To the Graduate Council:

I am submitting herewith a dissertation written by Sabrina Moreland Neeley entitled "The Influence of Animated Spokes-Character Actions and Verbalizations on Preschoolers' Product Knowledge and Preferences." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.

David W. Schumann, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor and
Dean of the Graduate School

THE INFLUENCE OF ANIMATED SPOKES-CHARACTER ACTIONS AND VOCALIZATIONS ON PRESCHOOLERS' PRODUCT KNOWLEDGE AND PREFERENCES

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Sabrina Moreland Neeley

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DEDICATION

This dissertation is dedicated to my husband

Grant

and to my parents

Gwen Moreland and Henry C. Moreland, Jr.

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ABSTRACT

This research examined the influence that an animated advertising spokes-character has on preschool children's product knowledge and preferences. The research tested the influence of spokes-character actions and vocalizations in a modified hierarchy of effects model by interviewing 158 two- to five-year-olds about televised experimental advertisements.

Results of this research show that in general, preschool aged children retain more information when exposed to commercials with spokes-character action, but few spokes-character voices. Preschoolers did not appear to follow a hierarchical pattern from product/character recognition to product choice. In addition, an advertising spokes-character was found to have high recognition and liking, but little influence on product preference or product choice.

The most interesting findings of this research pertain to differential responses by subgroups of preschoolers. Young boys were found to respond most favorably to commercials depicting the spokes-character acting on the product (e.g., eating the product). Young girls however, either showed no differences in response given the character's action, or responded most favorably to random character action (e.g. jumping up and down). In addition, two-year-old children were found to retain more message content after viewing a commercial with directed character action. These findings demonstrate that more understanding is needed of the influence that spokes-characters have on young children's consumer behavior.

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CHAPTER 1

PROBLEM DEFINITION

Today's children are savvy consumers. They have money to spend, and they often know exactly what they want. These children have experienced a variety of media influences, including television, movies, radio, billboards, and even computer networks, almost since the day they were born. Advertisers in the early 1990s spent over $170 million on children's television alone (Guber and Berry 1993). Some sources estimate that the average American child will watch between 15,000 and 20,000 hours of television by the time he or she is eighteen years old (Federal Communications Commission 1995).

Additionally, we know that children form a market of almost unfathomable size. The U. S. Census Bureau estimates approximately 58,288,000 children fourteen years old and younger residing in the United States as of July 1, 1997; 19,229,000 of those children are under the age of five (U. S. Bureau of the Census 1996). Numbers mean money and these children generally have a significant amount of money at their disposal. Parents' increasing desire to involve and teach children consumer skills results in children having money in their pockets from allowances, chores, gifts, and sometimes even part-time jobs (Guber and Berry 1993). Sources estimate that American children (fourteen years old and younger) receive approximately $ 11.3 billion per year in allowances, spend approximately $ 6-7 billion every year, and

influence the purchases of an additional $ 120 billion (Guber and Berry 1993; Klein 1997; McNeal 1987).

Today's children have also taken on larger responsibilities within the family structure. These responsibilities contribute to increasing independence and decision making at younger ages. With the rise in single parent and two-wage earning families, children are taking on more significant household responsibilities, such as cleaning, grocery shopping, and meal preparation (Guber and Berry 1993). A 1984 study found that 6 % of four-year-olds and 9% of five-year-olds make an average of one shopping trip per week without a parent (McNeal 1987). The same children make significant numbers of independent purchases (16.3% and 58.2% respectively) when shopping with parents. Increasing responsibilities force children into learning money concepts and shopping skills at an even earlier age.

These changes in children's lives, coupled with companies' desire for new target markets, result in increased attention paid to children by manufacturers and sellers of products as they try to establish brand loyalty in these children. "In some product categories, brand loyalty can be as high as 80% as children mature into adulthood" (Acuff and Reiher 1997, p. 154). This brand loyalty has become so important that we now recognize children as comprising three key markets in relation to goods and services: (1) a current market for goods and services, (2) a future market for goods and services, and (3) an influential market for goods and services (Jenkins 1979; McNeal 1987, 1998; Nelson 1979). However, as managers look for ways to increase market share and brand loyalty with children, child advocates grow more

concerned as they perceive childhood naïveté leading to increased exploitation of children by the marketplace (Armstrong 1997; Leonhardt and Kerwin 1997; Seiter 1993; Young 1990).

Since children have taken a greater role in the marketplace, adults often rely on children to make important consumer decisions that they may or may not be ready intellectually or emotionally to make. Adults may assume, after seeing a child make what appears to be a quick or simple consumer decision, that children think rationally, or on the same level as adults. However, research has shown that, although a child may be able to make a quick product choice, his or her decision-making is not like that of adults. Often children are at a disadvantage in the marketplace in terms of their ability to process and understand commercial information (Roedder 1981). This limitation in processing and understanding ability is of particular relevance for preschool children (age two to five years old), who have generally been neglected in consumer socialization and childhood consumer research.

Preschoolers, however, are a ripe and curious target for consumer behavior research for several reasons. First, many two- to five-year-olds spend some, but typically not all, of their daytime hours in an organized daycare, preschool, or kindergarten program. Consequently, persons outside the family begin to have an influence on these children.

Second, research into infant and toddler development has been at the forefront of public interest. Recent studies have suggested that a child's experiences during his

or her first three years set the pattern for intellectual and physical development for life (see Nash 1997 and *Newsweek*, Special Edition, Spring/Summer 1997 for overview).

Howard Gardner's (1983) theory of multiple intelligences suggests that a child's brain begins developing the neuron structures and synapses needed for advanced thought and knowledge before birth. However, the most crucial neurological development takes place from birth to age three, as children are exposed to a proliferation of environmental stimuli and begin symbolic representation. Gardner (1983) proposes the existence of seven different types of intelligence, or what Acuff and Reiher (1997) refer to as "ways of knowing" the world: linguistic intelligence, musical intelligence, logical-mathematical intelligence, spatial intelligence, bodily/kinesthetic intelligence, interpersonal intelligence, and intrapersonal intelligence. Each type of intelligence begins development either at, or shortly after, birth and reaches maximum potential at approximately three to four years old.

These intelligences are interactive and crucial to the effective use of consumer skills and knowledge at a later age. The linguistic (written and spoken) and interpersonal intelligences are essential for effective communication with others in society. Logical-mathematical intelligence assists the child in reasoning, in understanding relationships between objects, and in understanding number systems. Visual/spatial intelligence is required for determining perceptual relationships and mental imagery. Intrapersonal intelligence aids the child in perceiving his or her own inner thoughts, desires, and motivations. These findings would suggest that

preschoolers are at the perfect age for studying the beginning processes, which later form consumer experience and behavior, because early childhood is the most critical period for learning (Acuff 1997).

Finally, few preschool aged children have reading abilities that permit logical interpretation of linguistic information. Therefore, young children must rely on easily perceptible, visual and auditory information, which may make them even more susceptible to exploitation by companies using highly entertaining, graphical commercial formats. One strategy gaining influence in children's product preference is the widespread use of visually predominant, entertaining spokes-characters such as the following:

Ronald McDonald
Capn' Crunch
Snap, Crackle, and Pop
French Toast Crunch baker
Kool-Aid pitcher
Honey Comb creature
Honey Nut Cheerios bee
Chester Cheetah
Cookie Crisp policeman
Energizer Bunny
California Raisins
Green Giant and Little Sprout
Tony the Tiger
Toucan Sam
Red, Yellow, and Green M&M's
Alpha-Bits talking letters
Pringles man
Lucky (Lucky Charms)
Trix rabbit
Quik rabbit
Sonny (Cocoa-Puffs)
Keebler Elf
Poppin' Fresh
Mr. Peanut

The goal of this dissertation is to examine how animated (cartoon) spokes-characters influence preschool aged children's product knowledge and preference. The purpose of this first chapter is two-fold: 1) to identify an issue that warrants further study, and 2) to present relevant literature that forms a foundation of

understanding the relationship between preschool aged children, their products, and the characters that promote those products.

A greater understanding of the factors that influence children's desires and intentions for products is a beneficial goal. Arguably, companies that now exploit the consumer naiveté of children can learn from this research how to pursue children more aggressively. On the other hand, companies that produce products and services that are beneficial can also learn how to reach children more effectively. Understanding the factors that influence children's product preferences and purchase intentions will also help the advocate better learn how to protect children from the exploiters.

This opening section presented the scope of the children's consumer market and its potential. An emphasis was placed on the need for greater study of preschool consumers and the factors that influence their product knowledge and preference. Finally, the use of a spokes-character was introduced as one strategy for attracting preschool consumers and building brand equity in this target market. The next section provides an overview of research on preschool consumers and their relationship to products and spokes-characters.

PRESCHOOLERS AND THEIR PRODUCTS

Preschool children (age two to five-years old) are a unique set of consumers because of the combination of simplistic cognitive abilities, significant exposure to

marketing information, money to spend, and the overwhelming desire to acquire products. Preschoolers experience consumer activities and begin learning consumer skills early in life. They see advertising on television and point of purchase promotions when they accompany a parent to the store. They consume products in the household on a daily basis. They observe parents, siblings, and other people talk about, purchase, and consume products.

Preschoolers are avid learners, and a store provides an exciting place to learn. Stores are highly perceptual and experiential places, full of a multitude of sights, sounds, and smells. Their perceptual dependence makes preschoolers highly susceptible to visual phenomena. Even five-year-olds who could not verbalize a specific experience when they were taught consumer skills by a parent, could give extensive descriptions of the activities the mother engaged in during a typical shopping trip (McNeal 1964). However, preschoolers have a cognitive understanding of the consumer products and the marketplace that is very different from older children or adults.

