3 –Foam Ball Launcher	4+ years	5	3-through 8-years-old (3 show adults)
Novelty Toy 4 – Blind Box 1- Plush Toy	3+ years	12	3-through 11-years-old
Novelty Toy 5 – Blind Box 2- Plastic Doll	3+ years	4	4-years-old (3 show adults)
Novelty Toy 6 – Surprise Hatch & Grow	5+ years	9	4-through 7-years-old
Novelty Toy 7 – Surprise Grow Capsule	4+ years	5	3-through 10-years-old

Table 3-14. Unboxing video age range – Novelty – Expandable Toys (continued)

Toy	Manufacturer's stated age*	Number of unboxing videos viewed	Age range of children in unboxing videos
Novelty Toy 8 – Water Beads	3+ years	4	4-through 9-years-old
Novelty Toy 9 – Light up Fidget Spinner	Not listed on website or on images of product packaging	0	Not found
Novelty Toy 10 – Blind Box 3-Plastic Miniatures	3+ years	11	5- through 11-years-old
Novelty Toy 11 – Blind Box 4	3+ years	0	-

* Obtained from images of product packaging or manufacturer's website.

3.2.4 Social Media Scan

The Meltwater social media scan resulted in 455 mentions for the selected toys in the Novelty category. The Blind Box 1 - Push Toy and the Blind Box 2 - Plastic Doll toys received the most mentions, 210 and 100, respectively. Only mentions of the Interconnecting Balls, Foam Ball Launcher, and Blind Box 1-Plush discuss children using the toy who were at or above the manufacturer's stated age of intent. Overall, there were no references to the age-appropriateness of the toys. However, when discussing the Blind Box 1 - Plush, the Surprise Grow Capsule, and the Water Beads, reviewers discuss potential choking hazards each toy might pose for younger children. See Table 3-15 for a summary of this information.

Table 3-15. Social media scan – Novelty – Expandable Toys

Toy	Manufacturer's stated age*	Number of social media mentions	Comments about age-related mentions
Novelty Toy 1 – Interconnecting Balls	3+ years	23	While there are no mentions related to age-appropriateness, some mentions discuss use of the product by older children and adults. Several mentions of the product across sources highlight its use for desk art, fidgeting, and stress relief. General sentiment is the toy was age-appropriate.
Novelty Toy 2 – Squishies	Website/images of product packaging not found	8	While there are no mentions related to age-appropriateness results, a couple reviews on YouTube are posted by child vloggers** (all older than 3+ years).
Novelty Toy 3 – Foam Ball Launcher	4+ years	14	While there are no mentions related to age-appropriateness in scan results, some mentions discuss use of the product by children within the age range of 4+ years.
Novelty Toy 4 – Blind Box 1-Plush Toy	3+ years	210	While there are no mentions related to age-appropriateness in scan results, Several posts feature children within the age range (3+ years). One blogger, while endorsing the product, noted the choking hazard to smaller children. Some vloggers read the product packaging information, including the choking hazard warning, aloud while reviewing the product.

Table 3-15. Social media scan – Novelty – Expandable Toys (continued)

Toy	Manufacturer’s stated age*	Number of social media mentions	Comments about age-related mentions
Novelty Toy 5 – Blind Box 2- Plastic Doll	3+ years	100	There are no mentions related to age-appropriateness in the scan results.
Novelty Toy 6 – Surprise Hatch& Grow	5+ years	9	There are no mentions related to age-appropriateness in the scan results.
Novelty Toy 7 – Surprise Grow Capsule	4+ years	4	While there are no mentions related to age-appropriateness in the Meltwater scan results, some mentions discussed potential hazards to younger children. One reviewer noted how the color, size, shape, and form of the product resembles medical capsules or pills and indicated that the product is a choking hazard. Several parent/child vloggers warned viewers to use caution around younger siblings and to avoid eating the capsules.
Novelty Toy 8 – Water Beads	3+ years	27	While there were no mentions related to age-appropriateness in the scan results, several parent/child vloggers and reviewers warned about younger children trying to eat the beads.
Novelty Toy 9 – Light up Fidget Spinner	Not Listed on Website or on Images of Product Packaging	1	Mentioned one time in the scan and this mention is in the news.
Novelty Toy 10– Blind Box 3- Plastic Miniatures	3+ years	53	There are no mentions related to age-appropriateness in the scan results
Novelty Toy 11– Blind Box 4	3+ years	6	There are no mentions related to age-appropriateness in the scan results

* Obtained from images of product packaging or manufacturer’s website.

** A vlogger is a video blogger.

3.2.5 Summary of Age-Related Findings – Novelty Toys

The manufacturer’s stated age for the selected toys ranges from 3+ years to 5+ years, and is most often available from the toy’s product packaging. Most of the manufacturer’s websites do not list a manufacturer’s stated age or manufacturer’s product page cannot be found.

While most of the retailers list age recommendations for all of the selected toys in the Novelty Toy category, the ages presented are often inconsistent. That is, the recommended ages listed conflict across the various retailer websites. In addition, two retailer websites provide conflicting information at different locations on the product webpage.

When a manufacturer’s stated age is identified for a toy, at least one retailer selling the toy lists a recommended age that conflicts with the manufacturer’s stated age of intent. In fact, there are only

two cases where all of the retailers selling the toy list a recommended age that is consistent with the manufacturer’s stated age of intent. Finally, there is evidence that some of the retailers are incorrectly entering product information when setting up the product page. That is, retailers list a recommended age in months rather than years.

Images of children playing with the products were identified either on the manufacturer’s website or other retailer websites for four toys. All of the children depicted appear to be between the ages of 5- through 10-years-old, which is older than the stated age of intent for each toy. Overall, images of children playing with the products identified on the manufacturer’s website or other retailer websites appear to be between 1 to 7 years older than the manufacturer’s stated age. This suggests they are being marketed to children older than the stated age of intent. In addition, for several of the toys, manufacturers and online retailers market for general use as well as for children via statements on the product pages.

Reviews of the Novelty Toy category are mixed. While some are positive, others express concerns related to the age-appropriateness of some of the toys and potential hazards to children. In addition, some consumers discuss the appeal of the toy for all ages or reference the therapeutic value, nostalgia, or the value as art and therefore suggest it as more of a general use product.

Based on the ages referenced in the consumer reviews, most of the toys are purchased for users across a wide range of ages, 9-months-old through 18-years-old. Across all of the toys in this category, between 50 percent and 100 percent of consumers writing a review are purchasing for children that are at or slightly older than the manufacturer’s stated age. In fact, for several of the toys, consumers are purchasing the toys for children that are at least 3 to 4 years older than the manufacturer’s stated age. Conversely, for one of the selected toys, most consumers are purchasing the toy for children who are younger than the manufacturer’s stated age of intent.

3.3 Holiday Toys

Holiday Toys are products with seasonal or holiday-themed designs and are intended for use by children for play or for decorative purposes. These themed toys can come in a variety of types including: plush toys, dolls, creative toys, building toys, spinning toys, games, ornaments, etc. Table 3-16 identifies the five selected Holiday Toys. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

Toy	Product description	Dimensions
Holiday Toy 1– Animated Plush Toy	An animated plush toy. It does not appear to be soft and squishable like a typical plush. The torso has a furry exterior with a firm body interior. The legs are a sturdy skeletal-like structure that allows the toy to stand and move. The toy is wearing a baseball hat, a scarf, and plastic sunglasses. The facial features are simplistic and include a sewn-on mouth and nose. The toy is battery powered and capable of movement (dancing to pre-recorded music).	Weight 1 lbs. Other dimensions not available.
Holiday Toy 2– Dreidel	A hard wooden four-sided spinning top with painted Hebrew letters and a teak oil finish.	Length: 2.5 inches; Width: 1.125 inches; Height: 1.1 inches; Weight: 1.6 ounces.

Table 3-16. Selected toys – Holiday Toys (continued)

Toy	Product description	Dimensions
Holiday Toy 3– Egg with Plush Toy	Plastic Easter eggs that have a small plush bunny inside. The bunnies come in a variety of colors and have bows tied around their neck. The facial features of the bunny include small hard plastic eyes and sewn-on mouth and noses.	Egg Length: 3 inches; Egg Width: 2 inches; Bunny Height: 4inches; Weight: 5ounces (for set of 12).
Holiday Toy 4– Resin Ornament with Sound	A Christmas tree ornament shaped like a popular children’s TV character. The ornament is made of resin. The ornament plays four popular phrases from the TV show when the button on the base of the ornament is pushed. The sound feature is battery-operated.	Length: 2.62 inches; Width: 2.62 inches; Height: 3.39 inches; Weight: 2.4 ounces.
Holiday Toy 5– Easter Wind-up Toy	A yellow chick that hops when the toy is wound up and released. The chick has a “fur” or “feather-like” covering over a hard plastic body. The feet, beak, eyes, and wind-up key are made of a hard plastic.	Length: Not Available; Width: 3.2 inches; Height: 2.7 inches; Weight: 3.52 ounces.

3.3.1 Manufacturer’s Stated Age

The manufacturer’s stated age was found only for two toys in the Holiday category: the Animated Plush Toy (3+ years) and the Dreidel (7+ years). The stated age of intent is listed on the product packaging for the Animated Plush Toy (via a hang tag) and is available on the manufacturer’s website for the Dreidel. The Egg with Plush Toy and Easter Wind-up Toy do not list a stated age of intent on the manufacturer’s website, and images of the product packaging could not be found. The Resin Ornament with Sound is no longer sold by the manufacturer, and a stated age of intent could not be found from images of the product packaging. Table 3-17 lists the age of intent for all products and indicates where it was located.

Table 3-17. Manufacturer’s stated age – Holiday Toys

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Holiday Toy 1 – Animated Plush Toy	3+ years	Not listed on website
Holiday Toy 2 – Dreidel	Images of product packaging not found	7+ years
Holiday Toy 3 – Egg with Plush Toy	Images of product packaging not found	Not listed on website
Holiday Toy 4 – Resin Ornament with Sound	Not listed on images*	No longer sold by manufacturer
Holiday Toy 5 – Easter Wind-Up Toy	Images of product packaging not found	Not listed on website

* Images of product packaging were identified on a retailer website. This product is no longer sold by the manufacturer.

3.3.2 How the Toys Are Marketed

Not all retailers list a recommended age for a toy on their product pages, and there are inconsistencies in how the recommended age for the toys is presented to the consumer. While two retailer websites list a recommended age of 24+ months for the Easter Wind-up Toy, one of the retailer websites also includes a small parts warning indicating that the toy is not intended for children under 3-years-old. With respect to the Dreidel, one retailer’s recommended age differs from the manufacturer’s stated age of intent (6+ years, vs. 7+ years.)

The manufacturer and retailer website product pages do not have images of children playing with any of the selected Holiday Toys. However, YouTube videos of the Animated Plush Toy show the toy on display in retail stores with other holiday plush toys or with general holiday décor. Table 3-18 provides a summary of this information.

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Holiday Toy 1 – Animated Plush Toy	3+ years	3+ years	Not listed on website	Not listed on website	Not found
Holiday Toy 2 – Dreidel	7+ years	6+ years	Not sold	Not listed on website	Not found
Holiday Toy 3 – Egg with Plush Toy	Not listed on website/images not found	3+ years	Not sold	3+ years	Not found
Holiday Toy 4 – Resin Ornament with Sound	Not listed on images	Not listed on website	Not listed on website	Not listed on website	Not found
Holiday Toy 5 – Easter Wind-Up Toy	Not listed on website/images not found	24+ months	Not sold	24+months**	Not found

* Obtained from images of product packaging or manufacturer’s website.

**One retailer website lists a recommended age of 24+ months, but also has a small parts warning.

While three toys are primarily marketed for children, manufacturers and online retailers seem to market the Animated Plush Toy and Resin Ornament with Sound for general use as well. Retail stores include the Animated Plush Toy with other holiday plush toys or with general holiday décor. Several of the retailer websites have promotional statements indicating that the Resin Ornament with Sound will:

- “Make XXXX fans young and old smile when you push the button to hear the XXXX Christmas ornament say four different phrases.”
- “.....delight young and old alike by saying four popular phrases when you push the button on this Christmas tree ornament.”

3.3.3 Consumer Perceptions

A total of 380 consumer reviews were examined for the Holiday Toys, including 50 references to the age of the child for whom the toy was purchased or the age of the child who plays with the toy. Table 3-19 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)'s age(s).

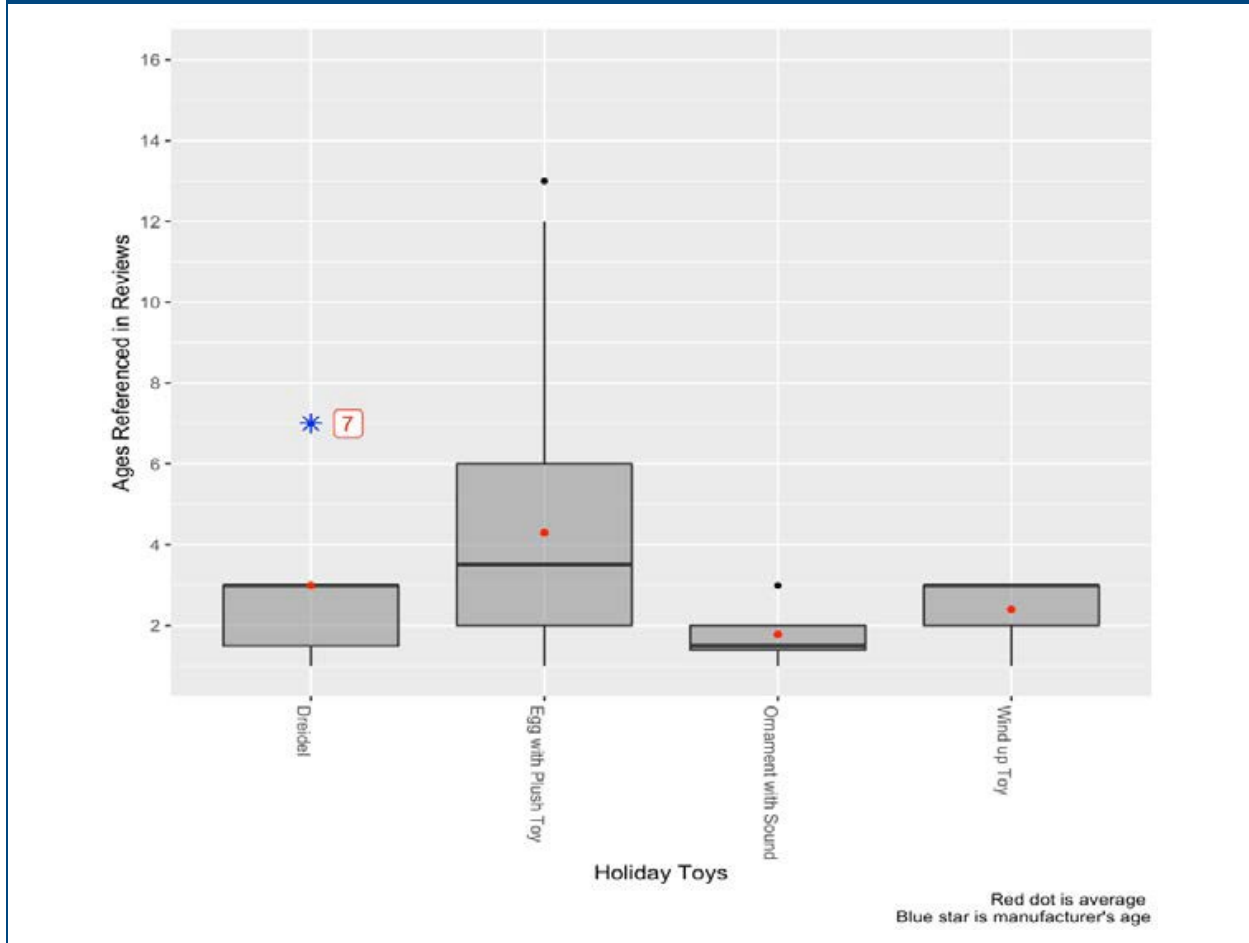
Some reviews did not specifically reference the age of the users, but referenced purchasing the toys for adults or general use. For example, one review of the Animated Plush Toy mentions “Kids and adults laughed out loud” and three other reviews indicate the toy was purchased for an adult. The majority of reviews seemed to identify the Dreidel as a family toy, with consumers indicating it is: “Fun for age 1-20,” “Fun for the whole family,” or “Great for people of all ages.” Two reviews for the Egg with Plush Toy mention using it as a place setting for a holiday meal or for pet therapy when visiting nursing homes, and one reviewer for the Easter Wind-up Toy indicates using it as a token gift for attendees at a baby shower.

Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range referenced in reviews
Holiday Toy 1 – Animated Plush Toy	3+ years	16	0	-
Holiday Toy 2 – Dreidel	7+ years	105	6	1- through 7-years-old
Holiday Toy 3 – Egg with Plush Toy	Not listed on website/images not found	135	33	10- months– through 13 years-old
Holiday Toy 4 – Resin Ornament with Sound	Not listed on images	64	5	1- through 3- years-old
Holiday Toy 5 – Easter Wind-Up Toy	Not listed on website/images not found	60	6	1- through 17-years-old

* Obtained from images of product packaging or manufacturer’s website.

In the Holiday Toy category, the age of the child mentioned in consumer reviews ranges from 10-months-old to 17-years-old. Figure 3-5 is a graphical representation of the age distribution for each toy. As in the other box plots in this report, the box plot in Figure 3-5 displays the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer’s recommended age. The Animated Plush Toy does not appear in the figure because no reviews referencing a child’s age were identified. In addition, a manufacturer’s stated age could not be found for the Egg with Plush Toy, Resin Ornament with Sound, and the Easter Wind-up Toy, so the associated box plots have no blue stars.

Figure 3-5. Age distribution – Holiday Toys most frequent purchasing age mentioned by consumers for each toy



Based on reviews, the widest distribution of referenced ages is for the Egg with Plush Toy, where most of the reviews reference children between the ages of 2-years-old and 6-years-old. Of the four holiday toys with consumer reviews, the Dreidel is the only toy where a manufacturer’s stated age of intent was identified. The majority of consumers who wrote a review and referenced a child’s age purchased the Dreidel for children who are younger than the manufacturer’s stated age. Only 17 percent of the reviews for the Dreidel reference an age that is at or above the manufacturer’s stated age of intent (7+ years). See Table 3-20 for the Relevant unboxing videos were identified for the Animated Plush Toy and the Resin Ornament with Sound. Overall, the videos suggest that the toys are targeted for more general use. In one unboxing video for the Animated Plush Toy, a mother helps her child (about 2-years-old) demonstrate the features of the toy, but does not indicate that the toy was specifically purchased for the child. Five other YouTube videos show adults interacting with the Animated Plush Toy in various retail stores. In at least two of the videos, the adult comments, “At least the *Animated Plush Toy* doesn’t twerk.” This statement might be indicative of the age-appropriateness of the toy. Two videos for the Resin Ornament with Sound show what appears to be an adult’s hand operating the ornament. In one video the ornament is on display in a store and in the other video the ornament is hanging on a Christmas tree. Table 3-21 summarizes this information.

Table 3-20. Most frequent user age referenced in consumer reviews – Holiday Toys

Toy	Manufacturer’s stated age*	Most frequent user age referenced in consumer reviews (mode)
Holiday Toy 1 – Animated Plush Toy	3+ years	-
Holiday Toy 2 – Dreidel	7+ years	3-years-old
Holiday Toy 3 – Egg with Plush Toy	Not listed on website/ images not found	2-years-old
Holiday Toy 4 – Resin Ornament with Sound	Not listed on images	1-years-old
Holiday Toy 5 – Easter Wind-up Toy	Not listed on website/ images not found	3-years-old

* Obtained from images of product packaging or manufacturer’s website.

Table 3-21. Unboxing video age range – Holiday Toys

Toy	Manufacturer’s stated age*	Number of unboxing videos viewed**	Age range of children in unboxing videos
Holiday Toy 1 – Animated Plush Toy	3+ years	1**	2-years-old (mother assisting)
Holiday Toy 2 – Dreidel	7+ years	0	No relevant unboxing videos found
Holiday Toy 3 – Egg with Plush Toy	Not listed on website/images not found	0	No relevant unboxing videos found
Holiday Toy 4 – Resin Ornament with Sound	Not listed on images	2	No relevant unboxing videos found
Holiday Toy 5 – Easter Wind-Up Toy	Not listed on website/images not found	0	No relevant unboxing videos found

* Obtained from images of product packaging or manufacturer’s website.

