

# CHILDREN'S VULNERABILITY TO ADVERTISING MESSAGES FROM FAMILIAR CHARACTERS

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## Abstract

American children are inundated with messages from advertisers beginning at a very young age (Linn, 2004). Many advertisements directed towards children focus on familiarizing children with engaging characters, such as Ronald McDonald or Joe Camel, and then having the characters present messages about products. This type of advertising has proven extremely effective. Young children show excellent recall and recognition for characters seen in ads (Batada & Borzekowski, 2008), even when the characters promote products intended for adults (e.g., the Budweiser Frogs; Lieber, 1996). The true danger in advertisements that employ familiar characters lies in children's ability to understand how self-interest and persuasive intent influence the truthfulness of the character's message. Children do not seem to understand the persuasive intent of advertisements until late elementary school (Martin, 1997), and even if children understand that a character is associated with a product and may be motivated by self-interest, it is not clear if they take this into account when evaluating the character's messages. Although children's understanding of advertising has been of interest to marketers for many years, psychologists have only recently begun to advocate for a cognitive development approach to understanding how children's basic cognitive abilities affect their ability to understand and deal with advertising (Moses & Baldwin, 2005). Thus, this pilot project will apply methods from cognitive development research regarding children's understanding of sources of information and self-interest to elucidate why and to what extent preschool and elementary school children are vulnerable to advertising messages presented by familiar characters.

Psychologists have shown that children as young as age four understand that different people have different areas of expertise and choose their sources accordingly (Lutz & Keil, 2002) and yet children as old as age seven also have difficulty understanding that sources of information can be biased by self-interest (Mills & Keil, 2005). This project brings together these two lines of research to experimentally examine how younger children (ages four and five) and older children (ages eight and nine) assess information provided by familiar characters. Both groups of children are predicted to trust a familiar character more than an unfamiliar one. Older children, however, may be more skeptical of a familiar character's message when the character has a vested interest in the information. Conversely, younger children may not only prefer the familiar character when he presents potentially biased information, but they may also prefer him even when he presents information unrelated to his self-interest. The results of this project will specifically demonstrate the extent to which young children are vulnerable to messages regarding behaviors or products that are presented by familiar characters, even when the characters have no previous association to the product being advertised. Thus, this unique research-based approach to understanding children's vulnerability to messages presented by familiar characters will provide a basis for more effective interventions and guidelines to protect children when they are most vulnerable to advertising messages.

## Introduction

Advertising directed towards children has become a ubiquitous presence in American life. From televisions and computers to classrooms and sporting events, advertisements are present in virtually every environment that children inhabit. This is no coincidence as the advertising industry has intensified their focus on children as consumers in recent decades, spawning an entire field of advertising research devoted to creating advertisements that will be as engaging and convincing to children as possible. Whereas children were once viewed as having very limited purchasing power, the advertising industry now views them as key influences on their parent's purchases, even when those purchases do not involve products that are traditionally associated with children (such as cars; Schor, 2004). At the same time, there has been a steady movement towards pitching products to younger and younger children, so that some products are now being advertised to children before they are even able to speak (Linn, 2004). Given these changes in the way the advertising industry regards children as consumers, it has become more critical than ever to understand how children are influenced by advertising messages, what factors leave them most vulnerable, and how parents and educators can combat the effects of this advertising onslaught.