Research on the relationship between children and products has focused primarily on children's product/brand awareness and their ability to differentiate between products and brands. In the mind of a preschooler, a "product" consists of tangible attributes, the brand, the packaging, the promotional strategy for that product, and sometimes even the placement or environmental context in which the product is found (e.g., Happy Meals at McDonalds).

Product/Brand Awareness and Differentiation

Generally, developmental researchers assume that young children have difficulty differentiating between products and brands (Diamond 1977). Young children perceive products as holistic entities, and a brand name is often perceived as a product attribute, or synonymous with the product class. Studies have found that young children often discriminate between products on a simple heuristic of whether one particular quality (which may include brand name) is present or not (Rust and Hyatt 1991). For instance, a young child may only be concerned with, and choose, a product simply because it is chocolate, or a red truck, or even Barbie. Other attributes or qualities of the product are of no concern to the child, as long as the primary "desired" characteristic is present. John and Sujan (1990) also argue that because young children (four- and five-year-olds in their study) focus on the perceptual attributes of the product, they often do not extend correspondence between the perceptual features and underlying product value.

The assumption among researchers has been that brand awareness strongly depends on age and cognitive maturity (Diamond 1977). Preschool children show difficulty understanding the concept of brand differentiation as well as brand/product differentiation. Children gradually acquire the ability to distinguish between brands and between product and brand as they progress from kindergarten (5-6 years old) to third grade (8-9 years old) and then to sixth grade (11-12 years old) (Diamond 1977). At approximately ten to twelve years old (late elementary school/adolescence), children begin to express simple preferences for branded products over non-branded

products (McCormick 1988). Usually by the adolescent and teen years (twelve and older), brands become important to children as a categorization heuristic in product knowledge and take on meaning that is more symbolic and socially important (Achenreiner 1995).

The debate over verbal vs visual recognition and recall of products have led some researchers to re-examine earlier findings on childhood consumer abilities. Because early studies of children's cognitive abilities relied on verbal responses, researchers often concluded that young children lacked differentiation aptitudes. Additionally, preschoolers' ability to recognize products has always been stronger than their ability to recall product names (Macklin 1983). Recent studies, however, may subject earlier findings to question. It may be possible that given effective perceptual cues, preschoolers will show greater differentiation abilities. Macklin's (1996) study of preschoolers shows how pairing visual cues with brands helps young children better remember brand names. Three- to five-year-olds who were exposed to fictitious brand names (e.g. Honeys) associated with relevant pictures (e.g. bees) and colors (e.g. golden yellow) were able to learn and remember brand names more easily.

Finally, children who have developed brand awareness may transfer this awareness across products and purchase situations. Ward and Wackman (1973) found that even five-year-olds, who are specific about asking for one particular product, tend to carry that specificity to other products and express specificity in brand preference. For example, children who are aware of product differences in one

category, generally tend to be aware of product differences in other categories. The child who is comfortable asking the parent to purchase a particular cereal is also likely to ask the parent to purchase a particular juice, and even specify which brand of cereal or juice is most desired.

Product/Brand Preference

Examining product/brand preferences among young elementary (5-7 years old) and preschool aged children (2-4 years old) is often difficult. One of the most challenging and frustrating aspects of young children's product preference is the relative inconsistency with which children often hold these preferences (Capon and Kuhn 1980). Children frequently change preferences of favorite toys or foods and, if asked to name their favorite, may simply respond with the last toy they played with or food they ate. These inconsistencies have led researchers and company managers to criticize research on young children's preferences on the ground that these preferences are not good indicators of future behavior (Rust and Hyatt 1991).

Although young children's preferences may be inconsistent at any given time, or when studied in a controlled environment, consumer behaviorists still know that product/brand exposures and experiences that children have often carry over years later into adulthood. Many adult consumers still use the same toothpaste they used as a child, or wax nostalgic when they eat certain foods or food brands they remember as a child. The knowledge that product and brand preferences often form very early lead

us to acknowledge, but dismiss, many concerns over response inconsistencies in children.

Researchers studying children's preferences have learned one important concept. Young children use very simple heuristics when determining preference and choice among products. When tested in an experimental setting, preschool aged children typically prefer and choose a product based on some (typically one or two) easily perceptible, physical attribute(s) of the product and the affective response that forms relative to those attributes (Bahn 1984, 1986; Diamond 1977; Shamir 1979). Cereal preferences of four- and five-year-olds in Bahn's (1984, 1986) study were often based on an attribute such as flavor or color or on the cartoon character associated with the brand.

Product Familiarity

Product familiarity is often proposed and studied as an important element in children's product and brand preferences and choice. Shamir (1979) found that kindergartners, who tend to focus on few product attributes, exhibit preference for familiar products. Perhaps, as Swanson (1987) suggested, young children's inability to process multiple product attributes or dimensions results in product familiarity becoming the most salient attribute, and that attribute for which children express the greatest preference.

Swanson (1987) also found a strong relationship between kindergartners' familiarity with products and their preference for and choice of those products. Older

children who had less difficulty processing product information were more likely to choose unfamiliar or novelty products. Swanson (1987) also tested whether product trial modified the influence that familiarity had on product preference and choice. She found that children's choices of unfamiliar products increased as the child was given more opportunity for no-risk trials (e.g., try the product before making a final choice); however, increasing trial simultaneously increased the potential for less product satisfaction in the youngest children. The youngest children were less satisfied with their final product choice when given the opportunity to try several products before choosing, than when there was not a chance for trial.

Product Satisfaction

As Swanson (1987) found, some unexpected aspects of the product preference and choice situation may affect satisfaction in young children. It would seem that the more exposure and experience a child has with the product, the more likely the child would be to feel possession of the product and be satisfied with the product. However, this may not be the case with very young children. Robertson, Rossiter, and Ward (1985) studied children's reactions to products they were given as gifts. These authors suggest that younger elementary aged children have difficulty processing information about product expectations and have less understanding of product selection criteria. These younger children are more likely to show dissatisfaction and disappointment with acquired products than older children because

they desire many products and do not understand why all desires are not fulfilled, or they do not understand why they may receive a gift that is less desired than another.

One of the greatest difficulties in studying product satisfaction in children has been in defining and operationalizing the satisfaction construct. Satisfaction is difficult to define and study in adults who can verbally express both cognitive and affective reactions to product experiences. Children on the other hand, and especially very young children, are often unable to express their thoughts and feelings in relation to a product, beyond a simple "like/dislike" dichotomy. Bjorklund and Bjorklund (1979) attempted a study of product satisfaction in extremely young consumers (twelve to twenty months old). They operationalized satisfaction as the number of play acts performed during a single product contact, based on the assumption that the more a child is satisfied with a product, the more time the child will spend playing with the product. Results of this study indicate that toy satisfaction, measured by time of toy interaction, was dependent on the number of toys available, type of toys available, and the age and gender of the child. The children exemplified the greatest satisfaction with a smaller number of organizational toys (i.e., stacking rings) than for a greater number of either symbolic (i.e., doll) or responsive (i.e., squeak toy) toys. Most studies of product satisfaction in children have relied on a simple process of asking the child questions related to their affective reaction to the product at a point in time after selection (Swanson 1987).

Product Symbolism

The fact that the consumption of goods provides a symbolic value to individuals and society is widely accepted (Gardner and Levy 1955; Grubb and Grathwohl 1967; Lindquist 1974-75; Solomon 1983). However, the age at which children become aware of the symbolic components of products (i.e., status, wealth, personality) has not been examined as widely. Belk, Bahn, and Mayer (1982) studied perhaps the widest age group of children (ages four to fourteen) to determine the onset of recognition of consumption and product symbolism. The authors found that the preschool aged subjects were unable to make consistent judgments inferencing cars and houses to owner traits (e.g., "smart," "mean," "has a lot of money"), whereas distinct stereotypes (e.g., "a doctor," "has a lot of friends") were evident by the second grade (7-8 years old).

Even fewer studies exist that suggest the factors that influence the development of symbolic inferences between products and consumers. One could argue that perhaps children learn this behavior from brand conscious parents or from the media. Belk, Mayer, and Driscoll's (1984) study of older children suggests that product experience actually has a stronger influence on symbolic consumption and product/brand stereotypes than media exposure. Stronger brand/product stereotypes exist among children who own the product, than among children who did not own the product.

This section discussed the unique relationship that preschool children, given their limited cognitive and verbal abilities, have with consumer products. Building

product/brand differentiation and brand equity is difficult with preschoolers. However, it is possible (even desirable under certain conditions), as the next section discusses, for a company to build product/brand awareness in preschoolers.

CREATING PRODUCT/BRAND AWARENESS IN PRESCHOOLERS

Brand equity is "the set of assets (and liabilities) linked to a brand's name and symbol that adds to (or subtracts from) the value provided by a product or service to a firm and/or that firm's customers (Aaker 1996). To achieve brand equity, the company must build a combination of brand awareness, brand loyalty, perceived quality, and brand associations (Aaker 1996; Keller 1993). Although strongly desired, building brand awareness and brand equity among preschoolers is an often difficult and tenuous proposition. First, brand loyalty must be built over time, through familiarity and reinforcement. Second, few preschoolers understand the abstract concept of quality the way adults do. They are simply interested in tangible, perceptual product attributes.