**Additional videos (5) were reviewed, but only adults were present.

3.3.4 Social Media Scan

The Meltwater social media scan resulted in 132 mentions for the selected toys in the Holiday Toy category. All except one mention are related to the Resin Ornament with Sound. Most mentions are news-related stories, and none of the 131 mentions discuss the age-appropriateness of the ornament. There is one mention for the Easter Wind-up toy that recommends the product for children, but does not specify an age.

3.3.5 Summary of Age-Related Findings – Holiday Toys

In general, age-related information for the selected toys in the Holiday Toy category is not readily available. The manufacturer’s stated age of intent was found only for two toys.

Retailer’s recommended ages are also not readily available for most toys. When they are available, they are inconsistently presented to the consumer, and at times conflict with the manufacturer’s stated age. Examples of inconsistent information include:

- A retailer for one toy lists a recommended age of 24+ months, but also includes a small parts warning indicating that the toy is not intended for children under 3-years-old.

- The retailer’s recommended age listed for another toy is one year younger than the manufacturer’s stated age (6+ years vs. 7+ years).

In the Holiday Toy category, the age of the child mentioned in consumer reviews ranges from 10-months-old to 17-years-old. For each of the toys, some consumers referenced purchasing the toys for adults or general use. Unboxing videos provide further evidence that some of these toys are purchased by consumers for general use.

3.4 Party Favors

Party Favors are small inexpensive toys given to a child at a party to thank them for their attendance or as a memento. These toys can reflect the party theme and come in a variety of types: plush toys, dolls, creative toys, building toys, spinning toys, games, etc. The toys selected for review in this category are described in Table 3-22. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

Toy	Product description	Dimensions
Party Favor 1 – Plastic Car	A plastic toy car with rubber wheels and an internal spring that allows the car to move. Pulling the car backward winds up the internal spring. When released, the car is propelled forward by the spring.	Length: Not Available; Width: 1.17 inches; Height: 0.8 inches; Weight: 0.1 lbs.
Party Favor 2 – 2” Bouncy Ball	A rubber bouncing ball with images of popular children’s movie characters embedded in the ball.	Length: Not Available; Width: Not Available; Height: 2.1 inches; Weight: 8 ounces.
Party Favor 3 – Slime Dinosaur Egg	A plastic egg that contains “slime” or moldable putty. Inside the slime is a small plastic dinosaur figurine.	Weight: 3.17 ounces. Other dimensions not available.
Party Favor 4 – Wall Climber	A semi-sticky, stretchy, and flexible material (typically a type of polymer called an elastomer) that sticks to the wall and slowly flips over itself to “climb” down the wall.	Length: Not Available; Width: Not Available; Height: 2.75 inches; Weight: 2.08 ounces.
Party Favor 5 – Stress Reliever Ball	Sports-themed squeeze balls shaped like a soccer ball, basketball, baseball, and football. They are made of compressible foam and marketed as stress-relief products the user can squeeze and compress. When released, the product slowly returns to its original shape.	Diameter: 2.5 inches. Other dimensions not available.

3.4.1 Manufacturer’s Stated Age

The manufacturer’s stated age was found only for three toys in the Party Favors category: the 2” Bouncy Ball (3+ years), Plastic Car (4+ years), and Wall Climber (5+ years). No manufacturer’s stated age was found for the Stress Reliever Ball or Slime Dinosaur Egg.

The stated age of intent is listed on the product packaging for the Plastic Car and the 2” Bouncy Ball, and is available on the manufacturer’s website for the Wall Climber. For the remaining toys:

- A manufacturer’s stated age was not found on product packaging or on the manufacturer’s website (Stress Reliever Ball).
- Images of product packaging and a manufacturer’s website were not found (Slime Dinosaur Egg).

Table 3-23 lists the age of intent for all products and indicates where it was located.

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Party Favor 1 – Plastic Car	4+ years	Website not found
Party Favor 2 – 2” Bouncy Ball	3+ years*	Website does not have a product page for this toy
Party Favor 3 – Slime Dinosaur Egg	Images of product packaging not found	Manufacturer was not identified for this toy
Party Favor 4 – Wall Climber	Not listed on images**	5+ years
Party Favor 5 – Stress Reliever Ball	Not listed on images	Not listed on website

* One consumer review references the intended age on packaging, but our analysis could not identify it from images of packaging online.

**Product packaging does not list a manufacturer’s stated age, but has a small parts warning.

3.4.2 How the Toys Are Marketed

Overall, there are inconsistencies in how the recommended age for the toys is presented to the consumer. Not all retailers list a recommended age for a toy on the product page. The Wall Climber is the one toy where all three retailers list a recommended age. However, two of the three retailer websites provide conflicting information for the toy. The retailers list the recommended age for the Wall Climber as 5+ years in one location, while another location on the same product page lists 3+ years. Similarly, the only retailer that lists a recommended age for the 2” Bouncy Ball provides an age range of 0- through 15-years, but also includes a small parts warning indicating that the toy is not intended for children under 3-years-old.

The manufacturer and retailer product pages do not have images of children playing with the toys. However, some retailers include promotional statements on the product page that market to children or conversely are marketed to a more general use grouping. For example, a retailer product page for the 2” Bouncy Ball includes promotional statements indicating that is a “classic kids’ party supply that make[s] fun and easy additions to treat bags.” By contrast, promotional

statements on a retailer site for the Stress Reliever Ball suggest a broader appeal, saying the toy “will appeal to any child and adult alike while improving grip strength, dexterity, mobility, as well as fine and gross motor skills.” Other age-related marketing statements for the Stress Reliever Ball include, “These stress balls have been handpicked to help kids with autism or ADHD focus and manage daily stress.” Table 3-24 provides a summary of this information.

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Party Favor 1 – Plastic Car	4+ years	Not sold	Not sold	4+ years	No images found on manufacturer or retailer websites
Party Favor 2 – 2” Bouncy Ball	3+ years	0-through 15- years-old	Not listed on website	Not listed on website	No images found on retailer websites
Party Favor 3 – Slime Dinosaur Egg	Not found	Not sold	Not sold	Not listed on website	No images found on retailer websites
Party Favor 4 – Wall Climber	5+ years	3+ years/ 5+ years**	5+ years	3+ years/ 5+ years**	No images found on manufacturer or retailer websites
Party Favor 5 – Stress Reliever Ball	Not listed on website or product packaging	3+ years	Not listed on website	3+ years	No images found on manufacturer or retailer websites

* Obtained from images of product packaging or manufacturer’s website.

**Retailer website presents conflicting information: one location references 5+ years, but in a different location references 3+ years as recommended age.

Both the Plastic Car and the Wall Climber have a small parts warning on their product packaging: “WARNING. CHOKING HAZARD. SMALL PARTS. Not for children under 3 years.” Some of the retailer websites list similar warnings for the Plastic Car, 2” Bouncy Ball, and the Slime Dinosaur Egg.

However, these warnings are not worded uniformly or consistently provided across all of the retailer websites for each toy. On a product page for the 2” Bouncy Ball, one retailer includes three different warnings:

- “WARNING. CHOKING HAZARD. SMALL PARTS. Not for children under 3 years.”
- “WARNING. CHOKING HAZARD. Toy contains a small ball. Not for children under 3 years.”
- “WARNING. CHOKING HAZARD. Toy is a small ball. Not for children under 3 years.”

Compared to the other toy categories, manufacturers and online retailers seem to market most of the selected toys in this category for children. Only retailers for the Stress Reliever Ball include

statements related to “improving grip strength, dexterity, mobility as well as fine and gross motor skills” and “manage daily stress,” which can apply to adults as well as children.

3.4.3 Consumer Perceptions

A total of 152 consumer reviews were examined for the Party Favors, of which a child’s age or the age of the child for whom the toy was purchased is referred to 14 times. Note: no unboxing videos were found for any of the toys in this category. Table 3-25 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)’s age(s).

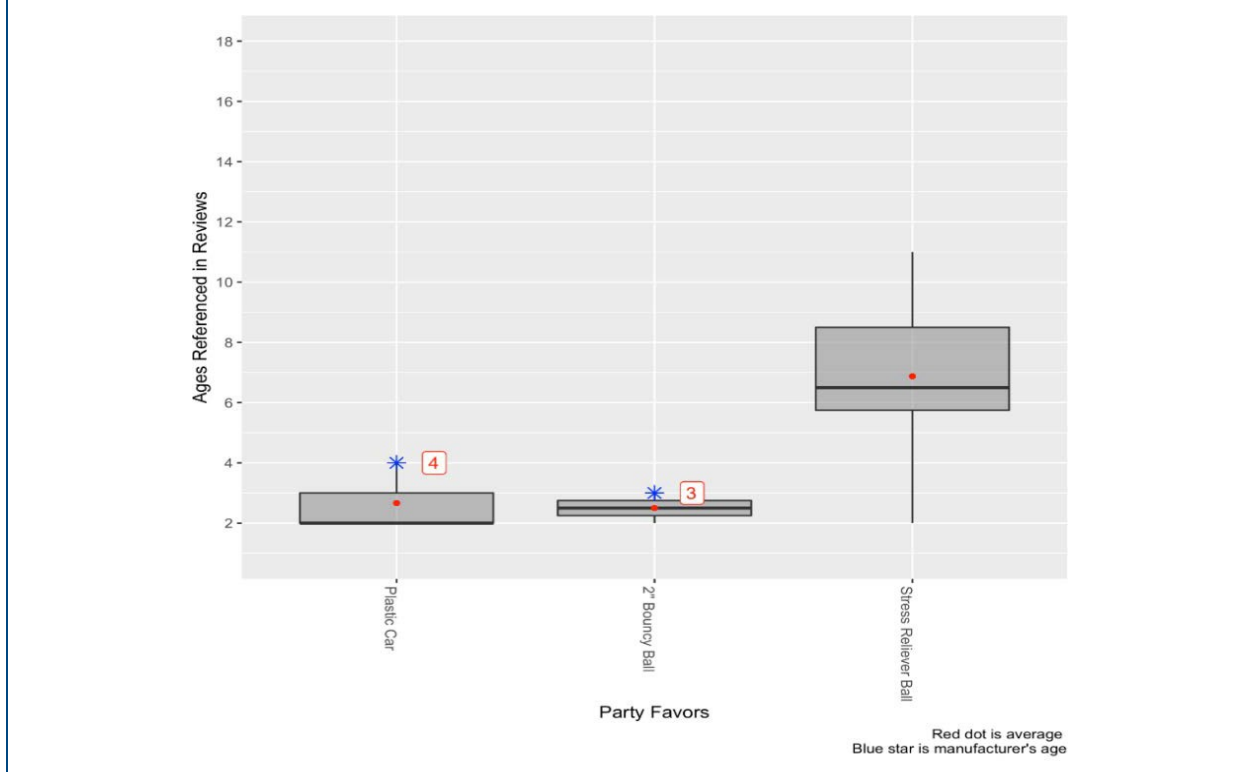
Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range referenced in reviews
Party Favor 1 – Plastic Car	4+ years	9	3	2- through 4-years-old
Party Favor 2 – 2” Bouncy Ball	3+ years	9	3	11 months- through 2-years-old
Party Favor 3 – Slime Dinosaur Egg	Not found	None found	-	-
Party Favor 4 – Wall Climber	5+ years	17	0	-
Party Favor 5 – Stress Reliever Ball	Not listed on website or product packaging	117	8	2- through 11-years-old

* Obtained from images of product packaging or manufacturer’s website.

In the Party Favor Toy category, the age of the child mentioned in consumer reviews ranged from 11- months-old to 11-years-old. Figure 3-6 is a graphical distribution of the ages mentioned by consumers for each toy. The box plot displays the range of ages mentioned for each toy, with a red dot indicating the average age mentioned and a blue star marking the manufacturer’s recommended age. No consumer reviews for the Slime Dinosaur Egg and Wall Climber specifically referred to a child’s age, so they are not included in the graph. In addition, a manufacturer’s stated age was not found for the Stress Reliever Ball, so the associated box plot has no blue star.

Based on reviews, the widest distribution of referenced ages is for the Stress Reliever Ball. While a majority of the balls are purchased for children between 6 - through 8-years-old, consumers most frequently mention 6-year-olds in reviews of the Stress Reliever Ball. A majority of consumers who report child(ren)’s age(s) in online reviews are purchasing the Plastic Cars and the 2” Bouncy Balls for children who are younger than the manufacturer’s stated age. On the plot, the entire box is below the blue star for these toys.

Figure 3-6. Age distribution – Party Favors



However, since the number of reviews mentioning a child’s age for both of these toys is below 5, any interpretation should be made with caution.

While many of the reviews do not refer to a specific age, they do refer to “children” when discussing the toy and providing feedback:

- “My only problem with this is that when I looked up TODDLER pull back cars, this came up with only one other, which was over \$20. Not having lots of Christmas money, I thought of course I’ll get this one with good reviews. Didn’t know it was for ages 4 and up.” (Plastic Car)
- “All the kiddos loved them, even the dog, plus lots of the adults were playing with them as well!” (Plastic Car)
- “They are good quality and big enough that you would not have to worry about a young child being able to put them in their mouth.” (2” Bouncy Ball)
- “In the product description it says recommended for 12-months and up but the package they come in clearly says for children 3-years and up because they can be a choking hazard for smaller children. The balls themselves seem to be of good quality and would be fun for older children but having a faulty product description is dangerous and should not be tolerated by XXXX.” (2” Bouncy Ball)
- “Bought these bouncy balls for my baby’s birthday party treat bags and thought they were a little pricey and expected better quality.” (2” Bouncy Ball)

- “I use the Wall Climbers in my goody box when I substitute teach children, kindergarten through 5th grade.” (Wall Climber)
- “The little boys loved them and threw them on my doors just to see the sticky men climb down.” (Wall Climber)
- “Big enough to not be concerned for younger children (3 and up) to put them in their mouth.” (Stress Reliever Ball)
- “I bought these stress balls for my student prize box at school. They were great!” (Stress Reliever Ball)
- “Great for toddler hands.” (Stress Reliever Ball)
- “My son gave these out with his sports themed Valentines in school.” (Stress Reliever Ball)
- “Cute sports balls for small kids.” (Stress Reliever Ball)
- “Perfect size for a kid’s hand.” (Stress Reliever Ball)
- “Perfect for students who need a fidget to help them stay focused...and it is quiet.” (Stress Reliever Ball)
- “As a school counselor, these stress balls are perfect for my anxious and antsy students.” (Stress Reliever Ball)

When reviewing the Stress Reliever Balls, reviews from 40 consumers specifically indicate the product was purchased for adult use. Examples include:

- Medical uses, including for stress relief, an exercise method for stroke victims, and for providing stimulation activity for restless hands common with Alzheimer’s and dementia patients, etc.;
- Stocking stuffers or gifts for adult family members; and
- Office gifts or for meetings.

An additional 17 reviews suggest Stress Reliever Balls are intended for all ages, citing similar uses as discussed above.

Based on the age ranges referenced in the consumer reviews, with the exception of Stress Reliever Balls, shoppers tend to purchase most of the selected toys for children. The two toys where a manufacturer’s stated age was found only had three reviews each. Such small sample sizes mean it is not useful to discuss the age most frequently referenced or the percentage of purchases made for children who are the manufacturer’s stated age or older for the toys in this category.

3.4.4 Social Media Scan

The Meltwater social media scan resulted in 34 mentions for the selected toys in the Party Favors category. The Plastic Car and 2” Bouncy Ball each have one mention on social media which refer to the age-appropriateness of the toy for toddlers. Similarly, mentions for the Stress Reliever Ball (32 in all) refer to children ages 3+ years. See Table 3-26 for a summary of this information.

Toy	Manufacturer’s stated age*	Number of social media mentions**	Comments about age-related mentions
Party Favor 1 – Plastic Car	4+ years	1	An author discusses “Christmas Toys for Toddlers” on a blog.
Party Favor 2 – 2” Bouncy Ball	3+ years	1	Manual scan results include one mention on Twitter, and this post shows a toddler playing with the ball.
Party Favor 3 – Slime Dinosaur Egg	Not found	0	-
Party Favor 4 – Wall Climber	5+ years	0	-
Party Favor 5 – Stress Reliever Ball	Not listed on website or product packaging	32	Two mentions of the product were in blogs promoting the product for children ages 3+ years. Manual scan results included approximately 30 relevant mentions. Most mentions were promotional posts shared on Facebook and Twitter by retailer affiliates. There was no discussion of age.

* Obtained from images of product packaging or manufacturer’s website.

** Includes a manual scan in additional to the Meltwater scan.

3.4.5 Summary of Age-Related Findings – Party Favors

Manufacturer’s recommended age-related information is limited for the selected toys in this category. The manufacturer’s stated age for three of the toys in the category is listed on the product packaging or available on the manufacturer’s website. For one of the toys a stated age of intent is not listed on either the manufacturer’s website or the product packaging, and a manufacturer’s website and images of product packaging were not found for the fifth toy.

Overall, there are inconsistencies in how the recommended age for the toys is presented to the consumer. Not all retailers list a recommended age for a toy on its product page. A recommended age is listed on all the retailer websites reviewed for only one toy. However, two of three retailers provide conflicting information. Finally, two retailers of a different toy do not list a recommended age, but include a small parts warning on the toy’s product page.

Overall, the selected toys seem to be primarily marketed to children with the exception of the Stress Reliever Ball. Several manufacturers and retailers include promotional statements on their product pages for four of the toys, indicating the toy is marketed to children. However, marketing statements for the Stress Reliever Ball appeal to both children and adults.

Given the limited number of reviews including a child’s age in the discussion, we cannot confidently draw conclusions about the percentage of purchases made for children who are at least the manufacturer’s stated age or older for the toys in this category. However, when a child’s age was referenced in a review, consumers who wrote a review purchased the toy for children between the ages of 11-months through 11-years-old. In addition, more than half of the available reviews for the Stress Reliever Balls indicate that it is typically purchased for adults or is viewed as an all-ages product.

The available reviews were relatively positive for the selected Party Favors. Some consumers express concerns related to the overall safety of one of the toys given the quality of the product and the inaccurate product description on a retailer product page.

3.5 Miniature Toys

Miniature toys are small-scale versions of standard toys. This category of toy includes representatives from other toy categories such as dolls, vehicles, puzzles, games, and arts and crafts, as well as others. They function as the larger version of the toys do but on a smaller scale. Often toys in this category are developed as novelty items or collectibles. Five toys were selected in the Miniature Toys category; a brief description of each toy is provided in Table 3-27. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

Toy	Product description	Dimensions
Miniature Toy 1 – Miniature Bubbles	A bubble solution contained in plastic bottles. The bottles come with a wand attached to the cap, and the bubble solution can be accessed by twisting off the cap. The twist-off tops feature a variety of designs, including sports balls, smiley faces, animal characters, cars, and colorful fish. This toy is also marketed as a party favor.	Height: 3 inches. Other dimensions not available.
Miniature Toy 2 – Miniature Erasers	Erasers that can be taken apart like a puzzle. The eraser material is PVC-free and environmentally friendly.	Length: Not Available; Width: 1 inch; Height: 1 inch; Weight: 3.98 ounces (likely for the set of 20 erasers).
Miniature Toy 3 – Water Wind-up Toy	A plastic bathtub or pool toy that “swims” by kicking its legs when the plastic wind-up knob is turned and released. The toy is made of hard plastic and has four main colors.	Length: 7.5 inches; Width: 2 inches; Height: 2.8 inches; Weight: 4.8 inches.
Miniature Toy 4 – Magnetic Game Set	Magnetic Game Set includes 12 magnetic board games intended for play during travel. Each game comes individually packaged. The board game pieces are made of plastic and have tiny magnets that allow them to adhere to the game board.	Length: 5 inches; Width: 5 inches; Height: Not Available; Weight: 1.75 lbs.
Miniature Toy 5 – Travel Art Kit	Art kit designed for use while traveling. The kit includes a tin with mini crayons, a set of mini watercolors with a brush, and a mini spiral sketchbook. The crayons and watercolors are housed in separate plastic cases that fit inside the tin.	Length: 4.25 inches; Width: Not Available; Height: 3.125 inches; Weight: 8.5 ounces.