One technique that appears to be more dominant in advertisements geared toward children is the incorporation of animated or live-action characters that children recognize. Many advertisements directed towards children rely on presenting children with engaging characters and then having the characters present messages about products. These characters may be familiar to children from other settings such as children's films and television programs or they may have been created specifically to promote a specific product. Interestingly, the characters also need not have any direct or obvious relationship to the products they are used to promote. Spongebob Squarepants (a cartoon sponge who lives under the sea) tells children to use Colgate toothpaste, while Ronald McDonald (a clown with magical abilities) informs children that McDonald's is the best place to have a meal. Moreover, these ads are extremely effective. Children ages eight to ten show excellent recall and recognition for characters seen in advertisements (Batada & Borzekowski, 2008) and this remains true even for characters that promote products intended for adults, such as the croaking frogs that promoted Budweiser beer in the mid-1990's (Lieber, 1996). Although not all advertisements for children employ familiar characters, this type of advertising may pose a particularly strong risk to younger children. Given that the persuasive nature of advertising messages is already difficult for young children to discern, the presence of a familiar face may have a large role in determining how children process the message they are hearing. Thus, the true danger of advertisements that employ familiar characters may lie in children's ability to understand how self-interest and persuasive intent influence the truthfulness of the familiar character's message – how do children cope with seeing a character they know and trust present a message that may be biased?

To address this question, we will present an innovative approach to understanding children's vulnerability to advertising messages based on recent findings in developmental psychology. First we will review existing evidence concerning what children do and do not understand about the advertisements they view, and the developmental trajectory of this understanding. Then we will describe recent findings in cognitive development research that may have important implications for how children develop an understanding of advertising messages and how children select among sources of information. Finally, we will present some hypotheses about how children's understanding of advertising messages presented by familiar characters and trust in the messages those characters present changes between ages four and ten and outline a plan for experimental research to address these hypotheses.

### *Children's Understanding of Advertisements*

Understanding advertisements requires first recognizing what constitutes an advertisement and then understanding what the advertisement is intended to achieve. In 1974, the Federal Communications Commission (FCC) mandated that children's television programs must include a "clear separation," such as a statement that "we'll be right back after these messages," to allow viewers to distinguish between programs and advertisements (FCC, 1974). This mandate was based on the premise that children may have difficulty distinguishing between regular television programs and commercials and therefore they require a cue to alert them when the material they are viewing is an advertisement. These guidelines remain in place for children's Saturday morning programming, but are no longer present in many other television programs viewed by children. Regardless, even without these clear breaks, children as young as four appear to be able to distinguish between commercials and other programming in experimental settings (Levin, Petros, & Petrella, 1982; Bijmolt, Claassen, & Brus, 1998), although some researchers have suggested that older children may have trouble correctly identifying commercials all of the time (Palmer & McDowell, 1979). This suggests that by age four or five children are able to identify advertisements as such when dealing with television as the medium. However, it remains unclear how well children can identify advertisements in other mediums. The recent rise in children's access to the world wide web and the fact that many of the most popular websites for children now include "advergames" – electronic games that incorporate advertising messages – is of particular concern (Moore, 2006) These advergames may be more difficult for children to identify as advertisements as they blur the boundaries between entertainment and advertising, and it remains unclear how much influence they exert over children's opinions of the products.

Once children become capable of recognizing advertisements, they may still fail to understand the purpose of advertising. Advertising can be described as having two main purposes. First, advertisements provide information about a product or characteristics of a product that the viewer may not have previously encountered. Second, advertisements aim to persuade the viewer that the product is one they should adopt or purchase. When considering what children understand about advertising messages, it is important to keep in mind these dual, yet complementary, purposes of advertisements. Moreover, the research evidence suggests that children's understanding of each of these two purposes of advertising follow very different developmental trajectories, with children's understanding of the informative intent of advertising emerging much earlier than their understanding of the persuasive intent of advertising.

One way to measure children's understanding of the intent of advertisements is through direct questioning. For instance, as part of a study of exposure to pre-Christmas advertising of toys and its relationship to the items British children requested from Father Christmas, Pine, Wilson, and Nash (2007) asked participants whether they knew what a television advertisement was and gave them the opportunity to elaborate. Fifty-two percent of the six to eight year old children in this sample showed some understanding of the informative nature of advertisements with statements such as "they [advertisements] tell you if there is something new in the shops," yet only one of the ninety-eight participants in this study discussed the motive of the advertiser to sell products, stating that "It's about what people want you to get. It tells you where to buy toys and things." This suggests that children in this age group fail to comprehend that advertisements are not objective sources of information. Similarly, other studies have found that older elementary school children do not understand the relationship between advertising and profit. When exposed to a set of unfamiliar television commercials, only one-third of ten year olds were able to identify the persuasive motive of the commercials (Oates, Blades & Gunter, 2001) and even 11 and 12 year olds appear to have trouble explaining advertising in terms of selling and profits (Ward, Wackman & Wartella, 1977).