Therefore, the simplest means to begin building brand equity in children is to focus on brand awareness and brand associations in preschoolers. However, many of the products desired and consumed by children have few differential characteristics. In order to build awareness in children, a company must make their product perceptually different from the others, and develop positive brand associations through an integrated marketing strategy that focuses on a child's affective response to

a product. This strategy typically entails a combination of packaging and promotion, which is most appropriate for a preschool target because each is a predominantly visual medium that is easily perceptible by young children. This visual nature allows a company to convey tangible product information in a format that does not always require sophisticated cognitive or linguistic abilities.

Preschoolers and Packaging

Simple cognitive abilities and the general lack of reading and sophisticated linguistic abilities magnify the dependence that preschoolers have on product packaging as a tool for brand awareness and differentiation. Due to its visual imagery, packaging may be the simplest, or even the only, dimension on which preschoolers differentiate products or brands (John and Sujan 1990).

Academic studies of the relationship between children and product packaging are few in the marketing discipline, and have focused on children's perceptions of package size and product quantity (Soldow 1985). Reports from the practitioner industry are often simple anecdotal accounts of successes or failures (e.g., Hi-C fruit drinks) (Fogarty 1995). Systematic study of why children "like" certain packages or types of packaging, and/or what constitutes a "successful" children's package are hard to find.

In practitioner circles, successful packaging suggestions are usually related to: 1) colorful, "eye-catching" graphics, 2) "kid-sized" packages that are easy to open, hold, and manipulate, 3) involving the child in the packaging through cartoons, toys,

activities, and 4) age appropriateness. Older kids respond well to real people and unusual graphics and colors; whereas preschool aged children tend to like primary colors and shapes and cartoon characters (Fogarty 1995; Hume 1986; Larson 1991; Liebeck 1993; Rust 1993). Packaging design experts such as Ed Rice of Landor Associates, sum up the challenge,

> Our research indicates that the package has approximately 1/100 of a second to grab the kid's attention. Then, the design has maybe only another one to three seconds to try to foster understanding of what the product is and what it offers the child (Larson 1991).

We do know from simple empirical observation, however, that children have a keen interest in packaging and an uncanny ability to recognize and recall product packages. In one study, when children are instructed to simply draw a cereal box, 67 % of the first graders and 100 % of the third and fifth graders spontaneously branded their drawing (Rossiter 1976).

Perhaps through some aspect of product information processing, children associate brands as a dimension in their holistic perception of products. Product packages, especially those targeted to children, are often extremely eye-catching, with bright colors, elaborate text styles, and complex graphics. John and Sujan (1990) propose that because there are so few differences between brands of a particular product, marketers must differentiate themselves through creative packaging or product shape. These differences are perceptual, and because children tend to cue on

visually salient attributes, they are highly susceptible to, and reliant on, visual orientation and processing of product/brand information through packaging.

One method of tying the packaging and promotion into an integrated presentation that is easily perceptible and attention getting to preschoolers is the use of a spokes-character to promote the product. The following section discusses the use of a spokes-character as a tool for influencing product knowledge and preference in preschoolers.

THE USE OF A SPOKES-CHARACTER WITH PRESCHOOLERS

A spokes-character provides an image associated with a product or service that generates interest, increases recognition of the product, gives form to an abstract idea, creates an identity for the brand, connotes nostalgia, and/or serves to transfer positive affect from the character to the product or service (Callcott and Alvey 1991; Callcott and Lee 1994, 1995; Callcott and Phillips 1996; Dotz and Morton 1996; Guber and Berry 1993; Hoy, Young and Mowen 1986; Mizerski 1995; Schneider 1989).

Because preschoolers are so perceptually dependent in the marketplace, the use of a spokes-character may build positive brand associations between young children and their products. A spokes-character may act as a dominant visual cue for preschoolers (Macklin 1996; Perracchio 1993). A character also provides an opportunity for an integrated marketing strategy; the character can be used in advertising and promotion, it can be linked to and appear in the store, and it also

appears on the product package as a source for recognition. A character that is seen repeatedly in television advertising is easily recognized on a store shelf. Some characters can even be sold as a product (i.e., action figures), can be promoted through program-length commercials in the form of television shows or movies (i.e., Power Rangers), or can be licensed to other products in order to promote affect transfer (i.e., Ninja Turtle Band-Aids).

Spokes-characters are often a good choice for a company trying to target children for several reasons. First, children often find security in familiarity, and spokes-characters become familiar to children through exposure and repetition (Guber and Berry 1993; Schneider 1989). Second, a spokes-character can become a symbolic representation of a brand or product identity. Various aspects of the character's personality and behavior convey a unique brand image (Aaker 1996; Callcott and Alvey 1991; Ogilvy 1983).

Third, spokes-characters provide a means of social identity and acceptance as children talk about and play act characters. Toy and commercial characters give children a way to communicate with each other through stories, performances, and interpretations of programs and advertisements (Seiter 1993). Finally, and most importantly for preschool aged children, spokes-characters provide a visual point of brand or product recognition for children with limited reading ability and verbal skills (Macklin 1996; Perrachio 1993). Visual memory may be one of the most important factors in a child's recognition of, and desire for a product.

Spokes-characters come in various physical forms. Some characters may be real people dressed up in costume (e.g., Fruit of the Loom guys), some characters may be animated (e.g., Tony the Tiger), and some characters may be technologically generated (e.g., California Raisins).

An Example of Spokes-Character Use: Ronald McDonald

Perhaps the most well known and successful spokes-character is Ronald McDonald. Ronald McDonald holds a unique place as a spokes-character in that he is both a human persona and a cartoon character. He influences children to buy food at McDonald's without actively taking on the role of salesman. He is recognized, revered, loved, and despised by millions of children and parents worldwide.

The Ronald McDonald character was created in 1963 as a promotional tool for a Washington D. C. franchisee. Although the character had phenomenal regional success, it was not until 1965 that the McDonald's corporation adopted the character as its corporate spokesman. The Ronald McDonald character was first introduced nationwide in commercials for the 1965 Macy's Thanksgiving Day Parade (Toerpe 1994).

Ronald McDonald serves as the official spokesperson for McDonaldland, a fun-filled environment in which children are encouraged to be children and where activity and adversity are rewarded with food. McDonaldland is the place to go with your parents, grandparents, friends or t-ball team. McDonaldland is the where Happy

Meals come from and Playlands exist, where a child can eat a Chicken McNugget while jumping into a ball-pit.

> With the creation of McDonaldland, fictional Ronald can walk freely in the real world and real children can stroll the paths of the fantasy McDonaldland. What is real and what is fantasy in McDonaldland are indistinguishable to the preschooler watching at home (Toerpe 1994, p. 181).

Studies show that U. S. children have an amazing recognition for Ronald McDonald. A study commissioned in 1973 by the McDonald's corporation found that 97 % of the children it studied recognized Ronald McDonald. An informal character recognition study by this author found 100 % of three year-olds questioned, verbally identified Ronald McDonald and linked his picture to that of hamburgers and french fries (although many children claimed Ronald McDonald was "the guy who sells Chicken McNuggets") (Neeley 1997). Ronald McDonald clearly has an overwhelming level of recognition and loyalty among preschoolers in the U. S. that is enviable by other companies and their spokes-characters.

Children's Understanding of Spokes-Characters

Using a spokes-character to promote products to children has been a hotly debated subject for the past twenty years. Because characters tend to be visually and affectively appealing to preschoolers and young children, they can be used to exploit the cognitive limitations of children. One of the concerns parents and child advocates have raised regarding the use of spokes-characters is whether young children

understand the role of the character as being persuasive or entertaining. If characters, especially those characters already used for programming, are put into persuasive roles directed at children, the child may have difficulty separating the entertainment from the advertisement. This concern over children's ability to differentiate entertainment from advertisement is particularly relevant to animated/cartoon characters.

The National Advertising Division of the Council of Better Business Bureaus (NAD) in 1977 published its restrictions on placing an advertisement using a cartoon character within the same program in which the character resides (Adler, *et. al.* 1980). Additionally, in 1979, the National Association of Broadcasters (NAB) issued requirements for the use of separators between programming and advertising (e.g. "After these messages, we'll be right back) (Adler, *et. al.* 1980). These guidelines prompted researchers to examine children's ability to understand the role of spokes-characters and to examine whether young children could differentiate between cartoon and human spokespersons.

Quarfoth (1979) found in her study of kindergartners through fourth graders (five through ten-years-old) that children in all the age groups had some difficulty in understanding the concept of a character and whether or not it was "alive" or could "walk and talk." She had children group pictures of human, cartoon, and puppet characters, and then explain the differences between the different types of characters. More than half of the kindergartners said that cartoon and puppet characters could move by themselves. Only 18 % of the five-year-olds indicated that humans were the

only beings that were "alive" and could move on their own. Quarfoth asked the children about their perceptions of the Tony the Tiger spokes-character. Although 60 % of the kindergartners said that Tony the Tiger was make-believe, when asked whether Tony the Tiger was "alive," only 40 % indicated that Tony was a cartoon, and not "alive." Quarfoth (1979) found, however, that understanding of character existence and differentiation between human, cartoon, and puppet characters increased significantly as the child aged.

The question regarding children's confusion between human and animated characters may yet be unresolved. VanAuken and Lonial (1985) found in their study of kindergarten, second, fourth, and sixth graders that these children tended to base differentiation judgments on two simple dimensions: gender and human/animate. In this paired comparison study, the children were shown two cards, each with a picture of an animated or human television character, and asked whether the pair was alike or different (allowing for the child's own heuristic of similarity). Results of their multidimentional scaling analysis indicate that even the youngest children did not necessarily have greater difficulty differentiating characters on these dimensions, than did the older children. Although these authors advocate that children may not be as easily exploitable as first thought, they caution that reality/non-reality perception may still be very difficult for children under the age of five.