3.5.1 Manufacturer’s Stated Age

The manufacturer’s stated ages for four of the toys in the Miniature Toy category are: 2+ years (Water Wind-up Toy), 5+ years (Miniature Bubbles and Travel Art Kit) and 6+ years (Magnetic Game Set). No manufacturer’s stated age of intent was found for the Miniature Erasers.

The manufacturer’s stated age of intent is listed on the product packaging for three toys: Magnetic Game Set, Water Wind-up Toy, and the Miniature Bubbles. For the Magnetic Game Set, a manufacturer’s stated age is displayed on the outer box, which holds all 12 games, and on the packaging for each of the individual games. An age of intent could not be found on images of product packaging for the Travel Art Kit or the Miniature Erasers; however, most of the writing on the Miniature Erasers package is in Japanese.

The manufacturer’s website for the Travel Art Kit lists a stated age of intent. For the remaining four toys:

- The stated age is not listed on the manufacturer’s website (Miniature Bubbles);
- Individual product pages are not available on the manufacturer’s websites (Miniature Erasers and the Water Wind-up Toy); or
- A manufacturer’s website was not found (Magnetic Game Set).

Table 3-28 lists the age of intent for all products and indicates where it is located.

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Miniature Toy 1 – Miniature Bubbles	5+ years	Not listed on website
Miniature Toy 2 – Miniature Erasers	Not listed on images*	Website does not have product page for this toy
Miniature Toy 3 – Water Wind-up Toy	2+ years	Website does not have product page for this toy
Miniature Toy 4 – Magnetic Game Set	6+ years**	Website not found
Miniature Toy 5 – Travel Art Kit	Not listed on images	5+ years

* Majority of product packaging was not in English. However, packaging appears to list a warning.

** Manufacturer’s stated age is listed on outer box and individual packaging for each game.

The product packaging for each of the Miniature Erasers and Magnetic Game Set has a small parts warning: “CHOKING HAZARD—Small parts. Not for children under 3 years” or “CHOKING HAZARD—Small parts. Not suitable for children under 3 years.” Similar warnings are not listed on images of product packaging for the other toys or on the manufacturer’s product pages for the Miniature Bubbles or Travel Art Kit.

3.5.2 How the Toys Are Marketed

There is limited information on the retailer’s recommended ages for the selected toys in this category, as well as inconsistencies in how the retailer’s recommended age is presented to consumers. Not all retailers list a recommended age for a toy on the product page. Only two of the retailers list a recommended age that is consistent with the manufacturer’s stated age: one retailer for the Miniature Bubbles and one retailer for the Travel Art Kit. For the remaining three toys, retailers either do not list a recommended age (Miniature Erasers and Water Wind-up Toy) or the retailer’s recommended age differs from the manufacturer’s stated age (Magnetic Game Set: 5+ years [retailer] vs. 6+ years [manufacturer]).

For two of the selected toys (Miniature Bubbles and Water Wind-up Toy), the manufacturer’s or retailer’s website shows images of children playing with the toy. Although the manufacturer’s stated age for Miniature Bubbles is 5+ years, images of children whose estimated ages range from 2-years-old through 16- to 18-years-old appear on the manufacturer’s website. A retailer’s product page for the Water Wind-up Toy shows children who appear to range from 18-months-old through 8-years-old. In both cases, the images of children playing with the toys include children who are younger than the manufacturer’s stated ages. For the Travel Art Kit, neither the manufacturer nor retailer website product pages show images of children playing with the toy. The reviewed retailer websites that sell the Miniature Erasers and the Magnetic Game Set also do not show images of children playing with the toys. Table 3-29 provides a summary of the recommended ages listed on retailer websites and the age ranges of children who appear in marketing images.

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Miniature Toy 1 – Miniature Bubbles	5+ years	5+ years	Not sold	Not sold	2- through 18- years-old
Miniature Toy 2 – Miniature Erasers	Not found/ not listed on product packaging	Not listed on website	Not listed on website	Not listed on website	No Images Found on Retailer Websites**
Miniature Toy 3 – Water Wind-up Toy	2+ years	Not listed on website	Not sold	Not listed on website	19-months through 8-years-old
Miniature Toy 4 – Magnetic Game Set	6+ years	5+ years	Not sold	5+ years	No Images Found on Retailer Websites**
Miniature Toy 5 – Travel Art Kit	5+ years	Not listed on website	Not sold	5+ years	No Images Found on Manufacturer or Retailer Websites

* Obtained from images of product packaging or manufacturer’s website.

**A manufacturer’s website was not found (Magnetic Game Set) or there is not a dedicated product page for the toy on the manufacturer’s website (Miniature Erasers).

Most of the manufacturer's and retailer's product pages have promotional statements indicating that the toy is intended for children. These include:

- "Just twist off, blow, and watch a stream of bubbles fill the air to the delight of the kiddies." (Miniature Bubbles)
- "Great variety in every set. We've ensured there is a little something in every kit to excite both boys and girls. The cute twist-off tops feature everything from sports balls, cute smiley faces, fun animal characters, cool cars, to colorful fishes to suit any kid's taste." (Miniature Bubbles)
- "The bubble wands are easy to use by kids as young as 5." (Miniature Bubbles)
- "Whatever the theme of your little one's bash, this bubble wand party pack will fit right in. The mini bubble blowing wands make great party favors for girls and boys, and there are enough in every pack to go around to ensure no one is left out of the fun." (Miniature Bubbles)
- "Great and fun collectible gifts, party supplies, school prizes or Halloween treats!" (Miniature Erasers)
- "Toddler and baby safe. Perfect size for your kids to play." (Water Wind-up Toy)
- "...fun magnetic board games enjoyable for kids and adults to play with." (Magnetic Game Set)
- "The tiny crayons are perfect for tiny hands to create a mini masterpiece." (Travel Art Kit)
- "Mini size makes this perfect for stocking stuffers, party favors, travel, and restaurants-anywhere kids need to stay busy!" (Travel Art Kit)

However, one retailer markets the Magnetic Game Set for general use as well. Promotional statements on this retailer's product page suggest this product is an "all ages" toy: "... fun magnetic board games enjoyable for kids and adults to play with."

A small parts warning is listed on retailer websites for the Water Wind-up Toy and the Travel Art Kit. Similar to the recommended age, this information is inconsistent, and at times conflicts with the manufacturer's stated age and/or promotional statements. For example, the Water Wind-up Toy has a manufacturer's stated age of 2+ years, but one of the retailers lists a "small parts warning" on the product page indicating the toy is not intended for children younger than 3-years-old. A second retailer for this product does not include a small parts warning. In addition, two of the three retailers selling the Travel Art Kit list only a small parts warning without a recommended age, while a third retailer lists only a recommended age. At the time of our initial review, there was not a small parts warning listed for the Magnetic Game Set on any of the retailer websites; however, when developing this final report, we noted that a small parts warning had been added to one of the retailer product pages for this toy.

3.5.3 Consumer Perceptions

A total of 241 consumer reviews were examined for the Miniature Toys, in which the age(s) of the child(ren) for whom the toy was purchased were mentioned 22 times. Table 3-30 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)'s age(s).

Toy	Manufacturer's stated age*	Total reviews available	Number of times a child's age is mentioned	Age range referenced in reviews
Miniature Toy 1 – Miniature Bubbles	5+ years	14	0**	-
Miniature Toy 2 – Miniature Erasers	Not found	144	17	2- through 18-years-old
Miniature Toy 3 – Water Wind-up Toy	2+ years	32	5	2- through 4-years-old
Miniature Toy 4 – Magnetic Game Set	6+ years	36	0***	9- through 11-years-old
Miniature Toy 5 – Travel Art Kit	5+ years	15	1	7-years-old

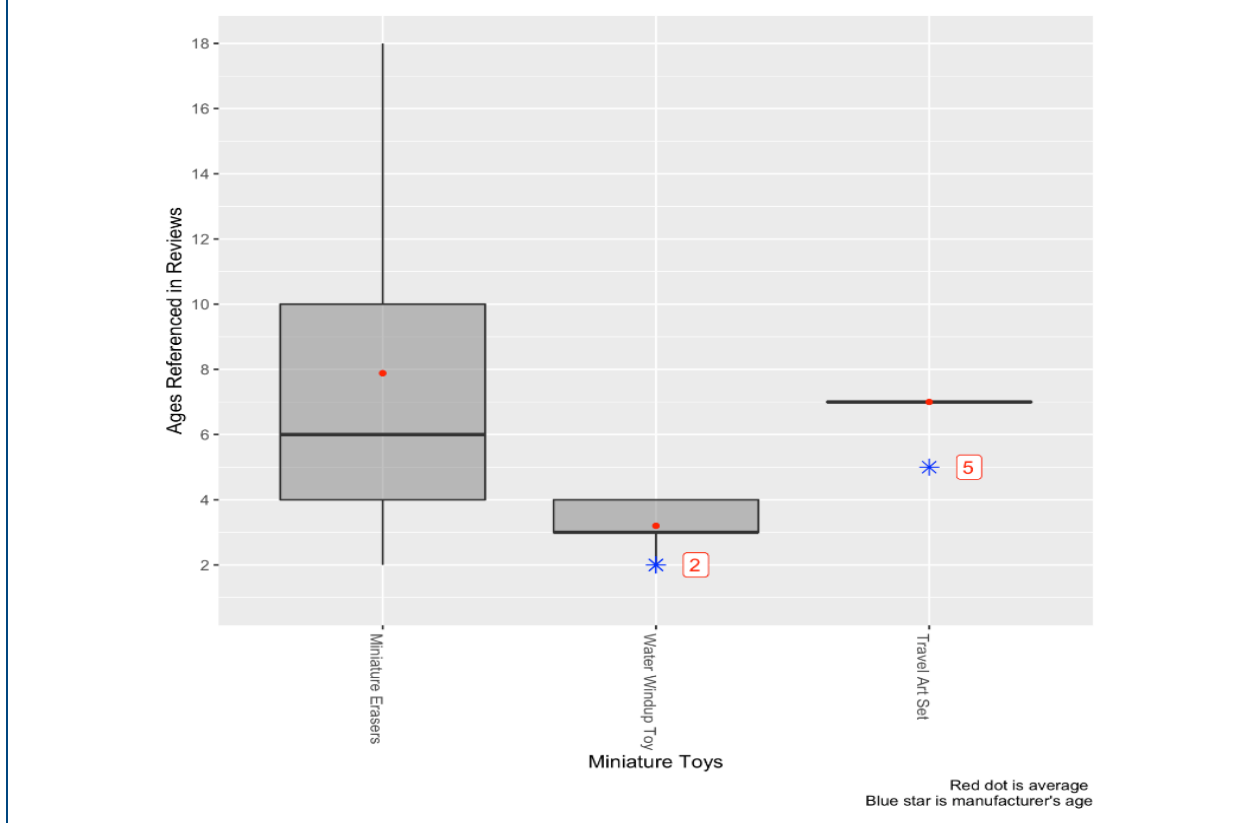
* Obtained from images of product packaging or manufacturer's website.

**One reviewer mentioned the toy was purchased for a party and that the size of the product was "easy to hold from the youngest (3-years-old) to the oldest (95-years-old)."

***A reviewer indicated that the children were in third and fourth grade; no specific age was mentioned.

The age of the child mentioned in consumer reviews ranges from younger than 2-years-old through 18-years-old. Figure 3-7 is a graphical distribution of the ages mentioned by consumers for each toy. The box plot displays the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer's stated age. No consumer reviews for the Miniature Bubbles and Magnetic Game Set mentioned a specific age, only age ranges, so these toys are not included in the graph. In addition, a manufacturer's stated age was not found for the Miniature Erasers, so the associated box plot has no blue star.

Figure 3-7. Age distribution – Miniature Toys



Based on reviews, the widest distribution of referenced ages is for the Miniature Erasers. A majority of the erasers are purchased for children between 4- through 10- years-old, with consumers most frequently mentioning 5-year-olds.

Similarly, a majority of consumer reviews of the Water Wind-up Toy reference children between the ages of 3- through 4-years-old, with 3-year-olds being most frequently mentioned (see Table 3-31). Only one consumer review for the Travel Art Set references age, so the most frequent age is not a useful metric for this toy.

Table 3-31. Most frequent user age referenced in consumer reviews – Miniature Toys

Toy	Manufacturer's stated age*	Most frequent user age referenced in consumer reviews (mode)
Miniature Toy 1 – Miniature Bubbles	5+ years	-
Miniature Toy 2 – Miniature Erasers	Not found	5-years-old
Miniature Toy 3 – Water Wind-up Toy	2+ years	3-years-old and 4-years-old
Miniature Toy 4 – Magnetic Game Set	6+ years	-
Miniature Toy 5 – Travel Art Kit	5+ years	**

* Obtained from images of product packaging or manufacturer's website.

** Only one review mentioned a child's age.

The sample sizes for each of the toys with an identified manufacturer's stated age of intent were either zero or too small to meaningfully discuss the proportion of reviews mentioning an age greater than or equal to the stated age.

There are many reviews that do not mention a specific age but instead refer to "children" when discussing the toy. While there are some concerns related to the safety of some of the toys for younger children, the overall sentiments are positive:

- "We gave these out as prizes at a children's event, and they loved them ... Cute tops drew the kids in." (Miniature Bubbles)
- "Great product. I used it for my son's field day at school. They were the perfect size and the little things on top were cute." (Miniature Bubbles)
- "Used for birthday for young children to play with at the party. Hard even for adults to open the bottles. I would rather buy bigger bottles that are easy to open and last longer." (Miniature Bubbles)
- "Even though her older siblings were vigilant at putting the pieces back together, over time it became clear that these were headed for the trash. Horrible. Also a major choking hazard for kids under age 3." (Miniature Erasers)
- "They do come apart and are not recommended for little kids who may put them in their mouths." (Miniature Erasers)
- "This might be some concern for a choking hazard with smaller children and very easy to lose those small pieces." (Miniature Erasers)
- My toddler LOVES this toy. Sleeps with it at night." (Water Wind-up Toy)
- "Good size for kids and works well." (Water Wind-up Toy)
- "I think it would be liked best by kids over the age of 4." (Water Wind-up Toy)
- "My daughter loves mini things and I love that it doesn't take up room in my bag! Perfect for travel or sitting at a restaurant. We love this kit!" (Travel Art Kit)
- "Great durability of the tin yet easy to open for small fingers." (Travel Art Kit)
- "The fact that it keeps the kids occupied in a CREATIVE way is something I am beyond thankful for. They love it, and I love that they're not drooling over a screen." (Travel Art Kit)
- "So cute and the perfect size for travel. My kid loves playing with this for hours upon hours." (Travel Art Kit)
- "A cool gift for a young child interested in art." (Travel Art Kit)

Nine reviews for the Miniature Erasers indicated that the toy was purchased for an adult as a collectible, several others categorized them as a toy for "all ages," and others noted a potential

choking hazard and would not recommend it for small children. In addition, when discussing the Magnetic Game Set, one reviewer mentions using the toy as a wedding favor, suggesting a more general use of the toy.

Unboxing videos were identified only for two toys. One relevant unboxing video for the Water Wind-up Toy shows a child of about 4-or 5-years-old. Several videos related to the Miniature Erasers were found, but all included adults discussing how they collect them.

3.5.4 Social Media Scan

The Meltwater social media scan resulted in 18 mentions, but only for two of the selected toys in the Miniature Toy category. Posts for the Miniature Erasers include images and videos of children (ranging from approximately 3-years-old to elementary school-age) playing with the erasers. One mention for the Travel Art Kit specifically mentions the toy being reasonable for children 5-through 6-years-old. See Table 3-32 for a summary of this information.

Toy	Manufacturer’s stated age*	Number of social media mentions	Comments about age-related mentions
Miniature Toy 1 – Miniature Bubbles	5+ years	0	-
Miniature Toy 2 – Miniature Erasers	Not found	16	Manual scan results include several mentions on Instagram. The Instagram posts are mostly from parents and they include images and videos of their children (ranging from approximately 3-years-old to elementary school-age) playing with the erasers.
Miniature Toy 3 – Water Wind-up Toy	2+ years	0	-
Miniature Toy 4 – Magnetic Game Set	6+ years	0	-
Miniature Toy 5 – Travel Art Kit	5+ years	2	Scan results include posts shared on Facebook and Instagram by parent and family bloggers and influencers, promoting the toy for children. One mentions the toy was great for her 5- and 6-year-olds.

* Obtained from images of product packaging or manufacturer’s website.

3.5.5 Summary of Age-Related Findings – Miniature Toys

The manufacturer’s stated age of intent is listed for four out of five toys in this category. It is listed on the product packaging for three of the toys and available on the manufacturer’s website for one of the toys.

Overall, there are inconsistencies in how the recommended ages for the toys are presented to the consumer, as well as differences between the manufacturer’s stated age of intent and the retailer’s recommended age. Not all retailers list a recommended age for a toy on the product page. For two of the toys, one retailer lists a recommended age that is consistent with the manufacturer’s stated age. In all other cases, retailers do not list a recommended age, or the retailer’s recommended age differs from the manufacturer’s stated age.

For some of the toys there appear to be discrepancies in the recommended age and how the toy is marketed. Although the manufacturer’s stated age for Miniature Bubbles is 5+ years, images of children ranging from 2-years-old through 16- to 18-years-old appear on the manufacturer’s website and retailer product page. In addition, there are images of children playing with the Water Wind-up Toy on a retailer product page who appear to range from 19-months-old through 8-years-old, but the manufacturer’s stated age is 2+ years. In both cases, images of children playing with these toys include children who are younger than the manufacturer’s stated ages.

Overall, the manufacturers and retailers have promotional statements indicating that the toy is intended for children. However, one retailer markets the Magnetic Game Set for general use as well.

Given the limited number of reviews referencing age for some of the toys, there is not enough evidence to identify a most frequently mentioned age or reliably report on the proportion of reviews referring to an age greater than or equal to the manufacturer’s stated age. The widest distribution of referenced ages is for the Miniature Erasers, which seems to appeal to both adults and children. However, some consumers feel the Miniature Erasers can be a choking hazard.

3.6 Interlocking-Connecting Toys

The 2020 *Guidelines*, defines blocks or rather *building play* as “the use of blocks or other building materials to represent real-world objects, such as castles”. Interlocking-Connecting Toys have the “ability to be joined, locked, or stay in a particular placement, which distinguishes interlocking blocks from ordinary stacking blocks.

Interlocking-Connecting Building Materials are similar in nature to blocks because they may be used to build something that represents an item in the physical world. However, they differ from blocks significantly because of their ability to be joined, locked, or stay in a particular placement. Through various connecting styles, pieces are snapped together to make creations that would be impossible with traditional wooden table blocks.”⁵ Five toys were selected in the Interlocking-Connecting Toy category; a brief description of each toy is in Table 3-33. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

⁵ U.S. Consumer Product Safety Commission. (2020). *Age determination guidelines: Relating children’s ages to toy characteristics and play behavior*. Available at: https://www.cpsc.gov/s3fs-public/pdfs/blk_media_adg.pdf

Table 3-33. Selected toys – Interlocking-Connecting Toys

Toy	Product description	Dimensions
Interlocking Toy 1 – Take Apart Airplane	A 25-piece buildable airplane that can be assembled or disassembled. It comes with a tool set that includes a plastic, battery-operated drill and 3 bits.	Length: 9.5 inches; Width: 9.5 inches; Height: 6 inches; Weight: 3.52 ounces. Note these dimensions represent the assembled toy.
Interlocking Toy 2 – Take Apart Toys	A set of hard plastic toys that can be assembled or disassembled. When assembled, the toys resemble the shapes of vehicles or different animals. The toy includes a plastic screwdriver and wrench.	Dimensions of Product Packaging. Length: 10.8 inches; Width: 9.7 inches; Height: 7.9 inches; Weight 2.6 lbs. Dimensions of the toy were not available.
Interlocking Toy 3 – Engineer Building Block Set	A building set that includes over 100 hard plastic pieces, tools, storage container, and manual. The manual provides instructions for assembling different designs, such as a helicopter, motorcycle, excavator, etc. The manual is organized by age group and designs become increasingly complex with age.	Weight: 2.49 lbs. No other dimensions available.
Interlocking Toy 4 – Building Set 1	Building set consists of over 100 hard plastic pieces that fit together and allow a child to build different 3D movable shapes.	Dimensions of the product were not available.
Interlocking Toy 5 – Building Set 2	A hard plastic building set with 1,400 pieces in a variety of colors that can be twisted and linked together.	Weight: 3.3 lbs. No other dimensions were available.