Conversely, there are a few studies that found children capable of identifying the persuasive intent of advertisements in an explicit manner. For example, in a study where Chinese children were asked a more structured question about the intent of advertising ("what do commercials want you to do?"), researchers reported that the majority of children ages seven and eight recognized the advertiser's intention to convince viewers to purchase the product (Chan, 2000). One possible explanation for this disparity lies in the way the questions are presented. Young children often have difficulty verbalizing explanations for complex questions. When children are asked a completely "open" question, such as what advertisements are for, they may find it more difficult to verbalize their thoughts and explain the sometimes subtle profit-seeking motives that underlie advertising. It is also possible that children's responses are skewed simply because persuasion does not strike them as the most salient aspect of many advertisements, even if they are aware of its presence (a possibility which may also be true among adults for some advertisements). Based on these potentially confounding factors, some researchers have suggested that it may be more effective to test children's understanding of advertising using more implicit, nonverbal methods.

Donohue, Henke, and Donohue (1980) are often cited as pioneering the non-verbal approach to assessing children's understanding of advertisements. In their study, rather than asking children questions about the intent of an unfamiliar commercial they had just viewed, children chose among two pictures that represented possible behaviors the commercial was intended to provoke (one picture depicted buying the item and the other showed a child watching a television screen). Remarkably, they found that even two and three year old children chose the picture depicting shopping for the product the majority of the time. However, as Gunter, Oates, and Blades (2005) point out, Donohue et al.'s paradigm was poorly designed in that it did not control for the fact that the target item from the commercial was present only in the picture depicting the correct answer, and children's responses may have been based solely on this perceptual match. Donohue et al. also did not include a control group, making it impossible to determine whether viewing the commercial actually had any influence on children's judgments. Subsequent follow-ups using paradigms that addressed these concerns have shown that preschool children only select shopping as the intent of the commercials at chance levels, suggesting that they do not understand the persuasive intent of advertisements (Harvey and Blades, 2002). Nevertheless, in a direct comparison of verbal and non-verbal methods of assessing children's understanding of advertisements, Owen, Auty, Lewis and Berridge (2007) demonstrated that seven and ten year old children show an understanding of persuasive intent at much higher rates when they are presented with options depicted with pictorial cues than when they are asked to express the purpose of ads in an open-ended verbal format. Similarly, a metaanalysis of 33 studies examining children's understanding of advertising found that non-verbal methods consistently disclosed an understanding of advertising intent among younger children than verbal methods did (Martin, 1997). This suggests that many of the disparities observed in research on persuasive intent may result from the way the questions and answer choices are presented, rather than children's actual understanding of advertisements, and which method represents children's abilities more accurately remains under debate.

Regardless of the methods used, we propose that there is one aspect of children's understanding of advertisements that has been largely, and mistakenly, ignored, and that is the degree to which children believe the statements presented in advertisements. Simply understanding that an advertiser wants the viewer to purchase a product may not be enough for children to resist advertising messages. Even if children understand the persuasive intent of advertisers, it is important to also consider the relationship between this understanding and children's propensity to believe in the advertising claims that are being made. Focusing solely on the intent of the advertisements, as much of the research has done, may be misleading as there are many interpretation of intent which could conceivably be correct. Wright, Friestad, and Boush (2005) criticize

existing research techniques because they typically assume that the “correct” answer is to visit a store and buy the product, whereas in actuality the advertiser’s intended purpose may range from drawing the viewer’s attention to the product to having the viewer use or consume the product when it is already in the home to asking another person to buy the product for the viewer. Likewise, we argue that it may be more fruitful to examine the degree to which children accept information provided in advertisements: do children believe that the product being advertised has the properties the advertiser describes?