Another concern to parents and child advocates is the effect that characters have on children in regards to modeling behavior, because parents often witness their children imitating the behavior of characters they see on TV. For example, many day

care workers can report the recent trend in preschoolers' kicking, karate-chopping, and spinning behavior on the playground as children model the popular Power Rangers characters.

Reeves and Greenberg (1977) investigated children's differentiation of characters in television programs and the children's desire to emulate the characters. Children between the ages of eight and thirteen were asked their perceptions of a variety of human male, female, and cartoon characters on dimensions such as activity, physical attractiveness, strength, reality, goodness, etc. These children were also asked how much they wanted to "be like" the characters or "do the things the characters do." Results of this study suggest that male children desire to model behavior of physically strong characters, whereas female children express desire to model behavior of physically attractive characters.

The Persuasive Power of Characters

In adults, Chebat, *et. al.* (1992) found that character likability alone did not create increased attitude change; it was only the combination of repetition and memorization of the message argument coupled with character likability that showed effects on attitude change. However, these results may be significantly different in children.

Bahn (1984, 1986) found that the spokes-character associated with the product was a highly influential factor in four and five-year-olds' expression of cereal preference and choice. Interestingly, the four- and five-year-olds in this study also

inferred additional product characteristics, dependent on the character. One of the possible preference dimensions was "healthiness" of the cereal. The four- and five-year-olds in the study inferred the quality of "healthiness" on cereals in which the character was not liked. If the child saw a box of cereal with a non-liked character, the child assumed the cereal was not sugary, and therefore healthy. This finding could be interpreted as the young children inferring that only "kids" cereals (sugary and sweet) have cartoon characters associated with them, so any cereal not having a character on the box is assumed to be an "adult" cereal which is not sweet, and not desired.

However, Macklin's (1986b) study of four- and five-year-olds came to an opposite conclusion. Her research examined the effects of the pairing of a favorable character with a product and the subsequent impact on product preference. Children in this study were presented with either a forward pairing, a simultaneous pairing, or no pairing of a Smurf character (from the children's television program) with a yellow or orange pencil. After three exposures to the pairings, the children were asked questions about their affect towards the Smurf character, and then were allowed to choose either a yellow or an orange pencil. Results of her study found no evidence of automatic behavioral responses in the children when a favorable character was paired with a product.

The conflicting results of Bahn's (1984, 1986) and Macklin's (1986b) studies may be explained by the nature of the study. Bahn (1984, 1986) showed the children real boxes of cereal and prompted brand preference. Chances are great that the child

had probably seen the cereals before, either in the grocery store, at home, on television, or any combination of exposures, so familiarity and pre-determined preferences may have confounded this study. Macklin's (1986b) was a study of classical conditioning in which a picture of a pencil was paired with a picture of Smurf, to determine if the children can be conditioned into preference because of the pairing. The children may have been familiar with the Smurf character, but would not be familiar with the Smurf/pencil pairing.

The literature suggests that children view products as holistic entities, comprised of attributes, character, advertising, etc. It is possible that simply showing two posters (product and character) side by side in a treatment condition is not enough for the child to develop this holistic perspective and accept the product/character pairing. Perhaps to adequately test the child's acceptability of character/product pairings and the influence of character on choice, the child must be exposed to a testing environment that is more realistic to the advertising stimuli the child might encounter in real life. A realistic advertising situation and the use of an unfamiliar character/product stimulus may provide a more accurate assessment of character influence, and will be employed in this dissertation.

An Example of Spokes-Character Persuasiveness: The Debate over Joe Camel

Probably the most controversial use of promotional spokes-characters has been the case of R. J. Reynolds' Joe Camel. Although R. J. Reynolds denies the development and use of Joe Camel to target children, many people believe otherwise.

Two separate studies (Fischer, *et. al.* 1991; DiFranza, *et. al.* 1991) of children's identification of trade characters revealed a high recognition level and high association between character and product for Joe Camel and cigarettes. DiFranza, *et. al.* (1991) found that 97.7% of twelve to nineteen year olds recognized Joe Camel. Of those familiar with the character, 98.6% identified the product as cigarettes, and 95.0% identified the Camel brand. These teenagers also found the Joe Camel commercials were "interesting" (73.6%). DiFranza and his colleagues conclude from this study that Joe Camel advertising was much more successful with children than adults and suggest these findings support the idea that tobacco companies use trade characters to entice children to buy cigarettes.

Although the DiFranza, *et. al.* (1991) study raised eyebrows, it was perhaps Fischer, *et. al.*'s (1991) research that caused the loudest public outcry. Fischer, *et. al.* (1991) structured their study in a similar manner as DiFranza, *et. al.* (1991), but studied a sample of three- to six-year-olds, rather than teenagers. In the Fischer, *et. al.* study, association of the Joe Camel character with a cigarette ranged from 30.4% for three-year-olds to 91.3% for six year-olds. These researchers concluded that Joe Camel is as recognized by young children as other "kid" brand logos such as Disney and Kellogg's. They asserted that intentional targeting of children by tobacco companies is irrelevant if advertising simply increases the knowledge children have of tobacco products.

Other researchers have disputed the findings of both DiFranza, *et. al.* (1991) and Fischer, *et. al.* (1991) on the grounds of faulty methodology (Martin 1994;

Mizerski 1995). Mizerski (1995) points out weaknesses in these studies based on (1) children's difficulty identifying logos and characters in pretests, (2) order effects, (3) misuse of the concept of recognition, and (4) potential interviewer bias. Mizerski (1995) tested three- to six-year-olds' ability to match trade characters and products, and tested the children's product affect by asking whether they liked or disliked cigarettes. Results of his matching test support the findings of Fischer, *et. al.* (1991) in that high levels of recognition and character/product matching were found. However, Mizerski (1995) found a strong negative relationship between liking of Joe Camel and liking of cigarettes, and asserts that positive character affect does not necessarily correlate with positive affect toward the product, or even likelihood of product usage, as suggested by Fischer, *et. al.* (1991) and DiFranza, *et. al.* (1991). Henke (1995) also found that that cigarette character recognition increased with age, but within the scope of increased brand symbol recognition in general. The three- to eight-year-olds in her study report not liking cigarettes (supporting Mizerski 1995), and identify adults or "nobody" as the appropriate target market for cigarettes.

Pollay, *et. al.* (1996) enter the debate in their study that seeks to link cigarette advertising to market share data for adolescents. Their comparison study of adolescent and adult product usage surveys and market share data for five years between 1979 and 1993 find evidence of a strong relationship between adolescents' cigarette brand choice and advertising. These authors assert that "smoking behaviors of adolescents are demonstrably related to previous and current cigarette advertising" (p. 11), and evidence suggesting otherwise should be regarded as naïve.

The controversy over the use of Joe Camel came to a head in the spring of 1997, amid increased pressure by states and the federal government over regulation of the tobacco industry. A settlement between the major tobacco companies, the federal government, and several state attorneys general resulted in the withdrawal of Joe Camel as an advertising tool and an agreement by the tobacco companies to not use cartoon characters in their advertising due to the potential appeal to children (*Advertising Age* 1997).

Summary of Preschool Children and Spokes-Characters

As seen from the preceding literature, spokes-characters may be an effective way to establish brand awareness and positive brand associations in preschool aged children. Spokes-characters appear to draw young children's attention due to their visual nature. Characters aid a child's recognition of a product and may influence the child's product or brand preference. Children may discuss character actions with peers, or may pretend they are the characters, thereby strengthening character/brand associations.

However, using a spokes-character to promote products to children can be a sensitive issue. Preschoolers may not have the ability to distinguish a fantasy character from reality, and they probably do not completely understand the persuasive role of the character. The use of a spokes-character to exploit the limited cognitive abilities of preschool children and to promote inappropriate products to children is likely to arouse public distrust and concern.

GAPS IN UNDERSTANDING THE FACTORS THAT INFLUENCE PRESCHOOLERS' CONSUMER BEHAVIOR

Significant gaps exist in the understanding of the various factors that influence preschooler's product knowledge and preferences. Preschool children experience and observe consumer behavior on a daily basis. They see products used in the home, and they even exhibit product preferences. They see products purchased at the store. They see products advertised on television and in point-of-purchase promotions. However, product knowledge is lacking regarding the particular factors or dimensions (or the "holistic product concept") that influence young children the most.

Much of the consumer behavior research has focused on six- to twelve-year-old children and teenagers. Preschool children are typically not utilized in consumer behavior research because they are a difficult population to study. Sampling may be difficult because not all preschoolers are in organized educational or day care programs, so accessibility to preschoolers can be more restricted than accessibility to older children in a classroom setting.

Second, limited verbal and linguistic communication skills often make studying preschoolers problematic. These children often cannot verbally express their thoughts, ideas, or feelings in a manner that is measurable by the researcher. Most of these children cannot read, so written testing methods are not appropriate. Drawing or artistic testing methodologies, employed in one study (Rossiter 1976), may provide an interesting new testing strategy. Studying preschoolers can be challenging, and because it so often requires new and unique methodologies, these children are often

ignored, and older children who can respond to written or verbal tests are used in studying childhood consumer behavior.

Finally, there have been concerns over preschoolers' tendencies toward inconsistent preferences, especially in consumer product testing (Capon and Kuhn 1980; Rust and Hyatt 1991). Young children may indicate a preference for a particular product at one point in the testing, then change preferences at another time. This unpredictability has led to many researchers abandoning examination of preschoolers for preference studies in older children who may be more reliable.