3.6.1 Manufacturer’s Stated Age

The manufacturer’s website lists a stated age of intent for three of the toys in the Interlocking-Connecting Toys category: the Take Apart Airplane (3+ years), Take Apart Toys (3+ years), and Building Set 1 (6+ years). The manufacturer’s website for the Building Set 2 lists “Not recommended for children under 3,” and no manufacturer’s website was found for the Engineer Building Block Set.

The manufacturer’s stated age listed on the product packaging for three toys is consistent with the age of intent listed on the manufacturer’s website for: Take Apart Airplane, Building Set 1, and Building Set 2. Images of product packaging cannot be found for the Take Apart Toys, and images of product packaging for the Engineer Building Block Set 1 are too small to see if a stated age of intent is listed.

Table 3-34 lists the age of intent for all products and indicates where it is located.

Table 3-34. Manufacturer’s stated age – Interlocking-Connecting Toys		
Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Interlocking Toy 1 – Take Apart Airplane	3+ years	3+ years
Interlocking Toy 2 – Take Apart Toys	Not listed on images of product packaging	3+ years
Interlocking Toy 3 – Engineer Building Block Set 1	Not listed on images of product packaging*	Website not found
Interlocking Toy 4 – Building Set 1	6+ years	6+ years
Interlocking Toy 5 – Building Set 2	3+ years	3+ years**

* Images of product packaging were identified on a retailer website, but images were too small to see a listing of a recommended age.

**Website does not list a stated age of intent, but does state the toy is not recommended for children under the age of 3-years-old.

The product packaging for the Take Apart Airplane and Building Set 1 have a small parts warning: “WARNING: CHOKING HAZARD-Small parts. Not for children under 3 years” and “Not Suitable for children under 36 months. Choking hazard. Contains small parts.”

3.6.2 How the Toys Are Marketed

In general, retailers list a recommended age that is consistent with the manufacturer’s stated age of intent for each of the Interlocking-Connecting Toys with few exceptions. In two instances, a retailer lists a recommended age that conflicts with the manufacturer’s stated age and is inconsistent with what is listed in another location on the product page. That is, a retailer lists both 3+ years and 4+ months as a recommended age for the Take Apart Toys. As another example, a retailer lists 6+ years and “5-7 years” as the recommended age for the Building Set 1.

The manufacturer and/or retailer product pages have images of children playing with four of the toys. In most cases the same images are found across multiple retailer websites for each toy, and the ages of the children are within 1-2 years of the stated/recommended age. However, the ages of the children in images for Building Set 1 are estimated to be 9- to 10-years-old, which is at least 3 years older than the manufacturer’s stated age of 6+ years. There are no images of children playing with Building Set 2 on the manufacturer’s website or the retailer’s product pages. Table 3-35 provides a summary of this information.

Table 3-35. Marketing information – Interlocking-Connecting Toys

Toy	Manufacturer's stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Interlocking Toy 1 – Take Apart Airplane	3+ years	3+ years	Not listed on website	3+ years	3- through 4-years-old
Interlocking Toy 2 – Take Apart Toys	3+ years	3+ years/4 months**	3+ years	3+ years	3- through 4-years-old
Interlocking Toy 3 – Engineer Building Block Set 1	Website not found/not listed on product packaging	3+ years	Not sold	3+ years	3- through 6-years-old
Interlocking Toy 4 – Building Set 1	6+ years	6+ years	6+ years/5-7 years***	6+ years	9- through 10-years-old
Interlocking Toy 5 – Building Set 2	3+ years	3+ years	Not sold	3+ years	No images found on manufacturer or retailer websites

* Obtained from images of product packaging or manufacturer's website.

**One retailer provides conflicting information, in one location lists 3+ years as the recommended age, but in a second location on the product page lists 4+ months.

***One retailer provides conflicting information, in one location lists 6+ years as the recommended age. In a second location on the product page lists 5- to 7-years-old.

Many of the promotional statements on the manufacturer and retailer websites explicitly market to children and highlight the educational value for each of the toys. Examples include:

- “Watch in awe as your 4-year-old engineer builds and discovers, over and over.” (Take Apart Airplane)
- “Tiny hands friendly.” (Take Apart Airplane)
- “This toy is perfect for ages three and up.” (Take Apart Airplane)
- “Heavy-duty fun for itty bitty hands!” (Take Apart Airplane)
- “Recommended for boys and girls ages 3 and up, it’s a great way for children to learn while they’re having fun.” (Take Apart Toys)
- “Rather than engaging young kids on electronic gadgets, consider giving them toys that can stimulate the learning process. Our take-apart toy set will keep your child indulged in creative imagination and thinking.” (Take Apart Toys)

- “Promoting creativity and learning fun, these toys help children improve eye-hand coordination while enhancing their fine motor, critical thinking and problem-solving skills as they build different toys time and time again.” (Take Apart Toys)
- “...is the best learning toy gift for kids ages 3, 4, 5, 6, 7, 8, 9, and 10.” (Engineer Building Block Set 1)
- “For Little Architects & Engineers in Training. Unlike traditional building blocks, which limit little ones to stacking alone, this creative toy unleashes their creativity in every direction. Safe for all elementary-aged kids.” (Building Set 2)

One of the retailers for the Take Apart Airplane lists a small parts warning on the product page, but does not list a recommended age. Additionally, there was a warning stating, “WARNING: This product can expose you to some chemicals, which is known to the State of California to cause [sic].⁶ For more information, go to www.P65Warnings.ca.gov.” One of the retailers selling the Engineer Building Block Set 1 lists both the recommended age and a small parts warning on the product page: “WARNING: CHOKING HAZARD – Small parts. Not for children under 3 years.” Similarly, all of the retailers selling Building Set 1 display a small parts warning on their product pages.

3.6.3 Consumer Perceptions

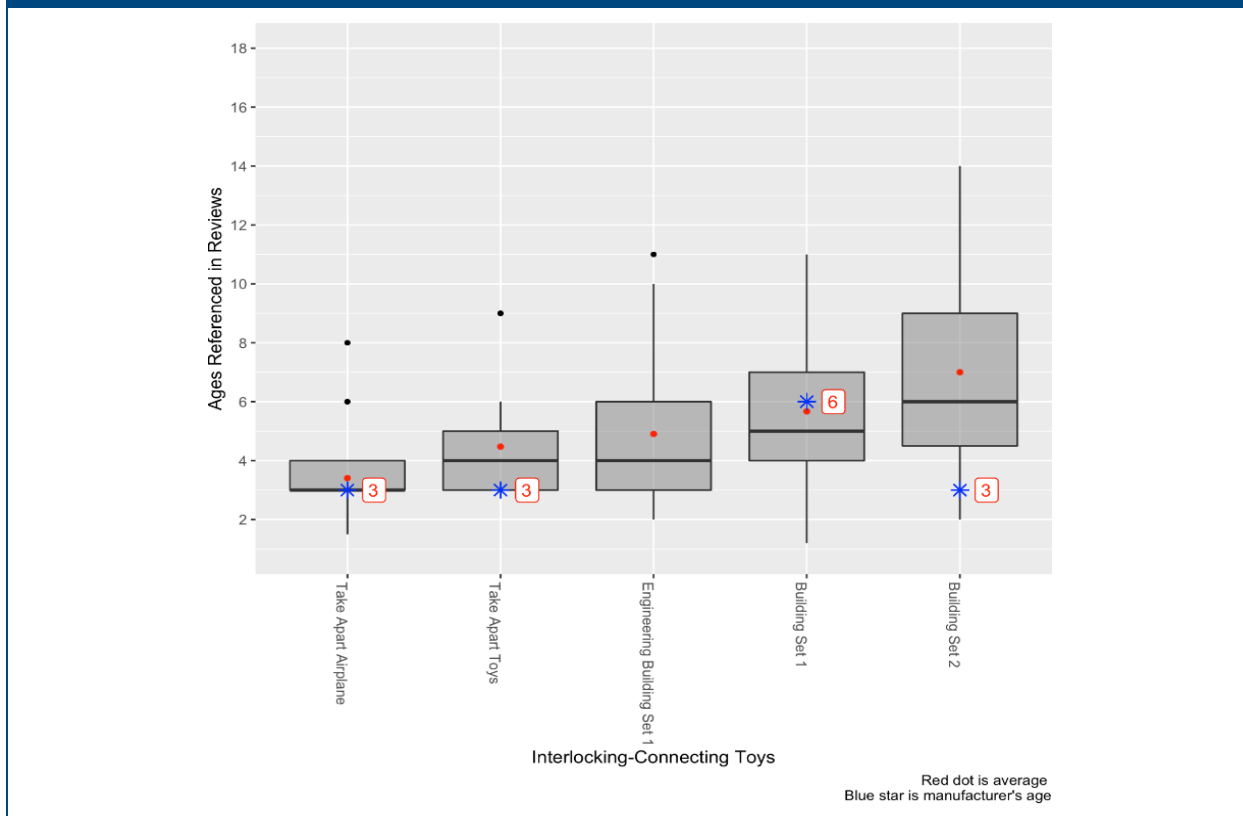
A total of 1,796 consumer reviews were examined for the Interlocking-Connecting Toys, of which the age of the child playing with the toy or the age for whom the toy was purchased is mentioned 148 times. Table 3-36 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)’s age(s).

Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range referenced in reviews
Interlocking Toy 1 – Take Apart Airplane	3+ years	469	21	18-months-through 8-years-old
Interlocking Toy 2 – Take Apart Toys	3+ years	35	19	3- through 9-years-old
Interlocking Toy 3 – Engineer Building Block Set 1	Website not found/not listed on product packaging	100	32	2- through 11-years-old
Interlocking Toy 4 – Building Set 1	6+ years	1,060	45	4-months through 14-years-old
Interlocking Toy 5 – Building Set 2	3+ years	132	31	2- through 14-years-old

* Obtained from images of product packaging or manufacturer’s website.

⁶ Remainder of sentence is omitted on product page.

Figure 3-8. Age distribution – Interlocking-Connecting Toys



In the Interlocking- Connecting Toy category, the age of the child mentioned in consumer reviews ranges from younger than 18-months- old to 14-years-old. Figure 3-8 is a graphical representation of the age distribution for each toy. The box plot displays the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer’s recommended age. Note: a manufacturer’s stated age could not be identified for the Engineering Building Block Set 1, so the associated box plot has no blue stars.

Compared to the other selected toys, the Building Set 1 has the widest distribution of ages mentioned in reviews (4-months through 14-years-old), with consumers most frequently mentioning children between the ages of 4- through 7-years-old. The tightest distribution of ages referenced in reviews is for the Take Apart Toys (3- through 9-years-old) and the Take Apart Airplane (18-months- through 8-years-old), where a majority of the reviewers mention children between the ages of 3-years through 5-years-old.

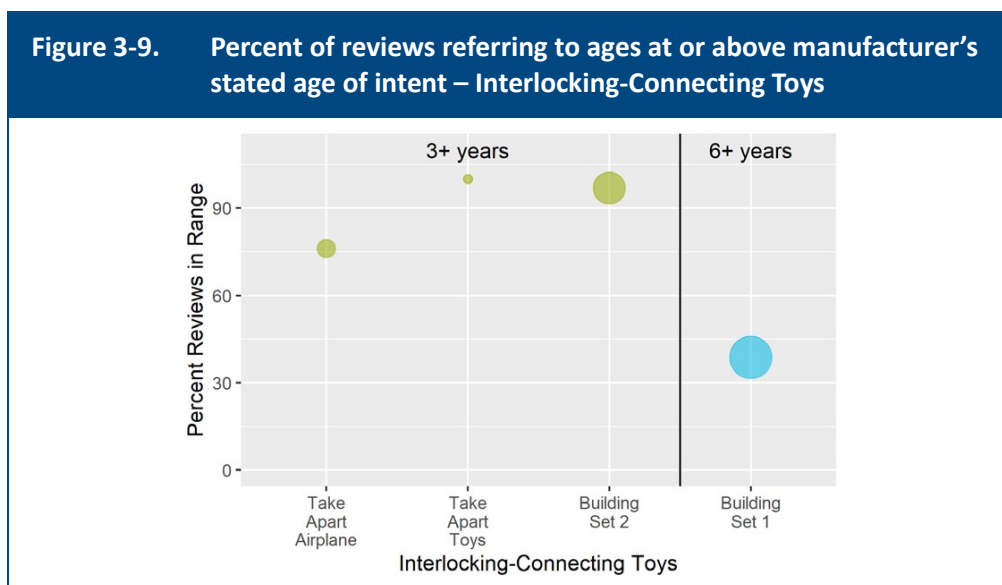
With the exception of the Building Set 1, a majority of consumers are purchasing these toys for children who are at the manufacturer’s stated age or older. That is, most of the children referenced in reviews for the Take Apart Airplane, Take Apart Toys, and Building Set 2 are at the manufacturer’s stated age or older. In fact, most of the children for whom the Building Set 2 are purchased are 1-½ years to 6 years older than the manufacturer’s stated age. Referring to the box plot, most or all of the boxes are above the blue stars for three toys where a manufacturer’s stated age was available. Conversely, half of the consumers who reference an age in their review discuss a child whose age is younger than the manufacturer’s stated aged for Building Set 1, and therefore most of the box is below the blue star. Based on the ages mentioned by consumers in reviews, the

average age of the child mentioned by consumers is 5-years-old, which is slightly younger than the manufacturer’s stated age of 6-years-old for the Building Set 1. See Table 3-37 for the age most frequently mentioned by consumers for each toy.

Table 3-37. Most frequent user age referenced in consumer reviews– Interlocking - Connecting Toys		
Toy	Manufacturer’s stated age*	Most frequent user age referenced in consumer reviews (mode)
Interlocking Toy 1 – Take Apart Airplane	3+ years	3-years-old
Interlocking Toy 2 – Take Apart Toys	3+ years	3-years-old
Interlocking Toy 3 – Engineer Building Block Set 1	Website not found/ not listed on product packaging	4-years-old
Interlocking Toy 4 – Building Set 1	6+ years	5-years-old
Interlocking Toy 5 – Building Set 2	3+ years	4-years-old

* Obtained from images of product packaging or manufacturer’s website.

Figure 3-9 displays the percentage of reviews for which the age mentioned was equal to or greater than the manufacturer’s stated age of intent; the size of each “bubble” is proportional to the number of reviews referencing a child’s age, so that toys with larger “bubbles” have more reviews and these percentages can be considered more reliable. For most of the Interlocking-Connecting Toys reviews referencing a child’s age, an age equal to or greater than the manufacturer’s stated age of intent is mentioned in the following percentages: 76 percent of the time for Take Apart Airplane, 97 percent of the time for Building Set 2, and 100 percent of the time for Take Apart Toys. However, only 39 percent of the reviews for Building Set 1 reference a child that is at or above the manufacturer’s stated age. That is, 61 percent of consumers referred to children who were younger than the manufacturer’s stated age for Building Set 1. A manufacturer’s age of intent was not identified for the Engineer Building Block Set 1, so it is not represented in the bubble plot below.



While the Take Apart Airplane and Take Apart Toys both had a manufacturer's stated age of 3+ years, the overall sentiment regarding age-appropriateness expressed in reviews is mixed. A number of reviewers mention that the child was not able to use the toy as intended or the toy poses a safety hazard. Comments made by reviewers include:

- "My 18-month-old LOVES this toy! His big sister (8) has to help him with the screws (for now), but they both love it." (Take Apart Airplane)
- "I struggled to figure out how to do this one, how can I expect it to be intuitive for a 3-year-old?" (Take Apart Airplane)
- "It is really cute but way too hard for a 3-year-old. I would say 5 and up. But my 6-year-old didn't care about it. So I don't know what age would like it. It appeals to a younger age but is too complicated." (Take Apart Airplane)
- "While my son loves this toy, the drill is frustrating for him to use. It doesn't have enough torque to fully drive the bolts. But it's maddening for a 3-year-old that wants to use a drill just like daddy." (Take Apart Airplane)
- "This is a fun toy with a ton of adult support required. My son is 3.8 and he was very interested in putting it together but I definitely had to look at the directions and guide him." (Take Apart Airplane)
- "They didn't take very long to put together but our then-4-year-old did need help from Dad." (Take Apart Airplane)
- "It's is not easy to put together for an almost 5-year-old and an adult had to help him put it together, which took the fun out of it." (Take Apart Airplane)
- "There are lots of parts but they aren't that small that you might lose them easily. If your child doesn't put things in their mouth, you are good." (Take Apart Airplane)
- "I constantly have to get the pieces that go with the drill away from our 19-month-old twins." (Take Apart Airplane)
- "This item is wonderful for little boys who like to take things apart and put back together. My grandson is 2, very hyperactive, but loves taking things apart. He loves this item. I have to help him when it's time to reverse the drill bit direction. I would have given 5 stars, but since my grandson is a nonverbal special needs boy, he must be watched carefully. He was doing just fine with it, until one day he decided to put one of the screws in his mouth and almost choked on it. If your child doesn't put everything in their mouth, they should be fine. Otherwise, supervision is needed." (Take Apart Airplane)
- "4-year-old grandson LOVED it! Easy to use for little hands." (Take Apart Airplane)
- "My toddler twin grandsons love these take apart toys... They are very well made, and provide hours of entertainment for toddlers." (Take Apart Airplane)

- “Too difficult for toddler. The crane is great, easy to go together and our son loves it. This plane just frustrates him.” (Take Apart Airplane)
- “The child I purchased for did not understand what we trying to do. I was hoping he would enjoy using the tools but is very difficult to follow directions. The package states for 3-year-old and I had trouble with assembly as well another adult. During the process and struggle to assemble we lost interest.” (Take Apart Airplane)
- “Good for toddler. My only complaint is that the screws are short. The wheels sometimes fall off and it’s hard for a toddler to get the pieces together without an adult. We have similar toys from other companies and don’t have the same challenges.” (Take Apart Airplane)
- “Slightly confusing for a toddler to figure out all of the parts and where they go. Large pieces for little hands.” (Take Apart Airplane)
- “Complicated to put together for a child under 4 and at times for me the parent.” (Take Apart Airplane)
- “The child I purchased for did not understand what we trying to do. I was hoping he would enjoy using the tools but is very difficult to follow directions. The package states for 3-year-old and I had trouble with assembly as well another adult. During the process and struggle to assemble we lost interest.” (Take Apart Airplane)
- “Not for 3-year-old, might be appropriate for 6-year-old.” (Take Apart Toys)
- “Don’t recommend for a 4-year-old or younger. Five and up works better.” (Take Apart Toys)
- “Not easy for younger children. They came apart easily, but could be very challenging for children to reassemble, even at or above age suggestion.” (Take Apart Toys)

While a manufacturer’s stated age of intent was not identified for the Engineer Building Block Set 1, the retailer’s recommended age is 3+ years, and one retailer includes a small parts warning. Overall, reviewer comments are positive. However, some reviewers suggest younger-aged children (2-, 3-, and 4-years-old) might need help with the instructions in order to use the toy as intended.

Examples of reviewer comments for the Engineer Building Block Set 1 include:

- “These are great for toddlers! I got this for my 2- and 3-year-old for Christmas. Great size and colors. I can predict this will be a hit and hours of fun. I opened them up to make sure there wasn’t a choking hazard and there is not (make sure YOU check as well, as every parent has different standards), but these are great.”
- “I purchased this for my granddaughter’s 3rd birthday. While 3 is the low end of the suggested age for the toy, she has always been fascinated with the mechanics of things so I thought I would take a chance. My granddaughter didn’t even want to finish opening her gifts once she opened this! She seriously sat down and played with it for nearly two hours! I’ve been told it continues to be her favorite toy.”

- “I have ages 3-11 and this engages all of them because of the out of the box learning possibilities this kit offers.”
- “I originally picked this out for my 4-year-old, but my 6- and 9-year-old love playing with them too. My 9-year-old stated ‘I thought they would be boring, but they are actually really cool.’ “
- “This is a fun set for toddlers! Our 4-year-old grandson needed help with instructions and the nearly 3-year-old needed more help, but the boys loved it!!”
- “I gave this one to a 4-year-old. He still needs a little help but when the older kids play, they use their imagination plus the pictures in the instructions!”
- “My 4-year-old needs a lot of help with this but I’m hoping he’ll be more independent as he gets older, if the loose screws don’t frustrate him too much.”
- “Don’t recommend for a 4-year-old or younger. 5 and up works better.”
- “My son is 6 and he loves them. It says for 3+ so I was a little concerned that they would be too easy for my 6-year-old but not at all! He will get a lot of use out of these for years to come.”
- “Perfect STEM toy for toddlers. My little one playing with this toy almost every day.”
- “I have a toddler that loves to build! This construction set has been perfect for him to tinker around with.”
- “Great set, it actually works with a tool box my husband had already purchased for our toddler. Easy to assemble all kinds of different structures. Multiple tools included so kids can play together.”
- “I knew the toddler would like it but I didn’t know the elementary kids would play with it more than the little one does. The building blocks are a nice size; I like that they are not super tiny and feel durable, not flimsy or easily breakable.”
- “This has helped my daughter with hand-eye coordination. However, due to some of the parts being small adult supervision is a must if your child likes to put things in their mouth.”