Evidence is beginning to emerge that there is indeed a big difference between understanding advertisements and accepting the messages that are presented. For example, in a study focusing on web-based advergimes, Mallinckrodt and Mizerski (2007) found that whether children in their sample of 5 to 8 year olds had any understanding of a cereal advertiser’s persuasive intentions in an advergime had no influence on subsequent preferences for the cereal being advertised compared over other cereals or food categories. This is particularly interesting as it suggests that even children who understanding of the advertiser’s motives continue to accept the information presented in the advertisement. Similarly, a recent study of children’s attitudes toward television advertising included questions that measured credence, or children’s beliefs in advertising claims (D’Alesso, Laghi & Baiocco, 2009). The authors found that children’s credence decreased significantly between ages eight and ten, suggesting that children become more skeptical about the content of television commercials. There was also no relationship between credence and children’s judgments regarding how entertaining they find commercials or how likely they are to purchase the products they see in the commercials. Taken together with the evidence from studies examining persuasive intent, this suggests that as children approach age ten, they not only develop a better understanding of the persuasive purpose of advertisements, but also that they become more skeptical about the information that is presented in the context of an advertisement. However, these two understandings need not follow the same trajectory, and it remains unclear to what extent younger children accept the messages presented to them by advertisers.

### ***The Development of Trust and Skepticism***

Over the years, research on children and advertising has relied on Piaget’s stage theory as a framework for interpreting changes in children’s attitudes toward advertising and their comprehension of advertising messages over the course of development. Unfortunately, the link between Piaget’s developmental stages and research on children’s understanding of advertising is tenuous at best, and it is debatable whether Piaget’s theory of development is truly suited to understanding development in this domain. There have also been calls to apply the principles of information processing theories that focus on children’s information storage and retrieval to research on children and advertising, but these have also failed to be fruitful (Gunter, Oates, & Blades, 2005). One primary shortcoming of these approaches is that they largely fail to account for the influence of the social world on children’s cognitive skills – an influence that may be critical when dealing with advertising. In recent years, a new area of emphasis has emerged in the study of children’s cognitive development that examines the relationship between social understanding and cognitive development. We believe that this approach will prove to be extremely useful for understanding the issues surrounding children and advertising, and we adopt it here.

In particular, recent developmental psychology research has focused on social cognition and its relationship to how children make decisions, such as who to turn to when they have a question. One key component of social cognition is theory of mind. Theory of mind can be defined as understanding other people’s intentions, desires, and beliefs, and how they relate to action (Siegler & Alibali, 2005). Since the 1980’s, over 150 studies have measured theory of mind among young children using a variety of tasks. The exact procedures vary, but typically theory of mind tasks require child participants to take into account the fact that other people do not always have the same perceptions or judgments as them. Despite variations in the specific tasks and the populations to whom it is administered, a consistent result has emerged that children develop a basic understanding of theory of mind at about age four (Wellman, Cross, & Watson, 2001). Moreover, although children have a basic theory of mind at age four, their ability to apply these principles to more complex situations, such as when another person is thinking about a third party (known as second order theory of mind), continues to develop throughout the elementary school years.

In addition to understanding that other people have different thoughts and beliefs than them, children also develop a sense of what different people are likely to know, and where to find answers to their questions. Children as young as preschool have a rudimentary understanding of the division of cognitive labor within society, or the fact that different people have different areas of expertise, and they use this understanding when deciding who to turn to for information. For example, when faced with a question related to medicine, three year olds indicate that a familiar expert, such as a doctor, would be a better person to consult than a different familiar expert, such as a mechanic (Lutz & Keil, 2002). By age four, children can also make these kinds of judgments when dealing with experts that they have never encountered before (such as an eagle

expert or a bicycle expert) and infer knowledge beyond the expert's specific topic of expertise (e.g., understanding that an eagle expert is likely to know about other animals and living things). Thus, by the time they finish preschool, children can use what they know about a person's knowledge to draw inferences about other things that person is likely or unlikely to know.