PURPOSE OF THE RESEARCH

This dissertation acknowledges the potential difficulties when studying preschool children, but is based on the belief that a greater understanding of how consumers acquire product preferences can be achieved by examination of this age group. Several opportunities exist for research and contribution to a better understanding of very young children's consumer product knowledge and preferences.

The goal of this dissertation is to examine the influence relationship that spokes-characters have on preschool children. Specifically, this research will test two character attributes (referent of the action and direction of its vocalizations) and will explore how these attributes influence preschoolers' product knowledge and preference.

This study is limited to an examination of animated, or cartoon, spokes-characters in the televised medium. Televised animated characters are particularly attractive to preschool children because of their fast pace, rapid action, visual humor, and sound effects. This action-packed format is perceptually salient for preschool children and, consequently, can attract their attention better than any other factors (Huston, *et. al.* 1981; Lesser 1974; Rice, Huston and Wright 1982; Wright and Huston 1983; Wright, *et. al.* 1984). This attention-attracting nature makes animated spokes-characters likely to influence preschoolers to a significant extent, but also presents a potential for exploitation of the children's limited cognitive abilities.

CONTRIBUTIONS OF THE STUDY

This examination of animated spokes-character influence on preschool children's product knowledge and preference will provide contributions to a variety of stakeholders. Theoretically, this research will help answer the question of "how" animated spokes-characters influence young children. Empirically, this research will provide a test of character attributes that have been proposed in prior literature.

Implications for Practitioners

Although this research will surely provide a better understanding of character influence on childhood consumer knowledge and preference, a more tangible and immediate contribution is also desired for the practitioner. Currently, many

companies that market products to children do so based on assumptions and successes of the past, without full understanding of the processes that operate in the child's mind, in relation to the product. For instance, the assumption is often made that presentation of a spokes-character will induce increased product desire in a child. Previous studies have found mixed results regarding this assumption, and no studies to date have examined the influence of specific character attributes.

This research can be used by companies to better understand the perceptual character attributes that are most salient to young children and what attributes attract children's attention. Arguably, companies that now exploit the consumer naiveté of children can learn from this research how to pursue children even more aggressively. However, the true goal of this research is to provide this information to those companies that produce products and services that are beneficial to children and help these managers learn how to better reach this target market.

Implications for Child Advocates and the Government

Just as company managers can learn how to better reach children with their marketing messages, this research will also provide information to child advocates and government officials that allows them to better protect children from being exploited. The U. S. government, at the urging of many child advocates, has recently placed sanctions on the tobacco industry for its use of cartoon spokes-characters in the advertising of cigarettes. These sanctions were made on the assumption that use of an animated figure attracted children to the product and increased children's desire

for the product. These assumptions were based on several studies of children's recognition of trade characters. A greater understanding of "how" trade characters influence preschool children can be ascertained from an examination of various character attributes and their differential influence potential. Additionally, a greater understanding of the interrelationship between the character and the product will provide information that can be used to protect young children from exploitation.

Implications for Academicians and Research

Perhaps the greatest contribution from this research will be in the form of testing previously proposed character attributes. By testing various character dimensions, reflecting the framework of cognitive development and learning theories, a greater understanding of preschoolers' cognitive and affective reactions to marketing mix variables is possible.

Additionally, this focus on preschoolers will give the academic community additional information about a target market that not only has a unique relationship with the marketplace, but is usually ignored in consumer behavior studies. A better understanding of the earliest development of consumer behavior knowledge and skills will ultimately provide greater information and comprehension of older children, teenagers, and adults. Additionally, a greater awareness of the development of consumer knowledge and product preference in the youngest children will enable researchers to have a better perspective on more complex issues such as the development of brand loyalty and the nature of influence.

STRUCTURE OF THE DISSERTATION

This chapter provided an overview of the children's consumer market. It explained why preschoolers are a suitable, but difficult, target for consumer behavior study. It also provided examples of how companies may attempt to use spokes-characters to influence children's product awareness and preferences.

Chapter Two provides an examination of a variety of cognitive development and learning theories. These theories lay the foundation for understanding how preschoolers form beliefs about products. Additionally, Chapter Two presents the propositions upon which the research hypotheses are built.

Chapter Three presents the methodology for the two research studies encompassed in this dissertation. Each study examines the influence of a different spokes-character attribute on preschool children's product knowledge and preferences. The research hypotheses for each study are presented, along with the details of the study design. Since both studies use the same testing procedure, this discussion is combined into one section. Finally, a data analysis plan is proposed.

Chapters Four and Five present the results of the testing administration and data analysis for Studies One and Two respectively. Chapter Six discusses and interprets the findings of the research and suggests implications for managers, public policy advocates, and researchers.

CHAPTER 2

UNDERSTANDING PRESCHOOLERS' PSYCHOLOGICAL PROCESSES INVOLVED IN CONSUMPTION ACTIVITIES

INTRODUCTION

Examining the influence of animated spokes-characters on preschoolers' product judgments requires a basic understanding of how children develop cognitive abilities to process consumer information and how children learn to "be consumers." Learning to be a consumer is an inherently social process; however, it is a social process that requires a certain foundation of individual cognitive skills. A child cannot be taught how to be a consumer if he or she does not possess the cognitive abilities necessary to process the consumer information. Conversely, a child is not born with an instinctive knowledge of consumer-specific skills, techniques, and behaviors. Members of the child's society teach these skills, techniques, and behaviors, relative to the norms, values and expectations of that society. Ultimately, the child becomes a consumer when he or she develops an awareness and desire to participate in purposeful acquisition of commercial products.

The purpose of this chapter is to present a broad overview of several theories explicating preschoolers' cognitive development and learning processes as they relate to a preschoolers' gain of consumer knowledge. In particular, this chapter examines a multi-disciplinary set of empirical research on preschoolers' development and learning from consumer information. It presents several research propositions related

to preschoolers' abilities (or inabilities) to process consumer information. Furthermore, where appropriate, the role of an animated spokes-character is discussed as it facilitates preschoolers' experience with, and processing of, consumer products.

Researchers focusing on the study of children have tended to rely on one of three perspectives to explain how children learn to behave as consumers in the marketplace. Two of these perspectives, Cognitive Development Theories and Information Processing Theory, focus on the psychological aspects of childhood knowledge development. These psychological theories take an individualistic position, concentrating on structures and processes within the child's mind, usually at the exclusion of social influences. The third prominent perspective of knowledge acquisition, Consumer Socialization Theory, relies more closely on foundations of sociological interaction. Each of these perspectives is discussed as it relates to the study of preschoolers' consumer knowledge obtainment.

This theoretical synthesis is unique, however, in its addition of several learning theories and its differentiation between developmental and learning theories. This synthesis provides an overall framework of preschoolers' consumer behavior that explains both developmental structures and learning processes.

DEVELOPMENTAL THEORIES VS LEARNING THEORIES

A discussion of how preschoolers' acquire knowledge of consumer activities must begin by contrasting development theories from learning theories. This

dissertation conceptualizes development as changes in innate cognitive structures according to a pre-existing biological timetable. As quoted in Crain (1992):

> Whenever development occurs, it proceeds from a state of relative lack of differentiation to a state of increasing differentiation and hierarchic integration (Werner and Kaplan 1956, p. 866).

Crain (1992) states that the transition from sensory to perceptual to conceptual representation demonstrates advances in cognitive development. He suggests that as children develop, or build cognitive structures, they come to understand their environment apart from needs or feelings. Learning, on the other hand, postulates that experience (either direct or indirect) is the key to knowledge gain (Bower and Hilgard 1981; Crain 1992).

> Learning refers to the change in a subject's behavior or behavior potential to a given situation brought about by the subject's repeated experiences in that situation (Bower and Hilgard 1981, p. 11).

Differences between developmental and learning theories originate in the philosophical traditions from which each framework originated. Developmental theories find basis in Jean Jacques Rousseau's perspective that children are not merely small copies of adults, but they have unique abilities, thoughts, and feelings (Crain 1992). Children grow and develop into adults in their own ways and at their own pace, according to an inner biological timetable. Knowledge comes about through stage progression, and abilities are innate. According to this perspective,

adult influence is unlikely to increase the rate at which children progress cognitively (Meadows 1993).

Learning theories derive from the empiricist perspectives of philosophers such as Thomas Hobbes, David Hume, and John Locke (Bower and Hilgard 1981; Crain 1992). Locke is well known for his statement that the child's mind is a *tabula rasa*, or blank slate, upon which experience writes knowledge (Singer and Revenson 1996). According to this perspective, knowledge acquisition takes place when the child interacts with his or her environment. This framework posits the role of adults as the facilitators and distributors of rewards and punishments, in order to mold a child's behavior.

A comprehensive understanding of preschoolers' consumer behavior must encompass an examination of a variety of developmental and learning theories. Because these theories are often intertwined (a developmental theory is tested through the utilization of a particular learning theory), perhaps different theories most appropriately explain different pieces of an integrated model of preschoolers' behavior.

COGNITIVE DEVELOPMENT THEORIES

Developmental theories are extremely beneficial to a better comprehension of childhood, and particularly preschoolers' behavior, because young children seem to rapidly develop common cognitive skills, despite different environments. In order to

understand how preschoolers process consumer information, it is crucial to discern the presence of cognitive structures that predict distinct processing and learning abilities.