Reviews for the Building Set 1 were mixed. Several consumers commented the toy was difficult to “snap together” and might pose a challenge to younger children; they were referring to 3-year-old children, which is three years younger than the stated age of intent. One reviewer expressed concern about a choking hazard: “Do NOT buy XXXX if you have small kids in your house. I made a heavy investment in XXXX for my sons, who loved them for creative play. But we found that the plastic connecting parts break off, leaving tiny sharp plastic edges and bits laying around, which my 15-month-old daughter has found and put in her mouth.” Conversely, another reviewer remarked that the components are “big enough so safe for our 6-month-old baby to be near them...” Other comments suggest that this toy is appropriate for the preschoolers, and toddlers: “As a preschool teacher, I’m always on the lookout for manipulatives that the kids enjoy AND can learn something

from - these fit the bill perfectly! Not too easy, not too difficult - the children took to them instantly!”

Reviews for Building Set 2 suggest that the consumers believe the manufacturer’s stated age is appropriate. Examples include:

- “Bought these for my two toddlers and it kept them busy for hours.”
- “My kindergartners love this product and make all kinds of creations.”
- “I purchased a bunch of these for teachers grades K-2. The kids and teachers absolutely LOVE them.”
- “I bought this for my first grade students to use as morning STEM bins. They have loved making their own creations.”
- “Bought these for my son after seeing him playing with them at his school’s daycare.”
- “As the director of a middle school aftercare program, I can say without hesitation that the students LOVE these!”

Unboxing videos were also identified and viewed for three of the selected toy. For most of the toys, the children in the videos appear to be within the age range of the manufacturer’s stated age, meaning there are no children who appear to be substantially younger than the stated age of intent. Note: a manufacturer’s stated age was not identified for the Engineer Building Block Set 1, so we cannot ascertain if the children in the images are within range of the stated age of intent. Table 3-38 summarizes this information.

Table 3-38. Unboxing video age range – Interlocking-Connecting Toys			
Toy	Manufacturer’s stated age*	Number of unboxing videos viewed**	Age range of children in unboxing videos
Interlocking Toy 1 – Take Apart Airplane	3+ years	4	2- through 5-years-old
Interlocking Toy 2 – Take Apart Toys	3+ years	0	-
Interlocking Toy 3 – Engineer Building Block Set 1	Website not found/not listed on product packaging	1	4-years-old
Interlocking Toy 4 – Building Set 1	6+ years	2	5- through 9-years-old
Interlocking Toy 5 – Building Set 2	3+ years	0	-

* Obtained from images of product packaging or manufacturer’s website.

Most of the unboxing videos for the Take Apart Airplane show children who are approximately 2- through 5-years-old. However, only the 5-year-old is independently assembling and using the toy as intended. A video for the Engineer Building Block Set 1 shows a girl of about 4 years playing with the toy as her mom narrates and helps her daughter build one of the designs. Two relevant videos were associated with Building Set 1. The first video has an adult female and a male child of about 9-

years-old. The adult serves as a narrator while the child plays with the toy. The adult says, “XXXX are perfect for preschool to early elementary, so ages 4 to 10. It takes a lot of small motor skills and strength to get them to click together.” The second video shows a mother and daughter of about 5-years-old playing with the toy. She indicates her daughter does not use the toy as intended, explaining that her daughter does not actually assemble the pieces.

3.6.4 Social Media Scan

The Meltwater social media scan resulted in 121 mentions for the selected toys in the Interlocking-Connecting Toy category. Several of these posts mention the age of children interacting with the toy. For three of the toys, all posts mention children within the intended (Take Apart Toys and Building Set 1) or recommended age (Engineer Building Set 1) range. When discussing the Take Apart Airplane, reviewers mention children that were younger than the manufacturer’s stated age of intent. There were no references to age for the Building Set 2. Additionally, the social media scan identified posted images of children playing with only two selected toys. For both of these toys some of the children appear to be younger than the manufacturer’s stated age for the toy. See Table 3-39 for a summary of this information.

Table 3-39. Social media scan – Interlocking-Connecting Toys			
Toy	Manufacturer’s Stated Age*	Number of Social Media Mentions	Comments About Age-Related Mentions
Interlocking Toy 1 – Take Apart Airplane	3+ years	27	One parent recommends the product for 2-year-old children, one year below the manufacturer age rating. Two other parents mention a 2-year-old and a 21-month-old enjoying the product.
Interlocking Toy 2 – Take Apart Toys	3+ years	2	Neither mention includes a discussion of age; however, each links to the same blog post where age recommendations (for ages 3+) are discussed.
Interlocking Toy 3 – Engineer Building Block Set 1	Website not found/not listed on product packaging	35	Only one mention of the toy includes a discussion of age, recommending the product for 5-year-olds. Some posts include images and videos of children who appear to be approximately 3- to 6-years-old. One mother recommends the product for 3-year-olds.
Interlocking Toy 4 – Building Set 1	6+ years	50	For those mentions that included discussion of age, mentions include images of children within recommended age rating (6+ years) and one image of a toddler playing with the toy.
Interlocking Toy 5 – Building Set 2	3+ years	7	There are no references to age.

* Obtained from images of product packaging or manufacturer’s website.

3.6.5 Summary of Age-Related Findings – Interlocking-Connecting Toys

Age-related information is readily available for most of the selected toys in the Interlocking-Connecting Toy category. For two of the toys (Take Apart Airplane and Building Set 1), the stated age of intent is found on both the manufacturer’s website and product packaging. Manufacturers for two other toys (Take Apart Toys and Building Set 2) list a stated age of intent on the product packaging or on their website. A stated age of intent could not be found for only one toy (Engineer Building Block Set 1) because a manufacturer’s website could not be found, and the images of product packaging were too small to see if it was listed.

When available, retailer age recommendations for the selected toys tend to agree with the manufacturer’s stated age as well as marketing images of children and promotional statements. However, for two of the toys, one retailer lists a recommended age that is consistent with the manufacturer’s stated age in one location on the product page but in another location lists an age that differs from the manufacturer’s stated age.

Many of the promotional statements on the retailer’s websites explicitly market for children and focus on the educational and creative value of each of the toys. Compared to the other selected toys in this category, online reviewers purchase the Building Set 1 for the widest range of ages of children, with consumers most frequently mentioning children between the ages of 4-months through 14-years-old. The tightest distribution of ages referenced in reviews is for the Take Apart Toys and the Take Apart Airplanes, where a majority of the reviewers mention children between the ages of 3-years through 5-years-old. With the exception of reviews for the Building Set 1, most of the children referenced in reviews are at the manufacturer’s stated age or older. Reviewers mention children younger than the manufacturer’s stated age 61 percent of the time for Building Set 1.

Overall, reviews for the selected Interlocking-Connecting Toys are mixed. Some consumers express concerns related to the overall safety of the toy as well as the ability to use it as it is intended by the manufacturer.

3.7 Musical Toys

Musical Toys are instruments that are capable of producing a musical sound. These include percussion, stringed, keyboard, wind, and electronic toys. Examples of Musical Toys include shakers, tambourines, bells, drums, bongos, blocks, triangles, rhythm sticks, recorders, and novelty musical instruments such as horns (with up to three buttons). According to the 2020 *Guidelines*, “Music and musical experiences are believed to enhance children’s physical and psychological development through their creation of, responses to, and interaction with music. The learning skills that are developed with musical instruments are thought to transfer to other types of learning. It can teach children self-control through practice and can build self-esteem. Musical and rhythm instruments can be appropriate for children of all ages.” Four toys were selected in the Musical Toys category; a brief description of each toy is in Table 3-40. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

Toy	Product description	Dimensions
Musical Toy 1 – Glockenspiel	A percussion instrument made of rubber wood and shaped like an animal. The glockenspiel has five “precision tune” metal bars that, when struck with a wooden mallet, produce sounds.	Length: 9 inches; Width: 1 inch; Height: 13 inches; Weight: 1.8 lbs.
Musical Toy 2 – Musical Set 1	Music set includes four wooden musical instruments: a recorder, tambourine, castanets, and maracas. The design theme is based upon a popular children’s book.	Dimensions not available.
Musical Toy 3 – Egg Shakers	A set of six brightly painted percussion instruments (maracas) that contain small beads. The eggs are painted in non-toxic pastel colors with a theme.	Length: 2.56 inches; Width: 1.58 inches; Height: Not Available; Weight: 7.2 ounces (likely for the set of 6)
Musical Toy 4 – Musical Set 2	A 10-piece set of wooden and metal instruments, including a tambourine, cymbals, maracas, clacker, tone blocks, and a triangle, plus a wooden storage crate.	Dimensions of the instrument box. Length: 11.3 inches; Width: 3 inches; Height: 14.9 inches; Weight: 3.3 lbs.

3.7.1 Manufacturer’s Stated Age

The manufacturer’s stated age for three of the toys in the Musical Toy category are: 2+ years (Glockenspiel and Musical Set 1), and 3+ years (Musical Set 2). No manufacturer’s stated age was found for the Egg Shakers.

The product packaging and manufacturer’s website consistently list the stated age of intent for Musical Set 1 and Musical Set 2. A stated age of intent is listed on the product packaging for the Glockenspiel, but it is not listed on the manufacturer’s website. The manufacturer’s website and images of product packaging were not found for the Egg Shakers. Table 3-41 lists the age of intent for all products and indicates where it was located.

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Musical Toy 1 – Glockenspiel	24+ months	Not listed on website
Musical Toy 2 – Musical Set 1	2+ years	2+ years
Musical Toy 3 – Egg Shakers	Images of product packaging not found	Website not found
Musical Toy 4 – Musical Set 2	3+ years	3+ years

3.7.2 How the Toys Are Marketed

There is limited information on the retailer's recommended ages for the selected toys in this category, as well as inconsistencies in how it is presented to consumers. None of the retailers selling the Glockenspiel or the Egg Shakers list a recommended age on the product page. While all three retailer websites selling Musical Set 1 and Musical Set 2 list a recommended age, the information is not consistently presented across all three websites. In each case, two retailers list a recommended age that is in agreement with the manufacturer's stated age, while the third retailer lists another age or conflicting information. For Musical Set 1, the third retailer lists 5+ years, which is three years older than the manufacturer's stated age. For Musical Set 2, the third retailer lists 3+ years in one location and 12+ months in another.

When manufacturer and retailer websites were available or images of product packaging were found, a small parts warning was not provided for any of the toys.

Images of children playing with the toys are included on some of the manufacturer and retailer websites, and at times conflict with the manufacturer's stated age. Images on the retailer product pages for the Musical Set 2 show children interacting with the toy who appear to be in the 5- through 8-years-old age range, which is at least 2 years older than the manufacturer's stated age (3+ years). Images on the manufacturer's website for Musical Set 1 show children who appear to range from 1- through 2-years-old, some of whom appearing younger than the manufacturer's stated age (2+ years). However, these images do not show these children actually playing with the toy. In addition, images of children playing on the Glockenspiel manufacturer's website are somewhat misleading. A 1-year-old is playing with a toy from the same manufacturer, but it is not the Glockenspiel. There is another image of a toddler (about 2-years-old) holding the toy over his head. Images of children playing with the Egg Shakers appear to show children ranging from about 19-months-old to 4-years-old.

Several manufacturers and retailers include promotional statements on the product pages, all of which seem to be marketed to children:

- "Safe for Toddlers" (Glockenspiel)
- "XXXX toys are perfectly safe to put in mouth." (Glockenspiel)
- "XXXX musical egg shaker [sic] are an ideal early learning toy, great for toddlers to feel the rhythm, a special Easter gift for baby." (Egg Shakers)
- "The XXXX has everything preschoolers need to form a kids marching band, launch a solo career, or just enjoy exploring music and sounds!" (Musical Set 2)

Table 3-42 provides a summary of this information.

Table 3-42. Marketing information – Musical Toys					
Toy	Manufacturer's stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Musical Toy 1 – Glockenspiel	24+ months	Not listed on website	Not listed on website	Not listed on website	1- through 2-years-old
Musical Toy 2 – Musical Set 1	2+ years	2+ years	5+ years	2+ years	1- through 2-years-old**
Musical Toy 3 – Egg Shakers	Not found	Not listed on website	Not sold	Not listed on website	19-months through 4-years-old
Musical Toy 4 – Musical Set 2	3+ years	3+ years	3+ years/ 12 months***	3+ years	5- through 8-years-old

* Obtained from images of product packaging or manufacturer's website.

** Images of children's faces; images do not show children playing with the toy.

*** This retailer provides conflicting information: one location lists 3+ as the recommended age, but a second location on the web page lists 12 months.

3.7.3 Consumer Perceptions

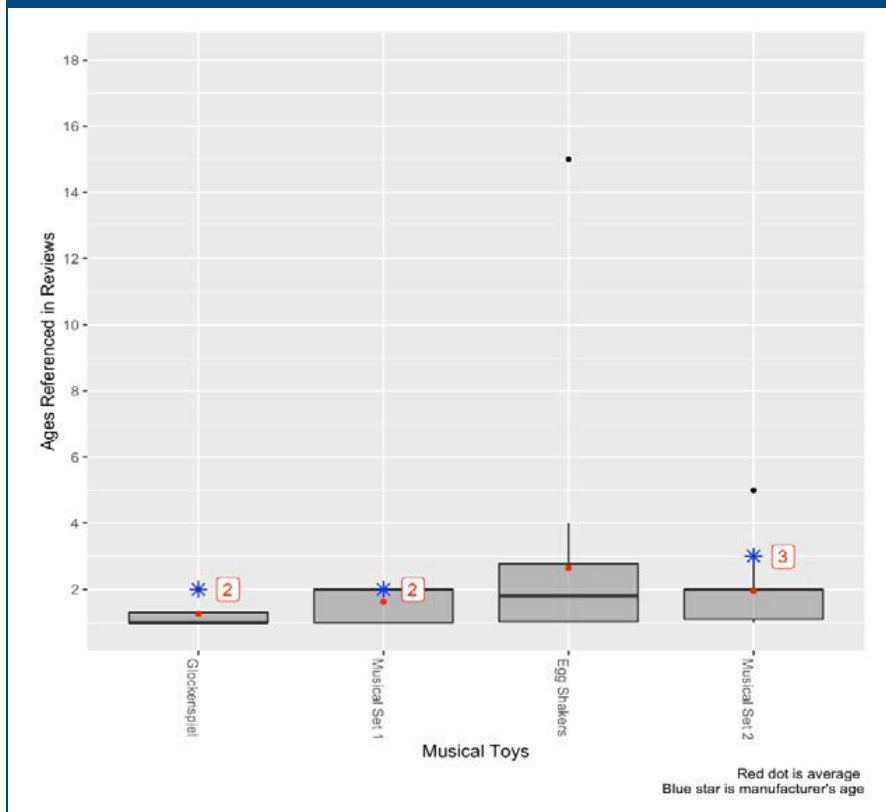
A total of 1,357 consumer reviews were examined for the Musical Toys, of which 80 refer to a child's age or the age of the child for whom the toy was purchased. Table 3-43 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)'s age(s).

Table 3-43. Consumer reviews – Musical Toys				
Toy	Manufacturer's stated age*	Total reviews available	Number of reviews that mention age	Age range referenced in reviews
Musical Toy 1 – Glockenspiel	24 months	22	7	6-months through 2-years-old
Musical Toy 2 – Musical Set 1	2+ years	33	9	10-months through 2-years-old
Musical Toy 3 – Egg Shakers	Not Found	137	25	6-months through 15-years-old
Musical Toy 4 – Musical Set 2	3+ years	1,165	39	8-months through 5-years-old

* Obtained from images of product packaging or manufacturer's website.

In the Musical Toy category, the ages of children mentioned in consumer reviews range from younger than 6-months-old through 15-years-old. Figure 3-10 is a graphical representation of the age distribution for each toy. The box plot displays the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer's recommended age. A manufacturer's stated age was not found for the Egg Shakers, so the associated box plot has no blue star.

Figure 3-10. Age distribution – Musical Toys



Based on reviews, the widest distribution of referenced ages is for the Egg Shakers. Reviews for the Egg Shakers that include specific ages refer to children between 6-months- through 15-years-old, with consumers most frequently mentioning 10-month-olds. The tightest distribution of ages referenced was for the Glockenspiel, where a majority of the reviewers mention children between the ages of 10-months through a little over 1-years-old.

A majority of consumers who wrote reviews purchased these toys for children who are at the manufacturer's stated age

or younger; on the box plot, this means that most of the boxes are below the blue stars for the three toys where a manufacturer's stated age was available. Based

on the ages identified in the consumer reviews, most shoppers purchase the Glockenspiel and the Musical Set 2 for children who are at least one year younger than the manufacturer's stated age. Conversely, consumers mention purchasing the Musical Set 1 most frequently for children who are the manufacturer's stated age of intent. See Table 3-44 for the most frequent purchasing age mentioned by consumers for each toy.

Table 3-44. Most frequent user age referenced in consumer reviews– Musical Toys

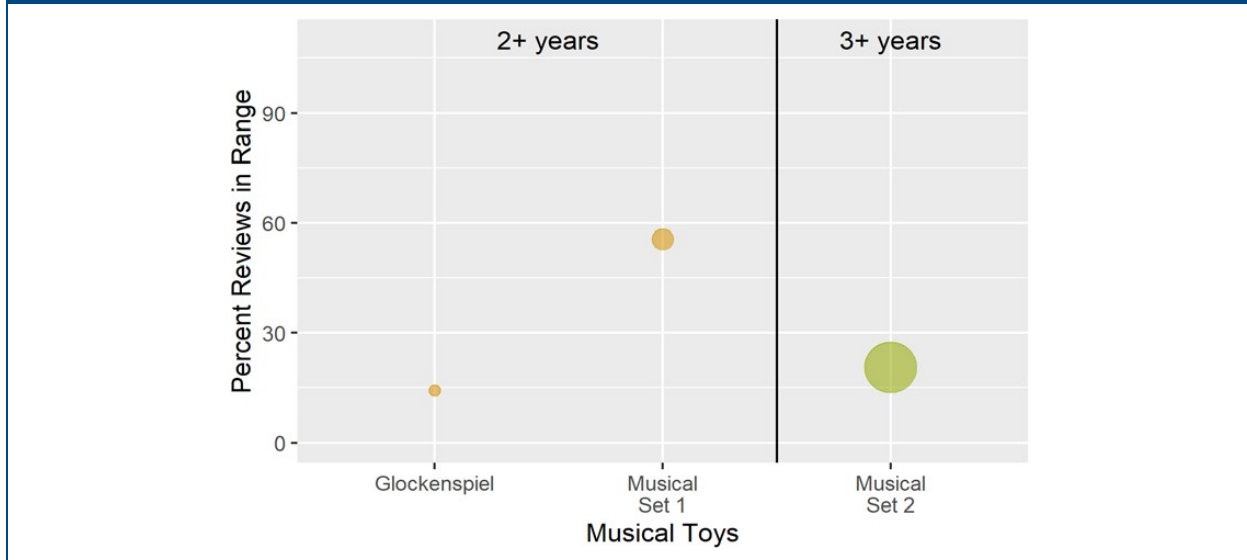
Toy	Manufacturer's stated age*	Most frequent user age referenced in consumer reviews (mode)
Musical Toy 1 – Glockenspiel	24 months	1-year-old
Musical Toy 2 – Musical Set 1	2+ years	2-years-old
Musical Toy 3 – Egg Shakers	Not found	10-months-old
Musical Toy 4 – Musical Set 2	3+ years	2-years-old

* Obtained from images of product packaging or manufacturer's website.