Another key factor that children consider when deciding who to turn to for information is familiarity. Preschoolers understand the basic relationship between familiarity and knowledge, indicating, for instance, that one must have previous experience to know facts such as a person's name (Birch & Bloom, 2002). By age six, children also acknowledge that familiarity can influence a person's judgments and that this may not necessarily be a positive influence, as in when a parent judges an art contest that their child has entered (Mills & Keil, 2008; Mills & Grant, in press). Nevertheless, when all other things are equal, children generally prefer a familiar source over an unfamiliar source. In a study where children could choose a familiar source (their teacher) or an unfamiliar source (a teacher from a different schools) to ask questions about novel objects, preschool children preferred their own teacher (Corriveau & Harris, 2009a). Moreover, if the familiar source was subsequently shown to be unreliable by repeatedly mislabeling common objects, most three year olds and some four and five year olds continued to rely on the familiar source. This suggests that familiarity exerts a strong influence on young children, and it may even be so powerful that some children will deny that a familiar source is wrong despite having just viewed the familiar individual making blatant errors. As Paul Harris has proposed, these kinds of social influences may play a critical role in children's judgments about information (Harris, 2007). Because it is impossible for us to learn everything about the world on our own, we regularly rely on other people as sources of information, and it is essential to consider how likely it is that the information we are receiving from these sources is accurate. Likewise, these influences not only apply to situations where children must choose which informant to trust or who would be a better judge for a contest, but they also apply to obtaining information from advertisers about products and services.

Given that children rely heavily on other people to gain information, how do they account for information that turns out to be wrong? Multiple studies have demonstrated that when children observe cases where an informant is repeatedly wrong or shows poor judgment, they are less likely to trust them in subsequent cases (e.g., Koenig, Clement, & Harris, 2004) and that they remember this as much as a week later (Corriveau & Harris, 2009b). Children also take into account the reason for the informant's inaccuracy, and they are more likely to regain trust an informant who was inaccurate in the past for reasons beyond their control (such as being blindfolded; Nurmsoo & Robinson, 2009). Children also recognize that sometimes sources have impure intentions and discount their messages accordingly. When children as young as three are explicitly told of a speaker's deceptive intent, they are able to reject the speaker's message as a lie (Lee & Cameron, 2000). This suggests that children can understand the intent to deceive and are aware that a person who intends to deceive may give false information.

However, in real life, deception is not always obvious, and it may not even be intentional, and in these situations it is often much more difficult to detect. For instance, in the case of bias, a person's judgments may unintentionally be influenced by their desires. When they are presented with stories where a person's judgment may be biased, children under age seven have great difficulty understanding that information provided by that person is less likely to be accurate (Mills & Keil, 2005). Advertising may represent a similar problem for children: the advertiser's intent to sell products may not be obvious when watching a commercial, and thus it may be hard for young children to understand that the information being provided may be biased or untrue. Moreover, given the evidence that children prefer and trust familiar sources (described above), watching a familiar character present messages in the context of an advertisement may make it even more difficult for children to discern potential biases or inaccuracies in the message – even when these biases or inaccuracies may be obvious to an adult. Thus, as developmental psychologists Lou Moses and Dare Baldwin (2005) propose, even if preschoolers can understand persuasive intent, their ability to discount what advertisers say is likely to require much more advanced social cognitive skills that are not present until middle to late childhood.

## **The Current Project**

Much of the existing research on children's understanding of advertising has focused on the content of the advertisements and how children interpret them, rather than on the abilities that underlie these interpretations. For instance, although researchers have examined children's understanding of persuasive intent, there has been very little research examining how this understanding influences children's trust in the informants or acceptable of the information in an

advertisement. Thus, the current project takes what psychologists know about children's developing social cognitive skills and applies it to understanding how children reason about information presented by advertisers.