Piagetian/Stage Theory

Early studies of childhood consumer socialization embraced the theoretical perspective espoused by Jean Piaget. Piagetian, or Stage Theory as it is commonly known, seeks to explain cognitive development as occurring in several distinct, qualitative stages. Humans progress through these stages as they assimilate, accommodate and adapt to environmental stimuli. This adaptation ultimately results in hierarchical changes in cognitive structures that allow for more abstract processing. Meadows (1993) suggests that cognitive structures can best be conceptualized as "timeless, abstract, universal laws of transformations and relations between objects or concepts" (p. 205).

Residence in each developmental stage carries assumptions about particular abilities that assist in processing additional environmental stimuli. The ages given with each of the developmental stages are not concrete, nor are they intended to be used as categorizational criteria. The ages are meant to represent general age ranges at which children exhibit particular behaviors and abilities. Assignment into a particular stage is primarily dependent on the child's ability to (1) understand the world through experience, perception, or correspondence, (2) evoke objects not immediately in sight, (3) understand consciousness beyond simple movement, and (4)

classify information on perceptive versus logical relationships. The first two developmental stages are most applicable to the study of preschoolers (Meadows 1993; Piaget 1951/1929; Piaget and Inhelder 1969; Singer and Revenson 1996).

According to Piaget, children at the sensori-motor stage (birth to 2 years) of cognitive development react according to reflex behaviors. They can only understand the world according to their own direct experience with objects and people, and have minimal ability to comprehend corresponding relationships between objects. They do not yet have consistent language and, prior to eight months old, they lack the ability to evoke objects that are not within their immediate vision. These children cannot differentiate conscious action from movement, so they bestow non-human objects with animistic qualities. Sensori-motor children classify information on simple, sensory perceptions, rather than logic (Meadows 1993; Piaget 1951/1929; Piaget and Inhelder 1969; Singer and Revenson 1996).

Children reach the preoperational stage (2 to 7 years) when they develop the ability to represent the world through symbols of their own perception; however, they still cannot think logically. Preoperational children are bound by their reliance on perceptual understanding. They tend to focus on one or two highly perceptual qualities of an object (referred to as "centration"), and evaluate the object according to those qualities. These children define life and consciousness by movement, so according to their perception, anything that moves is "alive." Symbolic play and the ability to pretend, is well developed by this point.

Preoperational children show fairly consistent language skills, with rapidly increasing vocabularies. At this age, children understand expressions of higher levels (i.e., longer, shorter, taller, etc.), but have difficulty using these expressions in everyday speech. Preoperational children are also egocentric; they are more likely to see the world from their own point of view, especially when it conflicts with another person's perspective. They can mentally and verbally represent an object that is not currently present (e.g., make animal noises). They are extremely curious, and organize information and objects by simple perceptive, figural categorizations. (Crain 1992; Flavell 1965; Meadows 1993; Piaget 1951/1929; Piaget and Inhelder 1969; Singer and Revenson 1996).

Stutts and Hunnicutt (1987) suggest that pre-operational children may be additionally sub-classified into two phases. During the first phase (age 2 to 4), children begin to undertake symbolic processing, such as imagery and language. At approximately age four, children enter the phase called intuitive thought and gain the ability to classify, categorize, and perceive similarities in objects.

Piaget submits the concept of a schema (or schemata) as the guiding force behind human behavior. A schema is a simple organization of images or actions that provide a means by which future experiences are interpreted (Piaget and Inhelder 1969; Singer and Revenson 1996). For example, a child accompanies a parent in a car. Through repeated experiences in the car, the child will develop a schema of "riding in a car," that defines all the actions and sequences of actions that take place in his or her experience. This schema transfers to additional experiences of riding in a

car at other times. The child interprets subsequent experiences according to this template "riding in a car," and appropriate behavior results.

The concept of schema is perhaps one of the most enduring aspects of Piaget's theory. As will be shown later in this chapter, schema concepts appear in a variety of research frameworks in both cognitive development and learning theories.

Testing Stage Theory

Given Piaget's popularity and his large number of publications, numerous researchers have attempted to replicate, validate, and test his theories. Generally, Piaget's theories of cognitive developmental stages are supported; however, Crain (1992) suggests that some of the specific tenets of his theories such as animism and egocentrism, have not met with as much support (Damon 1983; Flavell 1977; Looft and Bartz 1969). Nevertheless, Weybright's (1976) observational study of children's play activities found evidence of Piaget's egocentrism in the interaction of four and five year olds engaged in a block construction exercise.

Stage Theory and Consumer Behavior

Wackman and Ward (1976) suggest that Piagetian theory is appropriate for studying issues of childhood consumer behavior and consumer socialization for three primary reasons: "(1) its relevance to issues of children's information processing, (2) its direct relevance to public policy issues, and (3) its high degree of face validity."

Raju and Lonial (1990) also suggest that Piaget has had the greatest theoretical impact on children's advertising research.

Stage theory often serves as the explanation for age differences in childhood consumer behavior research findings. Robertson and Rossiter's (1974) study of first, third, and fifth grade boys suggests that differences in a child's attribution of persuasive intent of a commercial is most significantly affected by the child's age. Those children who were able to discern persuasion in the commercial could do so because they had attained a certain level of cognitive development that allowed for understanding of symbolism, intent, and external information sources.

Additionally, three-year-old subjects in Stutts and Hunnicutt's (1987) study of children's interpretation of verbal and non-verbal disclaimers misinterpreted the meaning of some disclaimers at a higher rate than the five-year-old subjects. Ward, Wackman and Wartella (1977a) also found significant age differences in the cognitive abilities of their subjects. The kindergartners were less likely to understand the intent of commercials, were more likely to believe the advertising message, and were more likely to desire the advertised products than the third grade subjects. Accordingly, the third graders scored lower on cognitive abilities in relation to advertising messages than the sixth graders. These researchers found that the kindergartners in their study were more likely to use fewer, more visually perceptible attributes to compare brands than either the third or sixth graders, supporting Piaget's notion of centration in pre-operational children.

Piagetian Stage Theory also serves as the most appropriate foundation by which to examine and understand the relationship between young children and the perceptual components of an advertising communications message. Piaget's notion of perceptual boundedness in preschool children supports the idea that in order to inform a child consumer, the marketer must "break-through" this boundedness. The marketer must attract the child's attention through simple, highly perceptual communication means, a concept known to communications researchers as "perceptual salience." Perceptual salience in media presentation is particularly important because of preschoolers' short attention spans and weak cognitive processing abilities. Young children tend towards "attentional inertia, " or inattention to information presentation (Collins 1982). In visual presentations, preschoolers tend to become bored with, and lose attention to, still shots lasting more than three seconds -- far shorter than the average presentation length (Alwitt, *et. al.* 1980). Consequently, media presentations of consumer information are successful only if they employ tactics to constantly re-attract or redirect the child's attention.

The easiest way to re-attract/redirect a young child's attention is through easily perceptible stimuli that differ from the current presentation that led to inertia; the stimulus must be perceptually salient to break through the accustomed stimuli. Media perceptual salience in young children is usually a function of rapid action, fast pace, visual humor, and sound effects (Huston, *et. al.* 1981; Lesser 1974; Rice, *et. al.* 1982; Wright and Huston 1983; Wright, *et. al.* 1984). Therefore, the following proposition is offered:

P1: Preschoolers process information perceptually and exhibit perceptual boundedness. In order to "break-through" this boundedness, marketers must present advertising messages that are perceptually salient.

Animated advertising may be particularly attractive to preschool children because the obvious action, movement, and sound effects associated with animation embody perceptual salience. This high level of perceptual salience, coupled with preschoolers' tendency to focus on only one or two predominant stimuli, may explain why an animated spokes-character associated with a product is likely to draw a preschooler's attention better than most other stimuli. Animated spokes-characters are typically large, colorful, action-oriented, and are accompanied by silly voices and sound effects. The character is typically the focus of the commercial. Because the action inherent in animation appears to attract young children's attention, examining differences in character action may enhance the understanding of why animated characters are so influential with preschoolers.

Some studies speculate that gender differences may exist in relation to preschoolers' attention to action, however, this speculation is still debatable. In particular, two studies indicate that boys attend more to animation and highly visual action while girls attend to verbal content and low action in a televised programming context (Alvarez *et. al.* 1988; Wright, *et. al.* 1984). Some researchers suggest that boys' increased attention to animation and visual effects may be a conditioned effect; programming and advertising for boys' toys tends to include more blatant action and attention-getting devices than does advertising for girls' toys (Greenfield 1984; Seiter

1993). However, Alwitt, *et. al.* (1980) did not find gender differences in preschool children's attention to child-targeted programming (e.g., Sesame Street) and commercials.

Stage Theory is not only appropriate for studying children's processing of consumer information; researchers examining the relationship between cognition and emotion also relate their findings to Piagetian theory. For example, Bahn (1984, 1986) proposes that the results of his study of children's brand/product preferences lend further support to the Piagetian notion that pre-operational children's (preschoolers) judgments are comprised of both simple cognitions and affect, and that affect often exhibits the greatest influence on these judgments. He found that pre-operational children (four to five-years-old) used fewer dimensions to discriminate among cereals (that have highly visual packaging stimuli) than the concrete-operational (eight to nine-years-old) children, but both groups of children exhibited affectively dominant dimensions in brand perceptions.

Researchers using Piaget's concept of schema have also provided significant information regarding children's ideas of consumer situations. However, most of these studies have encompassed information processing theory rather than stage theory and will be discussed in that section of this chapter.