For the three toys with a manufacturer's stated age available, consumers who reference a child's age mention an age equal to or greater than the manufacturer's stated age between 14 percent (Glockenspiel) to 56 percent (Musical Set 1) of the time. Note that only seven reviews of the

Glockenspiel and nine reviews of the Musical Set 1 refer to a child’s age, so these percentages should be interpreted with caution. The small size of the “bubbles” in Figure 3-11 for the Glockenspiel and Musical Set 1 reflect the low sample sizes. Reviewers for the Musical Set 2 mention a child’s age equal to or older than the manufacturer’s stated age approximately 20 percent of the time, suggesting that they are purchasing the toy for children younger than the manufacturer’s stated age 80 percent of the time. The manufacturer’s age of intent was not identified for Egg Shakers, so this toy is not represented in the bubble plot below.

Figure 3-11. Percent of reviews referring to ages at or above manufacturer’s stated age of intent



The Glockenspiel and Musical Set 1 have a manufacturer’s stated age of 2+ years. Generally, the consumers believe these toys are age-appropriate and their perceptions of the toys are positive. However, some have concerns related to safety and others related to the child using the toy as intended.

- “Great size for a small child to hold and play.” (Glockenspiel)
- “Very nice instrument for toddlers. As a music instructor in the Kodaly tradition, it was important for me to find a specifically pentatonic instrument for my toddler.” (Glockenspiel)
- “Very nice xylophone. However, hammer is not safe for young children!” (Glockenspiel)
- “I absolutely love this set; I’m thinking this would make an excellent gift for a toddler/child without the parents of the child hating you!!!! My toddler loves to play with this whenever she comes across it.” (Musical Set 1)
- “Great little noise makers that aren’t too loud. My toddler loves them!” (Musical Set 1)
- “I bought this plus the book. A great birthday gift for a toddler and meaningful. It was my favorite book as a child.” (Musical Set 1)
- “Great toy for toddlers who love rhythm band.” (Musical Set 1)

- “Adorable instruments - my toddler loves the XXXX.” (Musical Set 1)
- “The instruments are all very sturdy and safe for tiny hands, keeping the little one entertained for long periods of time.” (Musical Set 1)
- “My son received this as a gift yesterday. The tambourine is already broken, because it’s made of thin paper. Castanet came broken. XXXX is great, but they need to make these sturdier products for kids. You don’t need to be rough with them to break.” (Musical Set 1)

Two reviewers with children less than 1-year-old indicate the Glockenspiel may not be appropriate for their child:

- “My 6-month-old is still a little too young to play it by himself but he was mesmerized to watch me play it and had a huge smile when I helped him to bang out some notes.”
- “After less than a month of owning it, my 8-month-old was able to pull off one of the XXXX arms and start playing the glockenspiel with it instead of the mallet.”

Reviews for the Egg Shakers are mixed. Several reviewers comment that the toy can easily split apart, releasing the inner contents, which present a choking hazard.

- “My 15-year-old was playing with it and it broke and beads fell all over the place. Choking hazard! The manufacturer needs to recall.”
- “One broke in half as they’re glued together by halves. That could’ve been a choking hazard. If they advertised it as décor then that’s different, but they promoted it as cute toy for toddlers.”
- “I got these for my 20-month-old for Easter, and as adorable as they are, they twist off and crack open SUPER easy! My son twisted one apart and was chewing on the beads inside!”
- “One broke in half as they’re glued together by halves. That could’ve been a choking hazard. If they advertised it as décor then that’s different but they promoted it as a cute toy for toddlers.”
- “The product began to chip. Huge chunks came off. Not safe for young children.”

Conversely, others addressed the developmental benefits of playing with the Egg Shakers. Examples include:

- “I use this item to get my son’s attention during his tummy time. It works great!”
- “My kids love them. They’ve been thrown down wooden stairs and on concrete and have held up to my toddler’s and preschooler’s abuse.”
- “Great for a toddler learning her colors.”
- “My baby really loves these! They are really cute and fun.”
- “I bought these shaky eggs for my preschool class to use when we have music.”

Two unboxing videos were found for Musical Set 2. In the first video, the mom of a 6-month-old mentions the toy is intended for ages 3+ and agrees it is probably better suited for an older child. In the second video, a mom of a 15-month-old comments that the toy is intended for children 3+, but implies the toy will be appropriate for her son because “he loves it and is super into music.” No relevant unboxing videos were found for the other toys.

3.7.4 Social Media Scan

The Meltwater social media scan resulted in 76 mentions for the selected toys in the Musical Toy category. Posts related to the Glockenspiel did not reference age. Several of the posts mention the age of children interacting with the Musical Set 1, Egg Shakers, and the Musical Set 2. Mentions related to the Musical Set 1 identify children within the intended age range. Conversely, mentions related to the Musical Set 2 identify children who are more than two years younger than the manufacturer’s stated age, as well as children within the intended age range. When discussing the Egg Shakers, a parent referred to the 3.5-year-old child; however, no manufacturer’s stated age was found for this toy, so no comparison can be made. See Table 3-45 for a summary of this information.

Toy	Manufacturer’s stated age*	Number of social media mentions	Comments about age-related mentions
Musical Toy 1 – Glockenspiel	24 months	0	-
Musical Toy 2 – Musical Set 1	2+ years	1	One reference recommended the product for toddlers.
Musical Toy 3 – Egg Shakers	Not found	5	One parent shares how her 3.5-year-old enjoys the toy.
Musical Toy 4 – Musical Set 2	3+ years	70	One mention recommended the product for 7- to 9-month-olds, while another discussed preschool and/or elementary school aged children.

* Obtained from images of product packaging or manufacturer’s website.

3.7.5 Summary of Age-Related Findings – Musical Toys

The manufacturer’s stated age of intent for the selected toys ranges from 2+ to 3+ years, and age-related information is readily available from the manufacturer for three of the selected toys in the Musical Toy category. For two of the toys, the manufacturer’s stated age is listed on the product packaging and on the manufacturer’s website. For the third toy, it is listed on the product packaging, but not available on the manufacturer’s website. The manufacturer’s website and product packaging were not found for the fourth toy in the category.

Information related to the retailer’s age recommendations for the selected toys is inconsistent. A recommended age is not listed on any of the retailer websites that sell two of the toys. In addition, for the other two toys there are inconsistencies in how the recommended age is presented across retailers. For one of the toys, two of three retailers selling the products list the manufacturer’s stated age, while the third lists a different age. One website selling the second toy lists different ages for the same product.

Overall, the selected toys are marketed to children and focus on the educational and creative value of each of the toys. However, some images of children playing with the toys may be somewhat misleading and at times conflict with information related to the recommended or manufacturer’s stated age of intent. For example, images on the retailer product pages for two of the toys include children who appear to be younger than the manufacturer’s stated age. Conversely, images of children playing with the Musical Set 2 appear to be 3 to 5 years older than the manufacturer’s stated age.

Based on the ages identified in the consumer reviews, most shoppers who wrote a review purchase the Glockenspiel and the Musical Set 2 for children who are at least one year younger than the manufacturer’s stated age. Consumers mention purchasing the Musical Set 1 most frequently for children who are the manufacturer’s stated age. Most consumers who reference an age in the Egg Shaker reviews purchase the toy for a child that is 10-months-old, but no manufacturer’s stated age was found for this toy, so it is unclear whether this age is younger than intended.

While consumer reviews were mostly positive, there are some negative references to the overall durability and safety of the toy as well as the ability of a child to use the product as intended for some of the toys. Reviews for the Egg Shakers in particular are mixed. While some commented on the developmental benefits offered by the toy, others felt the toy posed a choking hazard that could easily break apart and release its inner contents.

3.8 Figurines

Figurines encourage creative or imaginative play in children. This category includes dolls and figures that can be human or nonhuman in appearance, such as mermaids, farm animals, and action characters. Figurines have various themes and can be sold separately or come with play sets and accessories to be used with the Figurine during play. Some are fashion-themed with various outfits and accessories where the primary play is fashion and/or hair play. Action figures are another type of doll in this category, with a primarily action-based play pattern. These figures can come with clothing, vehicles, tools, weapons or play sets. Other Figurines are meant primarily for collection and display, and not intended for play. As such, Figurines can be marketed to both children and adults. Dimensions were obtained from the manufacturer’s website when available; otherwise, they were obtained from a retailer website.

Five Figurines were selected for review, they are described in Table 3-46.

Toy	Product description	Dimensions
Figurine Toy 1 – Plastic Princess Dolls	A small doll modeled after different popular children’s characters. The dolls and outfits are made of plastic, and they have movable joints at the waist and arms that can be positioned in different poses (e.g., sitting or standing). The outfits are made of two layers and can be changed using a clip-on feature.	Height: 3.5 inches. No other dimensions provided.
Figurine Toy 2 – Small Vinyl Figure	A vinyl figure that is modeled after different pop-culture characters. Each doll has an oversized head that is disproportionately larger than the rest of the body. Facial features are simplistic, with painted-on eyes, nose, and mouth.	Length: 3.5 inches; Width: 3.5 inches; Height: 3.8 inches; Weight: 4 ounces.

Toy	Product description	Dimensions
Figurine Toy 3 – Resin Animal	Hard plastic (most likely resin), high-fidelity animal figurines. The Figurines are realistically painted to replicate the actual animal’s fur/skin and facial features. The animals have textured skin that contributes to the realism.	Length: 2.7 inches; Width: 1.4 inches; Height: 4.6 inches; Weight: Not Available.
Figurine Toy 4 – Barn & Animal Play Set	A brightly painted wooden barn with doors that are secured with different types of latches, locks, and hooks. The toy comes with four animal figures. It is unclear from product images if the figures are made from wood or resin.	Dimensions for the barn: Length: 10 inches; Width: 7.5 inches; Height: 10.5 inches; Weight: 3.55 lbs. Dimensions not available for the animal figures.
Figurine Toy 5 – Poseable Plastic Doll	A hard plastic doll with brushable hair. The doll has the ability to move and pose in ways that mimic realistic action. Each doll has 22 points of articulation – in the neck, upper arms, elbows, wrists, torso, hips, upper legs, knees and ankles – that allow for flexibility and a wide range of movement.	Length: 6.5 inches; Width: 2.5 inches; Height: 13 inches; Weight: 6.1 ounces.

3.8.1 Manufacturer’s Stated Age

The manufacturer’s stated ages for the five Figurine Toys are all 3+ years, and the Resin Animal specifies play for ages 3- through 8-years-old. The product packaging and manufacturer’s website consistently list the stated age of intent for the Plastic Princess Dolls, the Resin Animal, the Barn & Animal Play Set, and the Poseable Plastic Doll. The Small Vinyl Figure lists a stated age of intent on the product packaging, but it cannot be found on the manufacturer’s website. Table 3-47 lists the age of intent for all products and indicates where it was found.

Both the manufacturer’s website and product packaging for the Poseable Plastic Doll have a warning, indicating the toy is not intended for children under 3-years-old. The manufacturer’s website for the Plastic Princess Dolls has a warning indicating that small parts may be generated and that the toy is not intended for children under 3-years-old. However, based on the images of product packaging online, researchers could not identify any warning on the product packaging for this toy. Conversely, the product packaging for the Small Vinyl Figure does warn of a choking hazard due to small parts, but no such warning was on the manufacturer’s website.

Toy	Manufacturer’s stated age	
	Product packaging	Manufacturer’s website
Figurine Toy 1 – Plastic Princess Dolls	3+ years	3+ years
Figurine Toy 2 – Small Vinyl Figure	3+ years	Not listed on website
Figurine Toy 3 – Resin Animals	3+ years*	3+ years*
Figurine Toy 4 – Barn & Animal Play Set	3+years	3+ years
Figurine Toy 5 – Poseable Plastic Doll	3+ years	3+ years

* Product packaging and the manufacturer’s website list intended age as 3- through 8-years-old.

3.8.2 How the Toys Are Marketed

Overall, there are inconsistencies in how the recommended ages for the Figurine Toys are presented to the consumer by retailers. While a recommended age is consistently listed on all retailer websites selling the Plastic Princess Dolls and the Barn and Animal Play Set, retailers for the other three toys do not always list a recommended age, and at times provide the consumer with conflicting information within a retailer website. For example, one retailer for the Small Vinyl Figure lists 12+ years as the recommended age, while a second retailer lists 3+ years in one location and 5+ years in the second location on the same product page. Similarly, a retailer for the Poseable Plastic Doll and the Resin Animals provides conflicting information on the product page for each of these toys. One location lists 3+ years for each of the toys, while another provides a recommended range of 2- through 4-years-old (Poseable Plastic Doll) and 4+ years (Resin Animals).

There are images of children playing with the toys on the manufacturer’s websites, retailer websites, or both for four of the toys. Overall, the websites show images of children 3- through 10-years-old, and the ages of the children overlap with the manufacturer’s stated age of intent for each toy. The manufacturer’s website and retailer websites for the Small Vinyl Figure do not show images of children playing with the toy.

Several manufacturers and retailers include promotional statements on their product pages for the toys. Most seem to be marketed to children with the exception of the Small Vinyl Figure. Examples of some of the promotional statements directed toward children include:

- “Made for little hands.” (Plastic Princess Dolls)
- “Kids can imagine dressing up their favorite princess characters for an enchanted evening or exciting adventure!” (Plastic Princess Dolls)
- “Ideal for preschool children aged 3 to 8.” (Resin Animals)
- “Helps teach children 3 years and up vital fine motor skills, counting skills, colors, and animal recognition.” (Barn & Animal Play Set)

Promotional statements for the Small Vinyl Figure suggest the figure should be treated as a collectible and, therefore, for more general use with respect to age.

- “Collect and display.”
- “Doubles as the perfect XXXX companion par-excellence no matter what age you are.” Table 3-48 provides a summary of this information.

Table 3-48. Marketing information – Figurine Toys

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Figurine Toy 1 – Plastic Princess Dolls	3+ years	3+ years	3+ years	3+ years	6- through 8-years-old

Table 3-48. Marketing information – Figurine Toys (continued)

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Figurine Toy 2 – Small Vinyl Figure	3+ years	Not listed on website	12+ years	3+ years/ 5+ years**	No images found on manufacturer or retailer websites
Figurine Toy 3 – Resin Animals	3+ years	3+ years/ 4+ years***	3+ years	3+ years	3- through 8-years-old
Figurine Toy 4 – Barn & Animal Play Set	3+ years	3+ years	3+ years	3+ years	3- through 4-years-old
Figurine Toy 5 – Poseable Plastic Doll	3+ years	3+ years/ 2-4 years****	3+ years	3+ years	3- through 10-years-old

* Obtained from images of product packaging or manufacturer’s website.

**One retailer provides conflicting information: in one location lists 3+ as the recommended age but in a second location on the web page lists it as 5+ years.

***One retailer provides conflicting information: in one location lists 3+ as the recommended age but in a second location on the web page lists it as 4+ years.

****One retailer provides conflicting information: in one location lists 3+ years as the recommend age but in a second location on the same web page lists it as 2-4 years.

All of the retailer websites include a warning regarding small parts for the Small Princess Dolls and Small Vinyl Figure. Only two retailers list a small parts warning for the Resin Animals and Poseable Plastic Doll. None of the retailers list a warning for the Barn & Animal Play Set.

- “Small parts may be generated. Not for children under 3 years.” (Small Princess Dolls)
- “CHOKING HAZARD - Small parts. Not for children under 3 yrs.” (Small Vinyl Figure)
- “CHOKING HAZARD – Have small parts. Not for children under 3 years.”(Resin Animals; Poseable Plastic Doll)

3.8.3 Consumer Perceptions

A total of 1,943 consumer reviews were examined for the Figurine Toys, of which the age of the child for whom the toy was purchased was mentioned 69 times. Table 3-49 summarizes the total number of reviews for each toy and the number of times a consumer referenced the child(ren)'s age(s).

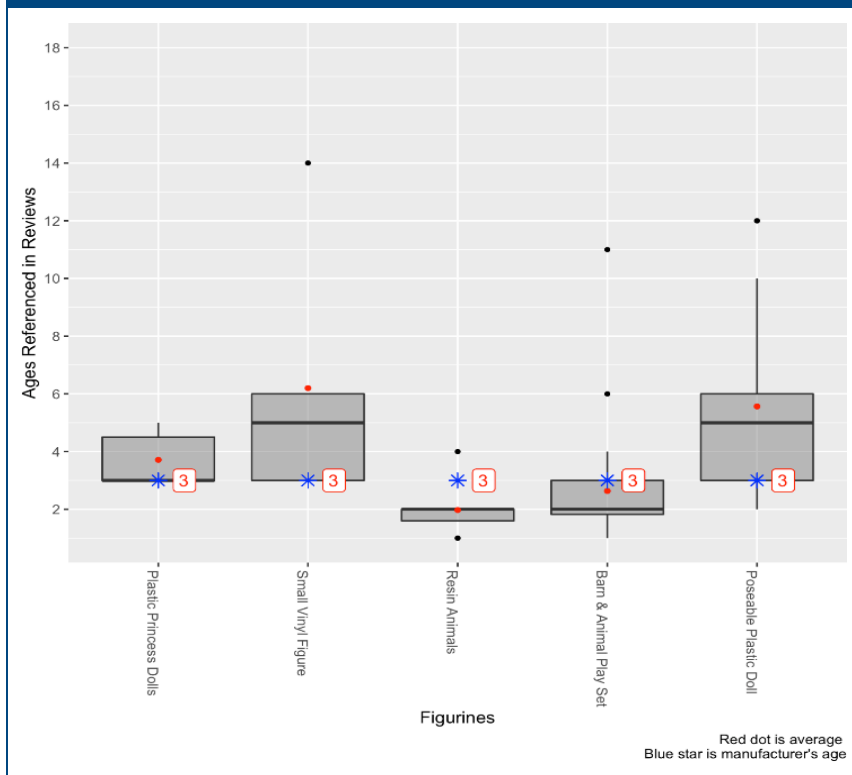
Toy	Manufacturer's stated age*	Total reviews available	Number of times a child's age is mentioned	Age range referenced in reviews
Figurine Toy 1 – Plastic Princess Dolls	3+ years	18	7	3- through 5-years-old
Figurine Toy 2 – Small Vinyl Figure	3+ years	265	5	3- through 14-years-old
Figurine Toy 3 – Resin Animals	3+ years	94	8	1- through 4-years-old
Figurine Toy 4 – Barn & Animal Play Set	3+ years	359	26	1- through 11-years-old
Figurine Toy 5 – Poseable Plastic Doll	3+ years	1,207	23	2- through 12-years-old

* Obtained from images of product packaging or manufacturer's website.

In the Figurine Toy category, the age of a child mentioned in consumer reviews ranges from 1-year-old to 12-years-old. The box plot in Figure 3-12 is a graphical representation of the distribution of children's ages referenced for each toy. The gray box and black lines display the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer's stated age. Compared to the other selected toys in this category, the Small Vinyl Figure and Poseable Plastic Doll have the widest distribution of ages mentioned in reviews. This can be seen in the relatively longer boxes and vertical lines for these toys. The tightest distribution of ages referenced is for the Resin Animals, which have the shortest box length as compared to other toys in this category.

A majority of consumers who report child(ren)'s age(s) in online reviews are purchasing the Plastic Princess Dolls, Small Vinyl Figure, and Poseable Plastic Doll for children who are at the manufacturer's stated age or older. On the plot, nearly the entire box is above the blue star for these toys. Conversely, a majority of the consumers purchasing the Resin Animals and Barn & Animal Play Set are referencing children who are younger than the manufacturer's stated age of intent; most of the box is below the blue star for these toys.

Figure 3-12. Age distribution – Figurine Toys



Based on the ages referenced in reviews, a majority of consumers are purchasing the Resin Animals for children who are one year younger than the stated age of intent (2- years-old vs. 3- years-old). This is shown on the plot by the red dot (average age), which is approximately one year below the blue star. In addition, most of the consumers are purchasing the Barn & Animal Playset for children who are younger than the manufacturer’s age of intent. See Table 3-50 for the age most frequently mentioned by consumers for each toy.