Specifically, we hypothesize that although children over age four have a basic theory of mind and are capable of distinguishing between reliable and unreliable sources, they may conflate familiarity with knowledge and find it difficult to discount information from familiar sources, such as those often found in advertisements. Young children may also be more likely to trust in a familiar source when the information being presented has no relation to that source's background or expertise (i.e., when Spongebob Squarepants endorses toothpaste). Furthermore, even older elementary school children who explicitly understand that some sources may provide misleading information or be biased by self-interest may still find it more difficult to resist messages that are presented by familiar characters.

### ***Participants***

The literature reviewed above suggests that there may be a significant transformation in children's understanding of the intent of advertising messages and subtle influences on an informant's reliability, such as bias, at approximately age seven. Based on this data and the fact that children develop a basic understanding of other people's intentions by age four, this study will include a group of preschool children ages four and five, and second group of elementary school children ages eight and nine. We expect to find that although younger children may understand a character's intention to sell a product for their own benefit, they do not understand the effects this intention has on their messages. Likewise, even if older children understand this persuasive intent and discount messages accordingly, they may still find it more difficult to do so when the message is presented by a familiar and trusted source. The inclusion of these two age groups will also help to inform the ongoing debate over whether children under a certain age should be protected from advertising messages through advertising bans.

A total of 24 younger children (ages four and five) and 24 older children (ages eight and nine) will participate in the study. Child participants will be recruited from preschools and elementary schools in the greater Lansing, Michigan area and from an existing database at Michigan State University. Children will receive a certificate and a small prize as a reward for their participation.

### ***Methods***

This study will employ methods from developmental psychology, where children are presented with a set of carefully constructed stimuli and give behavioral responses by responding to a series of questions. The results will then be compared across experimental conditions and age groups using statistical analyses such as analyses of variance (ANOVAs). The experimental procedure has four main parts: the story introduction, pre-test questions, test questions, and post-test questions. All of the study material is presented verbally to both age groups and the entire interaction is audio-taped for later review. All questions are also pilot tested with adults to ensure clarity.

### ***Story Introduction***

The first part of the procedure involves introducing children to a character. Children are assigned to one of three experimental conditions that allow us to vary the elements of familiarity and self-interest across subjects. We were concerned that employing familiar characters from actual children's advertisements (e.g. Spongebob Squarepants or Ronald McDonald) would create the risk that children may or may not recognize the character or have that they have pre-existing opinions about the particular character or product (e.g., if their parents forbid them to go to McDonalds). Instead, in the conditions where the children are familiar with the character, we have opted to introduce children to a novel character and tell the child an engaging story about him. Children are randomly assigned to one of three conditions. In the "self-interest condition," children are introduced to a character with a self-interest associated with a certain product, as follows:

This is Henry. Henry works in a store where he sells Wug ice cream. Every day, Henry's job is to tell people all about Wug ice cream and get them to buy one. He wants to sell people Wug ice cream so that he can make money.

Some of the people give Henry their money and they get a Wug ice cream cone. On his way home from work,

Henry takes the money that he makes selling Wug ice cream and he goes shopping to buy clothes for his family.

This story is also accompanied by a set of four colorful drawings depicting Henry's actions. In the "no self-interest" condition, children are exposed to a new character and hear a similar story about him where he has experience with the same product but without any apparent self-interest in selling the item in question:

This is Henry. He works in an office. On his way home, Henry goes to a store that sells Wug ice cream. People come in to the store and Henry watches them eat ice cream. The people who work in the store want to sell Wug ice cream so that they can make money. Henry watches people give the store their money and get a Wug ice cream cone. When Henry is done visiting the Wug ice cream store, he takes his money and goes shopping to buy clothes for his family.