Criticisms of Stage Theory

Piaget based his stage theory on his interpretations of interviews with young children in which he asked them broad, abstract, conceptual questions. This method

has been criticized for suggesting that children's cognitive abilities are denoted by their verbal abilities (Macklin 1986a, 1987b; Meadows 1993). Another methodological criticism lodged at Piaget is his lack of detail regarding study procedure that makes replication difficult and validation all but impossible (Flavell 1965). Additionally, Piaget is often criticized for over-interpreting his findings (Flavell 1965).

Some researchers consider Piaget's postulates to be inherently flawed. Meadows (1993) suggests that Piaget's idea that children's cognitive structures are structurally different from adults has been disproven. She argues that current thinking proposes that adult structures may be larger or more flexible, but hold the same structural organization as the child's structures. Research has also found that stage structures are not as impenetrable as Piaget assumed. Instruction can improve children's performance (Meadows 1993).

Piagetian theory has been criticized by marketing researchers for its denial of the "mediational representational view of information processing that is so characteristic of the communications and consumer behavior literature" (Calder, *et. al.* 1976). Roedder (1981) also criticized stage theory for its failure to explain the reasons behind age differences.

Brucks, Goldberg, and Armstrong (1986) suggest that, regardless of whether children develop in cognitive structural stages, research has demonstrated that children's abilities to process information increase as the child ages. Therefore, the following proposition is offered:

P2: Preschoolers exhibit less developed levels of cognitive structures and abilities than older children, which causes them to easily lose attention to information presentations.

In the context of consumer information presentation, the second theoretical proposition suggests that because preschoolers lose attention more easily than older children, they may be more influenced by active, animated presentations that are perceptually salient and hold their attention. The difficulty lies in the fact that preschoolers are attracted to active, animated characters, but lack many of the cognitive abilities required to differentiate fantasy from reality. As a result, they often do not understand the character's persuasive, rather than informative, role (Quarfoth 1979; Van Auken and Lonial 1985).

Theory of Mind

The Theory of Mind perspective differs from other cognitive development theories in its focus on the child's ability to recognize his or her own mental processes. It separates the child's understanding of "what the mind is" from "what the mind does" (Astington, Harris, and Olson 1988; Astington 1993; Wellman 1990). Theory of mind assumes that children think in a simplistic manner when defining and interpreting their own behavior and the behavior of others (Astington, *et. al.* 1988; Astington 1993; Meadows 1993). As a child develops a theory of the mind, he or she gains an understanding that both the self and others' actions are based on internal, mental beliefs and desires that are manifested as intentional behaviors (Wellman

1990). It is therefore, "belief/desire" psychology. This perspective is additionally unique because it views human behavior from the child's interpretation, not the interpretation of a well-educated adult.

According to this theory, children at approximately three years of age begin to perceive and make sense of the world through representations. The simplest of these, primary representations (beliefs), develop during infancy and prompt the child to assign truth to what he or she sees (i.e., "seeing is believing") (Astington 1993; Wellman 1990). Beliefs provide a causal explanation correspondence with desires (Wellman 1990).

Wellman and Bartsch (1988) studied young children's abilities to distinguish beliefs from desires and infer behavior related to beliefs. Three- and four-year-olds were given a scenario of a child who had a specific desire and belief; the subjects were asked to predict the child's action. Three-year-olds correctly predicted the child's action 85% of the time, while four-year-olds correctly predicted action 89% of the time. Seventy-five percent of three-year-olds and 81% of four-year-olds performed statistically above a level of chance in this task. These results indicate that even preschool-aged children have the ability to both differentiate desire from belief and the ability to link desire with predicted action, when belief is taken into consideration.

Secondary representations come at the next level of cognitive development, and allow the child to make representations or propositions about the primary representations (i.e., "beliefs about beliefs") (Astington 1993). These secondary

representations take the form of inferences connecting multiple dimensions of stimuli into associative networks of understanding. These associative networks, once formed, are utilized at further points in time to comprehend and interpret new environmental stimuli.

The theory of mind posits that belief structures form as a system of mental states, or convictions, about phenomena. These convictions are structured as beliefs, desires, and intentions about propositions (Astington 1993). For example, within a child's belief structure of a particular bicycle, the child:

Mental State/Structure	Proposition
believes	the bicycle will go fast
desires	a "mountain bike" style
intends	to ask the parent to buy the black bicycle he saw at the local sporting goods store

Some action or event in the world addresses this interwoven set of beliefs/desires/ and intentions. The parent's purchase of the bicycle fulfills the child's belief structure for that bicycle, and the child's use of the bicycle further strengthens this belief structure. If the parent does not purchase the bicycle, the child infers from the original belief structure and modifies the beliefs and desires into a new structure that facilitates further or different action (Astington 1993).

The differentiation between desires and intentions however is arguable, even among the ranks of the theory of mind researchers. Wellman (1990) asserts a difference between desires and intentions; intentions actualize desires. Astington (1993), however, indicates that often very young children (three years old) do not

separate desires from intentions, they form a coordinated desire/intention state. Older children may be able to differentiate desires from intentions. This dissertation uses Astington's conceptualization of desires/intentions as a combined state, because product desire/intention in children seems most appropriately to be a simple goal-state of acquisition.

Another unique aspect of the theory of mind perspective is its integration of affect into the belief structure. At young ages, children can discuss their own feelings and even infer the feelings of others. Affect influences children's beliefs and desires, and ultimately their actions.

The Importance of the Referent

One of the most controversial issues in the theory of mind perspective is that of the mental action on the referent, a child's thinking *of* X versus the child's thinking *about* X. Thinking *of* X implies the formation of a mental representation, whereas thinking *about* X assumes a state of conviction regarding the truth of X (Wellman 1990). For example, Wellman (1990, p. 33-34) discusses his studies with three-year-olds who are asked to talk about their *thoughts* about a ball (i.e., "the picture of the ball that is in your head") versus their thoughts about a *ball* (i.e., "a ball in a box"). Preschool aged children tend to talk about their mental representations of an object, rather than their convictions about the object. Discrepancies in determining preschoolers' possession of a theory of mind typically relate to inconsistencies in action on the referent.

The Relationship Between Stage Theory and Theory of the Mind

The theory of mind presents an antithesis to several of Piaget's assertions about preschool aged children's cognitive abilities. First, Piaget claims that young children are completely egocentric and do not have the ability to see the world from others' point of view. Theory of mind claims, however, that a child's ability to pretend assumes that the child can take on the view of another, otherwise the child could not play different roles, play multiple roles, or carry on complex dialogues between roles. Pretending is a popular activity among preschool aged children, who seem to have an uncanny ability to take on multiple roles, understand the relationships between roles, and carry on dialogue between roles. Therefore, children may have some abilities to perceive a wider variety of perspectives than Piaget first thought.

A second tenet of stage theory that theory of mind opposes is Piaget's claim that pre-operational (preschool aged) children are cognitive realists (i.e., the child cannot distinguish between mental and physical phenomena). Piaget ascertained this notion through verbal discussions with children in which he asked them where dreams came from. Children in Piaget's study indicated that their dreams originated externally to themselves, the dreams came from the night, or smoke, or light, and that other people see the dreams also (Piaget 1929).

Estes, Wellman, and Woolley (1989) tested Piaget's proposition of childhood realism. These researchers asked three, four, and five year old children judgment questions about mental entities (dreams, thoughts, and memories), physical objects

(ball, bike, tree, etc.), and close impostors (shadows, photographs, pain, sound, etc.). Results of this study refuted Piaget's assertion of realism in young children. Some three-year-olds provided verbal explanations indicating cognitive understanding of the differences between mental entities and physical objects. When the children did not provide a correct explanation, the researchers found that in most cases the child focused on the referent (object) instead of the representation (thought about the object) (Estes, Wellman and Woolley 1989; Wellman 1990).

Theory of Mind and Childhood Consumer Behavior

The theory of mind perspective seems appropriate for the study of consumer behavior because it examines basic human processes such as attitudes, beliefs, desires, intentions, and motivations. According to this theory, events in the world are organized perceptually, and these perceptual structures prompt beliefs about those events. Affect forms about the beliefs and drive desires or intentions to act on the beliefs. These desires and intentions promote actions that facilitate an outcome relative to the original event.

The theory of mind perspective may help us better understand how children relate to media presentations, such as television programming and commercials, and how this media presentation shapes the way children approach and think about the rest of their world. Children not only form belief structures about inanimate objects, but also form belief structures about other people. These belief structures are particularly predominant in people and characters seen on television and in the

movies where a character is constructed and displayed within a context of directly observable action. This action attracts the attention of young children, who learn to define a character's role and personality relative to the action that he, she, or it undertakes.

Scholars in children's literature support the notion that children are attentive to, and define a character, relative to its action, even when that action is not directly observable as it is on television. Semiotic studies of children's oral interpretations find that young children also learn to define literary characters by their actions relative to plot structures. Young children interpret a story as a tale of a figure who acts upon a motive (Feldman, *et. al.* 1994).

> Within the plot, characters interact with each other and with the nature of the world created by the plot . . . there is always some action . . . The essence of a character is his action in the plot: a character is what he does (Anderson and Groff 1972).

Because of this tendency for children to define a character relative to its motives and action, most children's story plots are situated around "a journey, a quest, or a test, and whether the character fails or succeeds to achieve a goal" (Anderson and Groff 1972).

The tenets of the theory of mind perspective help us better understand how preschool children perceive and comprehend their environment in general, including their consumer environment. Therefore, the following proposition is offered:

P3: Preschoolers comprehend their environment by forming simplistic structures relating beliefs about and desires toward humans or inanimate objects. Often these structures are comprised of holistic conceptions of persons or objects.