Table 3-50. Most frequent user age referenced in consumer reviews – Figurine Toys

Toy	Manufacturer’s stated age*	Most frequent user age referenced in consumer reviews (mode)
Figurine Toy 1 – Plastic Princess Dolls	3+ years	3-years-old
Figurine Toy 2 – Small Vinyl Figure	3+ years	3-years-old
Figurine Toy 3 – Resin Animals	3+ years	2-years-old
Figurine Toy 4 – Barn & Animal Play Set	3+ years	2-years-old
Figurine Toy 5 – Poseable Plastic Doll	3+ years	3-years-old

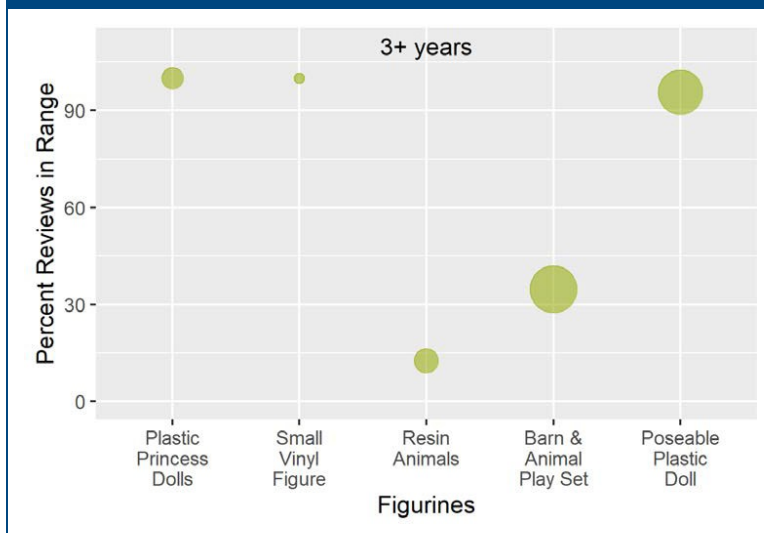
* Obtained from images of product packaging or manufacturer’s website.

Figure 3-13 displays the percentage of reviews for which the age mentioned was equal to or greater than the manufacturer’s stated age of intent; the size of each “bubble” is proportional to the number of reviews referencing a child’s age, so that toys with larger bubbles have more reviews and these percentages can be considered more reliable. Most of the reviews referencing a child’s age for the Poseable Plastic Doll (96%), the Small Vinyl Figure (100%), and the Plastic Princess Dolls (100%) mention an age equal to or greater than the manufacturer’s stated age of intent. Conversely, reviewers mention children younger than the manufacturer’s stated age 87 percent of the time for the Resin Animals and 65 percent of the time for the Barn & Animal Play Set.

Note that only five reviews of the Small Vinyl Figure and seven reviews of the Plastic Princess Dolls refer to a child's age, so these percentages should be interpreted with caution. The very small size of the bubbles in Figure 3-13 for the Small Vinyl Figure and Plastic Princess Dolls reflects the low sample sizes.

Overall, reviews for the selected Figurine Toys were mixed. For example, several reviews of the Plastic Princess Dolls indicate the product is “frustrating” because both adults and children found it difficult to put on the dresses. Conversely, one reviewer mentions a design change from an earlier version of the toy that made it is easier to use. Although the Small Vinyl Figure has a stated age of 3+ years, one reviewer indicates he/she would not recommend the toy for a child under 5-years-old.

Figure 3-13. Percent of reviews referring to ages at or above manufacturers stated age of intent – Figurine Toys



Reviews for the Barn & Animal Play Set and the Resin Animals were also mixed. While some were positive, others expressed concerns regarding the size of some of the figures, the danger each may pose to smaller mouthy children, and concerns regarding a coating coming off of some of the figures:

- “My little one loves to play with this and of course pays more attention to opening and closing the doors on the barn than anything else.” (Barn & Animal Play Set)
- “Coated animals very unsafe, comes off after first use. Dangerous for young kids.” (Barn & Animal Play Set)
- “Our little guy loved it, especially all the cause and effect latches and locks.” (Barn & Animal Play Set)
- “These are sturdy and hold up to my toddler’s rough idea of play.” (Resin Animals)
- “They are a great size – good for having handy in the diaper bag or travel, but not so small that I worry about my super mouthy baby with them (except the baby cheetah who took a small vacation until she was a little older).” (Resin Animals)

Overall consumers were happy with the Poseable Plastic Doll. Several reviewers commented that the doll’s flexibility decreases the likelihood the doll will break during rough play, with one person writing, “My 2-year-old is very rough with toys and they tend to break easily! This doll is very durable, because of its bendability.” While other reviewers noted their child is too young to fully use the doll as it is intended, all still had positive comments.

Consumers purchased the Figurines for an adult or for their own collection. A number of reviews for the Plastic Princess dolls, Small Vinyl Figure, Resin Animals, and Poseable Plastic Doll all mention the figure was purchased for an adult or general use.

Unboxing videos were identified and viewed for the five selected toys. For most of the toys, the children in the videos appear to be within the age range of the manufacturer’s stated age, meaning there are no children who appear to be substantially younger or older than the stated. However, the three videos for the Poseable Plastic Doll show children who are between 3 to 8 years older than the manufacturer’s stated age. Conversely, three of the five unboxing videos viewed for the Barn & Animal Set show children who are approximately 2-years-old, which is a year younger than the manufacturer’s stated age.

Unboxing videos for the Small Vinyl Figure show adults discussing the toy, most indicating they purchased the toy for their own collection. Table 3-51 summarizes the information on the unboxing videos for each toy.

Toy	Manufacturer’s stated age*	Number of unboxing videos viewed with children	Age range of children in unboxing videos
Figurine Toy 1 – Plastic Princess Doll	3+ years	5	4- through 6-years-old
Figurine Toy 2 – Small Vinyl Figure	3+ years	0	No videos show children
Figurine Toy 3 – Resin Animals	3+ years	3	3-through 10-years-old
Figurine Toy 4 – Barn & Animal Play Set	3+ years	5	17-months through 3-years
Figurine Toy 5 – Poseable Plastic Doll	3+ years	3	6- through 11-years-old

* Obtained from images of product packaging or manufacturer’s website.

3.8.4 Social Media Scan

The Meltwater social media scan resulted in 413 mentions for the selected toys in the Figurine category. Posts related to the Plastic Princess Dolls did not reference age; however, there were some images of 3- through 4-year-olds playing with the product. Only one social media post for the Poseable Plastic Doll references the age of the child (10-years-old). Mentions of the Resin Animals are mixed. Some mentions discuss or show images of children who are 3-years-old or older interacting with the toy. Others express concern about the 3+ age rating due to the small size of one of the pieces. Similarly, most mentions of the Barn & Animal Play Set are positive and refer to children 3+ years; one expresses concern about the 3+ age rating due to the small size of one of the pieces. In addition, some mention or show images of children who are younger than the manufacturer’s stated age for the Barn & Animal Play Set.

There were very few mentions of age related to the Small Vinyl Figure in the social media scan. This line of figurines is very popular with adults. Of those mentions that discuss age, the children were ages 3+. See Table 3-52 for a summary of this information.

Table 3-52. Social media scan – Figurine Toys

Toy	Manufacturer’s stated age*	Number of social media mentions	Comments about age-related mentions
Figurine Toy 1 – Plastic Princess Doll	3+ years	52	There were no mentions of age, but there are images on Instagram of children (around 3- and 4-years-old) playing with the product.
Figurine Toy 2 – Small Vinyl Figure	3+ years	92	This line of figures is very popular with adults. Of those mentions that discuss age, the children were ages 3+.
Figurine Toy 3 – Resin Animals	3+ years	25	Some mentions of age, include some expressing concern about the 3+ age rating due to the small size of one of the pieces. Other mentions discuss children who are 3-years-old or older interacting with the toy and include images of children who are about 3+ years.
Figurine Toy 4 – Barn & Animal Play Set	3+ years	122	There was only one mention that expressed concern about the current age rating, due to the small size of one of the pieces. Most of the mentions referencing age discussed children 3+. Few included images of children playing with the toy who were younger than the manufacturer’s intended age (3+ years).
Figurine Toy 5 – Poseable Plastic Doll	3+ years	122	Only one mention referenced the age of the child (10- years-old).

* Obtained from images of product packaging or manufacturer’s website.

3.8.5 Summary of Age-Related Findings – Figurines

The manufacturer’s stated age of intent for all the selected toys ranges is 3+ years. Age-related information is readily available for all of the selected toys in the Figurine category. For three of the toys (Plastic Princess Doll, Resin Animals, and the Poseable Plastic Doll), the stated age of intent is found on both the manufacturer’s website and product packaging. The Small Vinyl Figure lists a stated age of intent on the product packaging, but it cannot be found on the manufacturer’s website.

Information related to the retailer’s age recommendations for the selected toys is inconsistent. A recommended age is consistently listed on all three retailer websites selling the Plastic Princess Dolls and the Barn & Animal Play Set; however, retailers for the other three toys do not always list a recommended age, and at times provide the consumer with conflicting information within a retailer website. That is, they list two different ages on the product page.

There are images of children whose ages concur with the manufacturer’s stated age on the manufacturer’s websites, retailers, or both for three of the toys. These websites show children 3-through 10-years-old.

Overall, the selected toys seem to be marketed to children with the exception of the Small Vinyl Figure. Several manufacturers and retailers include promotional statements on their product pages for the other four toys indicating the toys will promote fine motor skills, counting skills,

imagination play, and colors and animal recognition; whereas promotional statements for the Small Vinyl Figure suggest the figure should be treated as a collectible for more general use.

Based on ages mentioned in online product reviews, the Small Vinyl Figure, Barn & Animal Play Set, and Poseable Plastic Doll are purchased for the widest range of ages. The tightest distribution of ages referenced in reviews is for the Resin Animals. A majority of consumers who reference at least one child’s age in an online review are purchasing the Plastic Princess Dolls, Small Vinyl Figure, and the Poseable Plastic Doll for children who are at the manufacturer’s stated age or older. Conversely, a majority of the consumers purchasing the Resin Animals and Barn & Animal Play set are referencing children who are one year younger than the stated age of intent (2-years-old vs. 3-years-old). Reviewers mention children younger than the manufacturer’s stated age 87 percent of the time for the Resin Animals and 65 percent of the time for the Barn & Animal Play Set. A number of consumers purchased the Plastic Princess Dolls, Small Vinyl Figure, Resin Animals, and Poseable Plastic Doll for an adult, their own collection, or general use.

Overall, reviews for the selected Figurines were mixed. Some consumers express concerns related to the overall safety of the toy as well as the ability to use it as it is intended by the manufacturer. For example, several reviews of the Plastic Princess Doll indicate the product is “frustrating” because the dresses were difficult to put on for both adults and children. Additionally, some reviews for the Barn & Animal Playset and the Resin Animals are concerned about the size of some of the figures, and the coating on the figures.

3.9 Ride-On Toys

According to the 2020 *Guidelines*, “Ride-On toys allow a child to propel him or herself, either under his or her own power or through the use of an electric or gasoline motor. Ride-On toys are very popular with children, who enjoy both the sense of movement that they get from wheeled toys and the pretend element that wheeled toys give them as they imitate the important adults in their lives. Ride-On toys are important for developing a sense of balance, physical fitness, and coordination. The Ride-On toys covered under this category include sit-on riders, motorized vehicles, bicycles, skateboards, scooters and tricycles, and rocker toys.”⁷ Five toys were selected in the Ride-On toy category. Table 3-53 provides a brief description of each toy.

Toy	Product description	Dimensions
Ride-On Toy 1 – Electronic Scooter	A battery-powered scooter with a maximum speed of 10 mph. The aluminum scooter features a push-to-start (via a push from the foot), high-torque, 80-watt, gear-wheel motor, powered by a rechargeable lithium-ion battery that affixes to the rear of the scooter. The braking mechanism is a rear-fender brake that cuts off the power. The scooter has urethane wheels (a diameter was not provided) and can be folded at the handlebars and downtube.	Length: 26.3 inches; Width: 11 inches; Height: 32.9 inches; Weight: 7.33 lbs.

⁷ U.S. Consumer Product Safety Commission. (2020). *Age determination guidelines: Relating children’s ages to toy characteristics and play behavior*. Available at: https://www.cpsc.gov/s3fs-public/pdfs/blk_media_adg.pdf

Toy	Product description	Dimensions
Ride-On Toy 2 – Balance Bike	A bicycle without pedals. The child propels the bicycle forward by pushing off from the ground with their feet. This bike has an adjustable seat and handlebars to enable it to grow with the child. The wheels are 10-inch EVA tires.	Length: 29.52 inches; Width: Not Available; Height: 18.5 inches; Weight: 4.38 lbs.
Ride-On Toy 3 – Hoverboard	A self-balancing motorized scooter that runs on a rechargeable built-in lithium-ion battery. Its maximum speed is 6 mph. It is Bluetooth enabled (allowing it to pair with a phone and play music), and allows for 360-degree rotation. The wheels are 6.5 inches in diameter.	Dimensions not available.
Ride-On Toy 4 – Toddler Bike	A child-size pedal bicycle. The frame is made of steel and the bike has removable training wheels. Additional product features include: two hand brakes; an adjustable bicycle seat suitable for children of different heights; and a fully enclosed chain guard.	Length: 35 inches; Width: 19 inches; Height: 25 inches; Weight: 19 lbs.
Ride-On Toy 5 – Stationary Bike	An interactive stationary exercise bike equipped with Bluetooth technology, so children can play games on the tablet or TV screen. Children control the onscreen action by their pedal speed. The bicycle has a steel frame (which appears to be wrapped in plastic) and an adjustable seat and handlebars.	Length: 17.7 inches; Width: 31.1; Height: 30.3 inches; Weight: 16 lbs.

3.9.1 Manufacturer’s Stated Age

The manufacturer’s stated age is listed for three toys in the Ride-On category: the Electronic Scooter (8+ years), Balance Bike (18+ months), and Stationary Bike (3+ years). The manufacturer’s website for the Toddler Bike lists “recommended ages 2- 4-years-old,” and a manufacturer’s website was not found for the Hoverboard.

Images of product packaging were not found for any of the toys in this category. Any references to a manufacturer’s stated age or “recommended age” are listed on the manufacturer’s website. See Table 3-54 for a summary of this information.

Toy	Manufacturer’s stated age	
	Product packaging*	Manufacturer’s website
Ride-On Toy 1 – Electronic Scooter	Images of product packaging not found	8+ years
Ride-On Toy 2 – Balance Bike	Images of product packaging not found	18 months+
Ride-On Toy 3 – Hoverboard	Images of product packaging not found	Website not found
Ride-On Toy 4 – Toddler Bike	Images of product packaging not found	2- to- 4- years**
Ride-On Toy 5 – Stationary Bike	Images of product packaging not found	3+ years

* Images of product packages were not found for any of the toys.

**Website does not list a stated age of intent, but does state the “recommended age 2- to 4-years-old.”

3.9.2 How the Toys Are Marketed

Overall, there is agreement between the manufacturer’s stated age and the retailer’s recommended ages. Most retailers who sell the toys list a recommended age that is consistent with the manufacturer’s stated age. However, the manufacturer’s stated age for the Balance Bike differs from the recommended age listed on the two retailer product pages that sell the bike. Both retailers list a recommended age of 2+ years, which is older than the manufacturer’s stated age (18+ months). In addition, a retailer for the Stationary Bike lists a recommended age of 3+ years in one location on the product page and 5+ years in another location.

Most of the manufacturer and/or retailer website product pages have images of children playing with the products whose ages appear to be consistent with the manufacturer’s stated age. However, the ages of children in the images on the manufacturer’s and a retailer product page for an Electronic Scooter range from 6- through 8-years-old. These images include children who appear to be 1- to 2-years younger than the manufacturer’s stated age (8+ years). In addition, although a manufacturer’s website was not found for the Hoverboard, and the one retailer that sells it does not list a recommended age, there are images on the website that show children approximately 5- through 9-years-old playing with the toy.

Several manufacturer’s and retailer websites include promotional statements, all of which seem to market the toys to children:

- “Enjoy Riding. Give your child a happy time.” (Hoverboard)
- “Safe and stable training wheel for the early rider. Adjustable bicycle seat suitable for children of different heights, extends the service life of the bike.” (Toddler Bike)
- “Preschoolers can learn important skills they’ll need as they head into kindergarten” (Stationary Bike)
- “Kid tough steel construction—tough enough to take what preschoolers dish out!” (Stationary Bike)

Additionally, the marketing statements from retailers for the Toddler Bike and the Stationary Bike highlight the safety and durability of some of the features as well as educational benefits of the toy.

Table 3-55 provides a summary of this information.

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Ride-On Toy 1 – Electronic Scooter	8+ years	Not sold	8+ years	8+ years	6- through 8-years-old
Ride-On Toy 2 – Balance Bike	18 months+	Not sold	2+ years	2+ years	18 months- through 3-years-old
Ride-On Toy 3 – Hoverboard	Website not found	Not listed on website	Not sold	Not sold	5- through 9-years-old

Table 3-55. Marketing information – Ride-On Toys (continued)

Toy	Manufacturer’s stated age*	Retailer 1 recommended age	Retailer 2 recommended age	Retailer 3 recommended age	Age range of children in marketing images
Ride-On Toy 4 – Toddler Bike	2- 4 years**	2+ years	Not listed on website	2+ years	3- through 4-years-old
Ride-On Toy 5 – Stationary Bike	3+ years	3+ years	3+ years/ 5+ years***	3+ years	3- through 4-years-old

* Obtained from manufacturer’s website, images of product packages were not found for any of the toys.

**Website does not list a stated age of intent, but does state the “recommended age [is] 2- to 4-years-old.”

***Retailer provides conflicting information: in one location it lists 3+ as the recommended age and as 5+ years in a different location on the same page.

3.9.3 Consumer Perceptions

A total of 2,943 consumer reviews were examined for the Ride-On toys, of which references were made to the age of the child for whom the toy is purchased or the age of the child who plays with the toy 100 times. Table 3-56 summarizes the total number of reviews for each toy and the number of reviews that reference the child(ren)’s age(s).

Table 3-56. Consumer reviews – Ride-On Toys

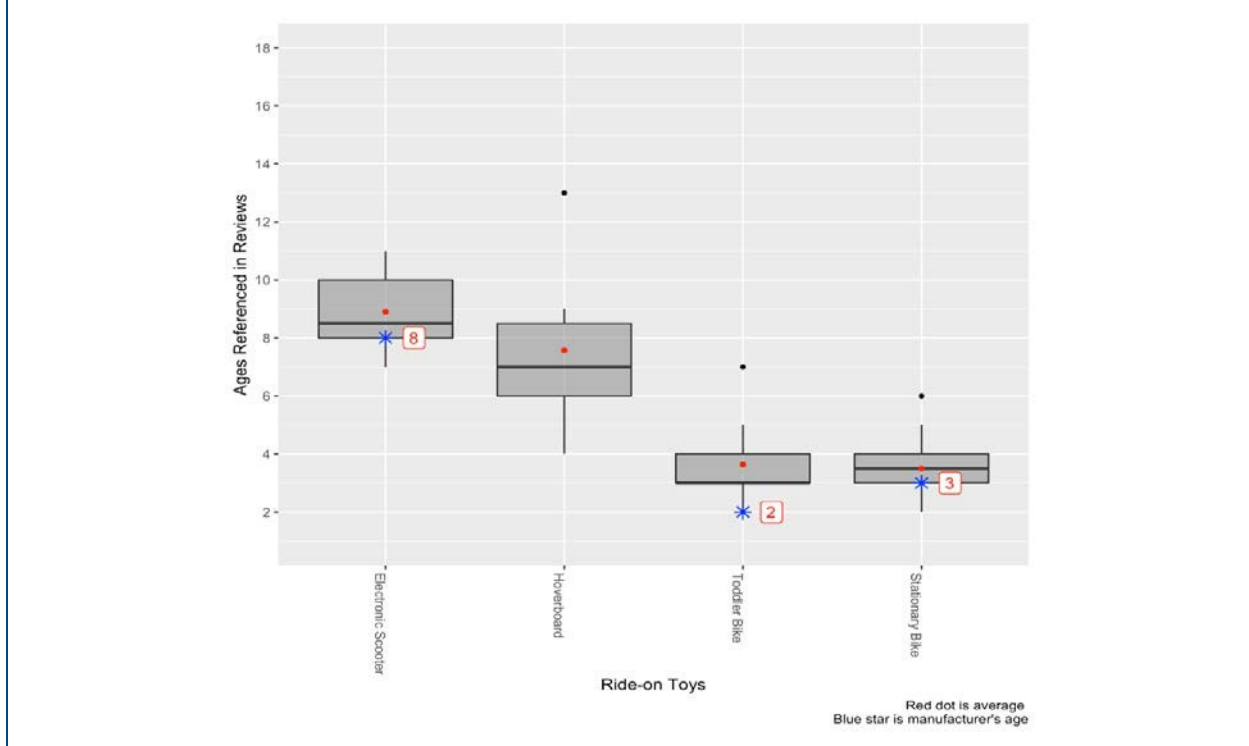
Toy	Manufacturer’s stated age*	Total reviews available	Number of times a child’s age is mentioned	Age range referenced in reviews
Ride-On Toy 1 – Electric Scooter	8+ years	20	10	7- through 11-years-old
Ride-On Toy 2 – Balance Bike	18 months+	1	0	-
Ride-On Toy 3 – Hoverboard	Website Not Found	32	7	4- through 13-years-old
Ride-On Toy 4 – Toddler Bike	2- 4 years**	2,272	39	2- through 7-years-old
Ride-On Toy 5 – Stationary Bike	3+ years	618	44	2- through 6-years-old

* Obtained from manufacturer’s website, images of product packages were not found for any of the toys.