Critically, this story is accompanied by the same set of four drawings depicting Henry's actions. The drawings are created in such a way that they are ambiguous as to Henry's status (e.g., he is seen standing in an ice cream store), thus avoiding the possibility that children's judgments will be influenced by the pictures. The stories are also of approximately equal lengths and include key words such as "Henry," "ice cream," and "money" an equal number of times. In the third condition, the baseline condition, children will not be presented with any information about the character, so that the character is completely unfamiliar. Children in this condition will begin directly with the test questions.

### ***Pre-test Questions***

After listening to the initial story about the character (in the first two conditions only), children are asked two pre-test questions to confirm their understanding and recollection of the story: "what does Henry do at the store?" and "what does Henry buy with his money?" Children who respond incorrectly to either question are corrected and given the opportunity to hear the story again. Following this pre-test questions, children in all three conditions are presented with a set of eight test questions.

### ***Test Questions***

The test questions are designed to assess the extent to which children accept information from a familiar character (who does or does not have a vested interest in a product) or an unfamiliar character. (See appendix for a complete list of test items.) All children will receive the same set of eight test questions. The test questions are equally divided into two categories, product-related and product-unrelated statements, and these are further broken down into an equal number of subjective and objective items. Each question follows a format where the character, Henry, makes a statement comparing two objects and the child is then asked whether they agree or disagree with Henry's statement. For example, a product related, subjective item reads: "Henry says that Wug ice cream tastes better than Gorp ice cream. Do *you* think Wug ice cream or Gorp ice cream tastes better?" Children then indicate which type of ice cream they think tastes better. This is followed by a confidence judgment ("how sure are you about your answer?") where children choose between "really sure," "a little sure," and "not so sure" using a picture-based scale (from Woolley, Boerger, and Markman, 2004.)

The four product-related items always compare the branded product from the story (Wug ice cream) to another brand of the same product. For the two subjective items, the character makes a statement about a subjective characteristic of the product, whereas for the objective items, the statements regard a quantifiable characteristic of the product (e.g., Wug ice cream comes in more flavors than Zav ice cream). Based on previous findings (e.g., Mills & Keil, 2005), we expect that children will be more skeptical of the subjective statements than objective statements when dealing with a self-interested character.

The product-unrelated test items are designed to assess whether children accept information from a character even when the information is related to a different domain. This is analogous not only to situations where a character advertises products that have no clear association to them, but also to situations where familiar characters are used to promote other messages, such as health-related public service announcements (e.g., the Little Mermaid on advertisements for the FDA food pyramid). The product-unrelated items were selected to be comprehensible to young children, yet they are also facts that most people are unlikely to know or have strong pre-existing opinions about. For example, a product-unrelated subjective item reads: "Henry says that daisies smell better than carnations. Do you think daisies or carnations smell better?" Likewise, a product-unrelated objective item consists of a statement that "red apples have more vitamins than green apples." Just as for the product-related items, each forced-choice test question is followed by a confidence rating. For these items, the questions will also be presented in two orders (e.g., child A hears Henry state that daisies smell better and child B hears Henry state that carnations smell better) to avoid the influence of pre-existing opinions. The product-related and unrelated test items will also be presented in alternating orders. Children are assigned a score of 1 for each item where they agree with the character's statement and differences among conditions, questions, and age groups will be analyzed using a 3 (condition) X 2 (type of question – product related or unrelated) X 2 (subjective or objective) X 2 (age) analysis of variance (ANOVA). The confidence ratings will be transformed into a number between 1 and 6, where 1 represents strong disagreement with the

character's statement (i.e., choosing the opposite item and indicating "really sure" on the scale) and 6 represents strong agreement with the character and similar statistical analyses will be conducted with these ratings.

### ***Post-Test Questions***

Following the test questions, two additional questions are used to verify children's memory for the story and assess their understanding of bias and persuasive intent. The first question (only asked of children in the familiar conditions) asks children to repeat what the character did in the story. The second question (asked of all children) asks children to assess the character's motives regarding the product: "Henry said that Wug ice cream is better than the other ice creams. Why do you think he said that?" Children are encouraged to respond freely, and their responses will later be coded to assess their understanding of persuasive intent and its relationship to self-interest. If a child responds that they do not know, the experimenter follows up with a forced-choice question: "Is it because Henry wants people to buy Wug ice cream or because Henry thinks those things are true?"

### ***Predictions and Implications***

We predict that, in the baseline condition, children will be equally likely to agree or disagree with the character's statements, given the fact that he is unfamiliar and that they are not provided with any background information about him. In the familiar conditions, we expect that children will agree with the familiar characters more often than in the baseline condition, particularly for the product-unrelated items. This would suggest that familiarity with the presenter plays an important role in children's acceptance of information. We also anticipate that some of the older children will make a distinction between the self-interested and the non-self-interested character and perhaps they will be more skeptical of the self-interested character's product-related statements than his product-unrelated statements. One might expect that older children in particular will be less likely to accept information from a self-interested character, and even when they agree with the character, they may be less confident about their judgments. Older children may also be less likely to trust the character's subjective statements than the objective statements about the product, since subjective statements are more prone to bias. Conversely, if children in either age group are equally likely to trust the self-interested and non-self-interested character for the product-related statements, then it would suggest that they only take familiarity, and not self-interest, into account. Younger children may also be more likely to trust the self-interested character when he provides information about his product, which would suggest that children remain vulnerable to advertising messages even when the advertiser's intent is made clear.

Finally, children's responses on the post-test item regarding the motives underlying the character's statements will allow us to assess the relationship between children's understanding of a person's motives, which may be influenced by self-interest, and their acceptance of information provided by that person. We predict that the majority of young children, and perhaps some older children, will not identify the character's intent to sell the product. Among children who do correctly identify the character's motives, there may or may not additionally be a relationship to their acceptance of the character's statements during the test questions. If children who disagree with the character's statements also describe the character's statements as driven by self-interest, then this would suggest that there is a benefit to understanding an advertiser's intent and it may imply that if children were made more aware of advertiser's intentions, then they would become less vulnerable to advertiser's messages. However, if there is no relationship between children's responses to the test and post-test questions, it would imply that even if children are taught to recognize the motives behind advertisements, this may not be sufficient to inoculate them from believing in the messages that advertisers present and thus additional support from parents and educators may be necessary for them to reject advertisers' messages.

## **Summary**

This project takes research on children's vulnerability to advertising messages in a new direction by examining whether children take into account the motives behind an advertiser's message, particularly when they are exposed to advertising that includes familiar characters. Our approach is unique in that we are not exposing children directly to advertisements, but rather we investigate the skills that underlie children's understanding of advertisements. The results of this project will help inform both interventions and policy decisions that will help protect children from the types of advertising to which they are most vulnerable at different points in their development.

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## **Appendix: Test items**

### ***Product Related, Subjective***

1. Henry says that Wug ice cream tastes better than Gorp ice cream. Do **you** think Wug ice cream or Gorp ice cream tastes better?
2. Henry says that Wug ice cream is more fun to eat than Zav ice cream. Do **you** think Wug ice cream or Zav ice cream is more fun to eat?

### ***Product Related, Objective***

1. Henry says that Wug ice cream melts slower than Dax ice cream. Do **you** think Wug ice cream or Dax ice cream melts slower?
2. Henry says that Wug ice cream comes in more flavors than Fep ice cream. Do **you** think Wug ice cream or Fep ice cream comes in more flavors?

***Product Unrelated, Subjective***

1. Henry says that daisies smell better than carnations. Do **you** think daisies or carnations smell better?
2. Henry says that cotton from Peru is softer than cotton from Brazil. Do **you** think that cotton from Peru or cotton from Brazil is softer?

***Product Unrelated, Objective***

1. Henry says that bluebirds fly higher than robins. Do **you** think bluebirds or robins fly higher?
2. Henry says that red apples have more vitamins than green apples. Do **you** think red apples or green apples have more vitamins?