**Website does not list a stated age of intent, but does state the recommended age for children is 2- to 4-years-old.

The ages of children mentioned in consumer reviews for Ride-On toys range from 2- to 13-years-old. The box plot in Figure 3-14 is a graphical representation of the distribution of children’s ages referenced for each Ride-On toy. The gray box and black lines display the range of ages mentioned, with a red dot indicating the average age mentioned and a blue star marking the manufacturer’s stated age. The blue star for the Toddler Bike represents the youngest age in the “recommended age” range listed on the manufacturer’s website. The Balance Bike does not appear in the figure because no reviews referencing a child’s age were identified. A manufacturer’s stated age was not found for the Hoverboard, so the associated box plot has no blue star.

Figure 3-14. Age distribution – Ride-On Toys



Based on reviews, the widest distributions of age referenced are for the Electronic Scooter and the Hoverboard, for which most of the reviews reference children between the ages of 8-years-old through 10-years-old and 6-years-old through 8.5-years-old, respectively. Based on the ages identified in the consumer reviews, shoppers tend to purchase the selected Ride-On toys for children who are at least the manufacturer’s stated age or older for most of the toys. On the plot, nearly the entire box is above the blue star for the Electronic Scooter and the Stationary Bike. In addition, the box falls within “recommended age” range for the Toddler Bike (2-years-old through 4-years-old). See Table 3-57 for the most frequent purchasing age mentioned by consumers for each toy.

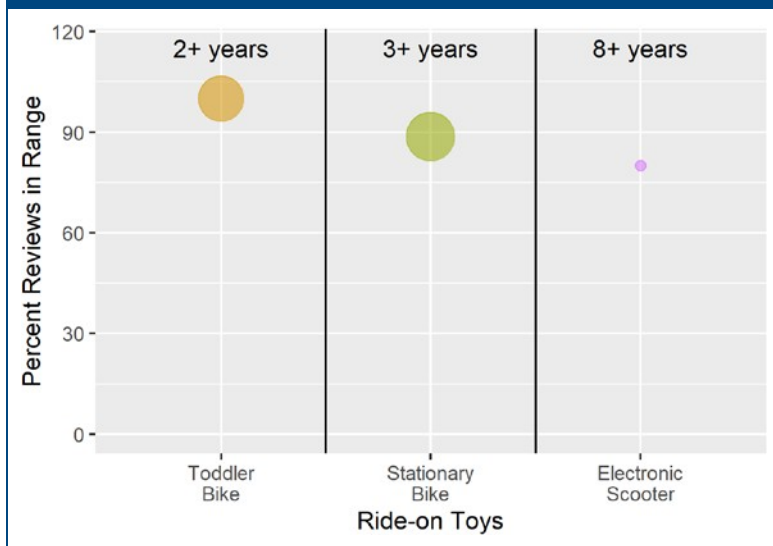
Table 3-57. Most frequent user age referenced in consumer reviews – Ride-On Toys

Toy	Manufacturer’s stated age*	Most frequent user age referenced in consumer reviews (mode)
Ride-On Toy 1 – Electric Scooter	8+ years	8-years-old
Ride-On Toy 2 – Balance Bike	18 months+	-
Ride-On Toy 3 – Hoverboard	Website not found	6-years-old
Ride-On Toy 4 – Toddler Bike	2- 4 years**	3-years-old
Ride-On Toy 5 – Stationary Bike	3+ years	4-years-old

* Obtained from manufacturer’s website, images of product packages were not found for any of the toys.

**Website does not list a stated age of intent, but does state the recommended age for children is 2- to 4-years-old.

Figure 3-15. Percent of reviews referring to ages at or above manufacturer's stated age of intent – Ride-On Toys



Most of the reviews referencing a child's age for the Toddler Bike (100%), the Stationary Bike (89%), and the Electronic Scooter (80%) mention an age equal to or greater than the manufacturer's stated age of intent. Only 10 reviews reference a child's age for the Electronic Scooter, compared to 39 for the Toddler Bike and 44 for the Stationary Bike (see Table 3-56).

The very small size of the "bubble" for the Electric Scooter reflects the low sample size. A stated age of intent was not found for the Hoverboard, and no reviews referencing age were identified for the Balance Bike, so neither are represented in the bubble plot on the left (Figure 3-15).

There are some reviews that do not mention a specific age but instead refer to "children" when discussing the toy. While there are some concerns related to the age-appropriateness of some of the toys for younger children, the overall sentiments are positive:

- "Great bike for our little one." (Balance Bike)
- "Wanted it as a cruiser first to teach him balance. He's kind of small so legs wouldn't reach yet." (Toddler Bike)
- "Awesome bike for toddler." (Toddler Bike)
- "It would have been easy if there is a removable handle to the back initially to hold for parents when toddlers are learning how to bike." (Toddler Bike)
- "Cute bike, but WAY too heavy for little ones. My little one had a balance bike for two years. She was ready for a real bike (without training wheels)." (Toddler Bike)
- "The mother of my son's best friend from preschool highly recommended this bike." (Toddler Bike)

One additional review of the Hoverboard did not mention a specific age, but indicated the toy is appropriate for children 5- to 18-years-old.⁸

⁸ Note, this value was not included in the charts above because it did not reference a specific child's age, but rather a reference for age range.

Unboxing videos were identified and viewed for most of the toys. When children were shown in the videos, they appear to be at or above the manufacturer’s stated age. The two unboxing videos for the Hoverboard show an adult male narrating some of the features of the toy; no children were present in the videos. While neither video references a recommended age, one of the videos was titled “Top 5 Best Hoverboards for Children.” Table 3-58 summarizes the information.

Toy	Manufacturer’s stated age*	Number of unboxing videos viewed**	Age range of children in unboxing videos
Ride-On Toy 1 – Electric Scooter	8+ years	2	8- through 12-years-old
Ride-On Toy 2 – Balance Bike	18 months+	0	-
Ride-On Toy 3 – Hoverboard	Website not found	2	No videos show children
Ride-On Toy 4 – Toddler Bike	2-4 years**	5	3- through 6-years-old
Ride-On Toy 5 – Stationary Bike	3+ years	8	3- through 4-years-old

* Obtained from manufacturer’s website, images of product packages were not found for any of the toys.

**Website does not list a stated age of intent, but does state the recommended age for children is 2- to 4-years-old.

3.9.4 Social Media Scan

The Meltwater social media scan resulted in 178 mentions for the selected Ride-On toys. No mentions of the Electronic Scooter, Balance Bike, or Hoverboard reference a child’s age. Very few mentions refer to the age of children interacting with the Toddler Bike. However, some of these mentions discuss ages that are consistent with the manufacturer’s stated age (2+ years) and/or include images of children playing with the toy. Additionally, one mention discusses a child younger than 2-years-old.

Several mentions of the Stationary Bike discuss age, but only two refer to ages below the age recommendations (children 2-years-old and 2.5-years-old). All other mentions that discuss age or included images of children playing with the toy, reference children ages 3 or older, which is consistent with the manufacturer’s stated age. See Table 3-59 for a summary of this information.

Toy	Manufacturer’s stated age*	Number of social media mentions	Comments about age-related mentions
Ride-On Toy 1 – Electric Scooter	8+ years	20	There was no discussion of age
Ride-On Toy 2 – Balance Bike	18 months+	7	There was no discussion of age
Ride-On Toy 3 – Hoverboard	Website not found	19	There was no discussion of age

Table 3-59. Social media scan – Ride-On Toys (continued)

Toy	Manufacturer’s stated age*	Number of social media mentions	Comments about age-related mentions
Ride-On Toy 4 – Toddler Bike	2- 4 years**	83	Some of these mentions discussed age and/or include images of children playing with the toy. Some referred to children 2+ years. Only one mention discusses a child younger than 2-years-old.
Ride-On Toy 5 – Stationary Bike	3+ years	49	A few mentions discuss age or included images of children playing with the toy. Of these, nearly all children referenced were age 3 or older. Only two refer to ages below the age recommendations (children 2-years-old and 2.5-years-old).

* Obtained from manufacturer’s website, images of product packages were not found for any of the toys.

**Website does not list a stated age of intent, but does state the recommended age for children is 2- to 4-years-old.

3.9.5 Summary of Age-Related Findings – Ride-On Toys

The manufacturer’s stated ages for the selected toys range from 18+ months to 8+ years, and are readily available from the manufacturer’s website for four of the selected toys in the Ride-On Category. We were unable to identify a manufacturer website or a stated age of intent for the Hoverboard. In addition, no images of product packaging were found for any of the Ride-On toys.

In general, age recommendation information listed on retailer’s websites is consistent with the manufacturer’s stated age for these toys. However, two of the retailers selling the Balance Bike list a recommended age that differs from the manufacturer’s stated age (2+ years vs. 18+ months, respectively). In addition, one retailer selling the Stationary Bike lists a recommended age of 3+ years in one location and 5+ years in another location on the product page.

The selected toys in this category appear to be marketed for children and not for general use. Overall, there is consistency between the manufacturer’s stated age/recommended age and how the toy is marketed. Images of children playing with the products on manufacturer and/or retailer websites appear to be in harmony with the manufacturer’s stated age of intent. Although the manufacturer website could not be found and retailers do not list an age of intent for the Hoverboard, images on a retailer’s website show children ages 5- through 9-years-old playing with the toy.

The age of the child mentioned in consumer reviews ranges from 2-years-old to 13-years-old for the Ride-On toys. Compared to the other selected toys in this category, the Electronic Scooter and Hoverboard have the widest distribution of ages mentioned in reviews. Based on the ages identified in the consumer reviews, a majority of consumers are purchasing these toys for children who are at the manufacturer’s stated age or older. Most consumers who reference an age in the Hoverboard reviews purchased the toy for a child that is 6-years-old, but no manufacturer’s stated age was found for this toy, so it is unclear whether this age would be younger than intended.

4. Conclusions

4.1 Findings

From an early age, toys are an important part of a child's physical, mental, and emotional development. By playing with toys, children develop their fine and gross motor skills, learn to walk, talk, socialize, acquire knowledge, grow emotionally, and develop creativity and imagination as well as spatial awareness. Today's brick-and-mortar stores and online retailers offer a myriad of toys that are marketed for children, posing a challenge to parents/caregivers who need to identify age-appropriate toys that are safe and which their children will enjoy. Age labeling on toys can help consumers make informed decisions because they provide information on the abilities and interests needed by a child to play with the toy.

Across the nine toy categories reviewed, the manufacturer's stated age ranges from 1-year-old through 10-years-old. Smart Toys have the widest range of manufacturer's stated age (1+ years through 10+ years), whereas all the Figurines reviewed have a manufacturer's stated age of 3+ years. It is important to note, however, that toys within any category can have a wide variety of features and pose varying degrees of difficulty for the child. Therefore, it is impossible to generalize and say that all toys in a given category are reasonable for children of a given age. Each toy needs to be examined independently to determine how its features and functions correspond with a child's cognitive, physical (fine motor and gross motor skills), and emotional abilities.

It is to the manufacturer's advantage to accurately determine a reasonable age category for each toy, and to label, promote, and market those toys to children in that age range. Based on the findings from this online scan, most of the manufacturers for the selected toys provide a manufacturer's stated age of intent on their website, the product packaging, or both. When the stated age of intent is listed in both locations, the information is for the most part consistently presented. There are a few cases where a website and product packaging present the age information differently. That is, one may present it as a range such as "3-through 8-years" while the other source will list the age of intent as "3+ years." Alternatively, there are some instances where the information is listed on one source but could not be found on the other, or the information between the two sources does not match. A manufacturer's stated age of intent was not identified for 11 of the 55 toys reviewed. These toys were typically made by lesser known manufacturers or are no longer sold by the manufacturer.

Overall, retailer websites typically list a recommended age for the toy. However, the number of retailers that sell the toy or list a recommended age on their website varies across the different categories. For example, most of the selected toys in the Smart, Interlocking-Connecting, and Novelty Toy categories have a recommended age listed on the retailer websites; however, a recommended age was not found on the retailer product pages for a large proportion of the toys in the Miniature Toy category. In addition, while most retailers list a recommended age across the toy categories, this information sometimes conflicts with the stated age of intent on the product packaging and/or the manufacturer's website. For each category, at least one retailer lists a recommended age that conflicts with the manufacturer's stated age of intent for one toy. In fact, for the Novelty Toy category, for every toy reviewed there is at least one retailer that lists a recommended age that differs from the manufacturer's stated age.

Some of these inconsistencies between the manufacturer's stated age and the retailer's recommended age may be the result of sellers incorrectly filling out product information when setting up the webpage. For example, some retailers require sellers to state the intended users age in "months" while others require the information be entered in "years." This may result in a seller mistakenly entering 3+ months when they intended to enter 3+ years. This discrepancy is particularly important for toys intended for young children. When researching and purchasing toys, consumers search online for age information. A toy that is intended by the manufacturer for children ages 3+ years, but for which a website lists 3+ months, may cause a consumer to purchase a toy that has small parts, is developmentally unsuitable for the child, and exposes the child to other potential hazards.

Retailers can employ some basic strategies to help improve consistency and accuracy in how the recommended age is entered by the seller and presented to the consumer. For example, retailers can institute more detailed quality control practices when age-related information is entered on retailer websites, which may require the seller to verify their initial entry and include verification against the stated age listed on the manufacturer's website or on product packaging. Similarly, toy manufacturers can make sure that the stated age of a toy is prominently displayed on the product packaging and product page of their website. This will allow both retailers and consumers to easily obtain this information.

Additional factors that may contribute to parents'/caregivers' purchasing decisions are promotional statements and marketing images that appear on manufacturer websites, retailer product pages, and/or product packaging. With few exceptions, the marketing approach for most of the toys includes images of children interacting with the toys. Typically, the children depicted are within the manufacturer's stated age. However, children in the images used to promote some of the toys in the Musical, Ride-On, and Miniature toy categories appear to be slightly younger than the manufacturer's stated age, which can be misleading for the consumer. No marketing images including children were identified for any of the toys in the Party Favor category or the Holiday Toys category. A possible explanation for this is because some of retailers for these products include promotional statements on the product page that market the product to adults as well as children, suggesting that these categories of toys are marketed for more general use.

While the marketing images of children we reviewed were for the most part in line with the manufacturer's stated age or the retailers recommended, both manufacturers and retailers can make it a priority to *only* show children interacting with the toy that are within the suggested age range. Images of children who are younger than the age for which the toy is intended can be misleading and result in the consumer purchasing a toy that is unsuitable for their child. This is especially critical when the manufacturer or retailer does not list the stated age of intent on the packaging or product page.

The use of product promotional statements is also another tool at the manufacturer's disposal. For example, if the manufacturer believes the toy to be safe for a certain age, but that a slightly older age child is more likely to use the toy independently, this should be clearly stated on the product packaging and product page. An illustration of this, is the statement, "4-7, I may need some help! 8-12, I can do it!" which is printed on the product packaging of one the toys reviewed. In a similar vein, the manufacturer should also be clear about identifying any potential hazards, especially for those toys that tend to appeal to all ages (e.g., blowing bubbles). One example of this might include listing all the small parts or providing the dimensions of the smallest toy part.

An assessment of consumer reviews referencing age indicates that a majority of the toys are purchased for children who are at or older than the manufacturer's stated age. However, a majority of the toys in the Musical Toys category are purchased for children younger than the manufacturer's stated age. Across all categories, consumer reviews were mixed. While some reviews were positive, others expressed concern related to the age-appropriateness of the toy, the child's ability to use it as intended, and/or the potential safety hazards.

Consumer reviews have the potential to be a powerful resource for caregivers when making purchasing decisions. It provides the consumer with the opportunity to see how other consumers felt about the age-appropriateness, overall safety of the toy, and potential hazards. When age is referenced by a consumer in the review, it also provides a consumer with the opportunity to learn how other children interacted with the toy, if the toy held their interest, or if the toy was unsafe. In turn, manufacturers can also use consumer reviews as a tool to provide feedback with respect to the age-reasonableness of their toys. Manufacturers can use the information provided by consumers in their reviews to assess the effectiveness of their marketing strategy. Are consumers purchasing the toys for children who are within the intended age range? There are potential safety benefits that can be introduced as well if manufacturers respond to reviews that discuss age-appropriateness of a toy and to reviews that discuss potential safety hazards. Manufacturers should consider responding or addressing concerns referenced by the consumers in the reviews. For example, if the toy was purchased for a child who is younger than the intended age and is facing challenges when interacting with the toy, the manufacturer can respond to the review and use this as an opportunity to educate the consumer.

It is also important to note that toys in the Holiday and Party Favor toy categories tended to have less age-related information available to the consumer when compared to the other categories. Additionally, several of the selected toys in these categories could also be viewed as more in the general use category, indicating that they could appeal to all ages, including adults.

4.2 Limitations of the Study

While the current study offers some insight into the alignment of online product age labeling, marketing messages, and consumer reviews as it relates to the intended and eventual user of a toy, the reader should be aware of some limitations. First, the toys selected for this study do not represent the full range of toys in any given category. As seen in the *Guidelines*, toys in a given category (e.g., Ride-On Vehicles, Party Favors, Smart Toys) can be reasonable for children of different ages, depending on the features and functionality the toy offers. Thus, it is not advisable to make generalizations about other toys from the findings presented here.

Second, all information about a given toy was gathered via an online review. Not having in-person access to each toy and its packaging limits our view of the products and to what was provided by the manufacturer/retailer websites. That is, websites often do not show *all* panels of a product's package. Therefore, unseen panels of a given package may show images of children using the product, marketing messages relating to the ages who will enjoy using the toy (e.g., "great for toddlers"), safety warnings, and/or a stated age of intent/recommended age.

Finally, while consumer reviews are a useful window into the ages of the children for whom the toy is purchased or who ultimately use the toys, very few reviews discuss the age of child and their ability to use the toy as intended. When only a few consumer reviews with such information exist for a given toy, findings should be viewed with caution.

4.3 Future Research Needs

As stated above, findings from this study are limited to what was identified from an online review of the manufacturer's stated age, consumer reviews, and marketing strategies. Also, given the proportionately low number of reviews referencing a child's age, and the constraints imposed by online images of the toys and their packaging, observing children using these toys is an important step for understanding the intended age of these toys as stated in the Code of Federal Regulations. By actually observing children using the toy, we can achieve a better understanding of the physical, cognitive, and emotional development stages needed to interact with the toy as the manufacturer intends, and whether the toy provides an environment and resources that is stimulating to the child.

In addition, since consumers often decide whether or not to purchase a toy based on information viewed online as well as product packaging, a survey of parents can identify what caregivers look for when shopping for their child. The survey would provide the caregivers with the toy and the packaging and ask them to indicate what information they use and from where they obtain it when making a decision to purchase a toy. More specifically, we would set out to learn whether the parents use information from the product packaging, marketing images or promotional statements, manufacturer's stated age, or consumer reviews to inform their decisions.

Finally, while most of the toys reviewed in this scan are intended to be used by a specific child(ren), Party Favors are somewhat different. Organized birthday parties can start at any age, but most often the children are at least 3-years-old before enough children are invited where party favors are needed. Thus, it appears that the age label and intended users are aligned. However, Party Favors are often sold in packs and are not only given to the birthday child, who may be 3+ years, but they are also given to other children in attendance. Even though the birthday child may be 3 years or older, siblings, cousins, neighbors, and other children younger than 3 years of age are often invited to parties and thus also receive the party favor. For this reason, it is quite likely that the actual users of Party Favor Toys may include children younger than 3 years. Conducting a consumer survey to identify the ages of children who are receiving Party Favor Toys would help to understand the actual age range of the users, and provide a better appreciation of the stated age of intent.