In the context of a consumer environment, preschoolers tend to conceive of a product as a holistic entity (see Chapter 1) and the child forms beliefs and desires relating the product with the character, the packaging, and the promotion. For example, a child may simplistically conceive of *Frosted Flakes* as a cereal that is "good for me" simply because Tony the Tiger is shown eating the cereal, and Tony the Tiger appears to be big and strong. Beliefs and desires about the associated spokes-character may take on the same, or even more importance than beliefs and desires about product attributes, because a young child typically has no understanding of how product attributes fulfill his or her needs. The child may form product knowledge and preferences that consist of very simple beliefs and desires of the spokes-character, because the character is perceptually salient and conveys "relevant" product information.

The notion that children develop a conception of themselves and their world through primary and secondary representations also applies in a consumer context. Young children often watch television and are exposed to advertising messages. They often accompany parents in shopping situations. It is through these experiences that the child forms primary representations (beliefs) and begin to assign truths of existence and simple perceptual categorizations (e.g., toy, food, sweet, red) to consumer stimuli. As the child ages and develops greater cognitive abilities,

secondary representations allow the child to infer qualities on the primary representations (i.e., "beliefs about beliefs") in order to form associative networks of understanding (Astington 1993).

One study has shown that preschoolers tend to make primary and secondary belief inferences about toys, based on gender. If a child likes a toy, he or she infers that other children of the same gender would like the toy, and children of the different gender would not like the toy. Additionally, if the child is informed that the toy is for a particular gender, the child will infer the toy is "for" or "not for" him or herself, depending on his or her own gender (Martin, Eisenbud and Rose 1995).

Bahn (1984, 1986) also found that preschoolers inferred cereal appropriateness based on spokes-character attributions. Those cereals that used an animated spokes-character were inferred to be "for children" whereas those cereals that did not employ a animated character were inferred to be "for adults."

This tendency for preschoolers to comprehend their environments as inferences about perceptions prompts the following proposition:

P4: Preschool children's belief structures form as a system of primary and secondary representations.

Because preschoolers form primary and secondary representations related to toys and food products, we can assume that these children form the same types of representations about the spokes-character message stimuli they are exposed to. Primary representations of spokes-characters result from the perceptual salience of the

animation. A preschooler's attention is directed at the spokes-character simply because it is animated. The perceptual information the child receives forms the primary beliefs about that character, such as "He is a cartoon character." Secondary representations take the form of inferences about the primary beliefs, such as "cartoons are for children."

Once the primary and secondary representations are formed, children may progress to a desire or intention for a product because of a simple affective response (typically a simple evaluative "like" or "dislike") to the product or an advertising message. Although cognitive and linguistic abilities may be limited at this age, preschool children can respond in simple affective ways. They can convey their feelings and can interpret others' feelings at an early age. Although preschool children may lack the ability to self-monitor and they lack the complete understanding of their own feelings, affective reactions may provide the linkage between psychological thoughts and behavior. Therefore, the following proposition is offered:

P5: Children's beliefs and desires can be moderated by simplistic affective states.

In a consumer context, a child's beliefs and desires about a product (or product entity) may be moderated by the child's affective evaluation of the character (Acuff and Reiher 1997). For example, a male child may form a belief about the perceptual qualities of a product/character entity, but never move to a desire for the product, simply because he does not "like" the female character associated with it.

Conversely, the child may want a product she knows nothing about, simply because she has a strong positive affective reaction to the character.

This section concludes the discussion of cognitive development theories. In the next section, several different theories of learning are presented that focus on the process of preschoolers' knowledge attainment.

LEARNING THEORIES

Learning theories are beneficial to the study of children's acquisition of consumer knowledge because they provide a better understanding of the processes by which children gather, synthesize, store, and retrieve information. Learning theories are typically differentiated into behavioral and cognitive distinctions. Behavioral learning theories, often referred to as stimulus-response theories, focus on the association between sense impressions and subsequent actions. These theories posit that learning produces habits (sequences of responses), through associations experienced during trial and error situations (Bower and Hilgard 1981).

Conversely, cognitive learning theories are more akin to developmental theories in their focus on mental structures; however, this emphasis is on the longitudinal processes by which structures form, rather than the cross-section of structure morphology at a given moment in time. Cognitive theories presuppose mental processes as intermediaries in the drive-action sequence. According to these theories, problem solving takes place through insight (rather than trial and error) and

learning results in increased bits of knowledge (rather than habits) (Bower and Hilgard 1981).

Classical Conditioning

Ivan Pavlov is often credited as the father of Classical Conditioning theory and the founder of modern learning theory (Bower and Hilgard 1981; Crain 1992; Estes 1970; Stevenson 1972). According to this theory, the presentation of an unconditioned stimulus (food) results in an unconditioned response (salivation). When an arbitrary stimulus (metronome) is repetitively presented alongside the unconditioned stimulus, over time a conditioned response (salivation) results from presentation of the conditioned stimulus (metronome) only (Pavlov 1960/1927). Two of the constructs that are key to the notion of classical conditioning are association and reinforcement (Bower and Hilgard 1981).

Association, a foundational concept in cognitive processing and learning, gained popularity with the philosophies of British Empiricists such as John Locke, George Berkeley, David Hume, and Immanuel Kant (Hamlyn 1987). Association proposes that sensory perceptions of objects or phenomena are qualities not inherent in the objects, but are deduced by the human brain in relation to other objects or beings. As our senses perceive various stimuli, these stimuli are grouped by mental processes, and the mind forms associative relationships between the parts (Berkeley 1713). These relationships are conjectures of the mind, suggested and formed from a combination of past experience and former perceptions (Smith and Grene 1957). It is

associative processing that allows humans to relate general and particular concepts to each other through imagination and memory (Hume 1739).

Reinforcement is the repetitive pairing of conditioned stimulus with unconditioned stimulus and response (Bower and Hilgard 1981). This recurrent action causes the assignment of association between the stimulus and response. However, a conditioned stimulus will not continue to evoke a conditioned response indefinitely. The conditioned stimulus will gradually decrease its effect on the conditioned response as the subject learns to anticipate the absence of the unconditioned stimulus after conditioned stimulus presentation, to a point of extinction (Estes 1970). The subject may exhibit spontaneous recovery though at a time after the researcher has achieved extinction.

Finally, in order for conditioning to be successful, the appropriate temporal relationship must exist between the conditioned and unconditioned stimuli. The most efficient learning takes place when the conditioned stimulus appears either slightly before, or simultaneously with, the unconditioned stimulus (Bower and Hilgard 1981).

Classical Conditioning in Child Behavior Research

Perhaps the best-known researcher to implement classical conditioning techniques into child behavior was John Watson (Crain 1992). His studies examined the conditioning of emotional responses in children, assuming that many emotional responses are learned rather than innate. In Watson's studies, a child was exposed to

an unconditioned stimulus (white rat) which before the study elicited no emotional response. The striking of a metal bar behind the child's head accompanied the presentation of the rat, prompting a fear response and crying. Over time, the presentation of the rat alone evoked crying (Watson 1924). Watson also transferred these findings into converse studies of de-conditioning, or de-sensitizing fear responses in children.

Other researchers have followed Watson and tested conditioning procedures in young children, even examining the conditioning abilities of newborns less than ten days old (for an overview, see Stevenson 1972). Generally, children of all ages, including newborns, possess the primary cognitive structures necessary to learn simple responses through classical conditioning. Differences exist however in the time it takes the child to learn, depending on the maturity of the individual child's cognitive system.

Classical Conditioning and Childhood Consumer Behavior

Classical conditioning seems to have significant potential for consumer behavior research, although most studies relate to adults' consumer behavior. The classical conditioning concepts of stimulus generalization and discrimination help marketers better understand the success of product line extensions and store brands that appear in packaging similar to the national brands (Boush, *et. al.* 1987). Consumer behavior research also addresses the conditioning of various advertising

effects (e.g., music, message repetition) on adults' consumer behavior (Gorn 1982; Gresham and Shimp 1985; McSweeney and Bierley 1984; Nord and Peter 1980).

Most childhood consumer behavior studies utilizing classical conditioning principles address issues of message repetition on children's product choice (for an overview, see Rossiter 1980). Although children exposed to commercial messages are more likely to express preference for the advertised product, excessive repetition does not seem to have a strong conditioning effect. Heslop and Ryans (1980) found that children who saw more exposures of the advertisement chose the test product proportionally more often that those viewing fewer exposures. However, the differences between product selection in subjects exposed to the commercial once versus subjects exposed three times was not high enough to propose that repetition has a strong influence on children's product choice.

Gorn and Goldberg (1980) found that excessive message repetition could potentially yield a problematic situation for advertisers. Although beneficial in some circumstances, increased repetition can quickly reach a point of diminishing returns. Their study of eight and ten year old boys found that while minimal exposures can increase brand recall, increasing preferences required increasing the variety of exposure. Repetition of the same commercial more than three to five exposures actually increased annoyance on the part of the subjects. This annoyance could possibly transfer from the advertising to the product and produce negative affect and desire on the part of the child.

Simple assumptions of advertising message repetition effects have been extended to include public service announcements (PSAs). Researchers have questioned whether educational announcements can condition children's preferences and selections in the same way commercial messages influence consumption behavior. This is particularly important because PSA development often lacks the budget of commercial advertising creation, and because PSAs often want for the visual appeal and entertaining quality that commercial advertisements possess. Although Gorn and Goldberg (1982) found that public service announcements influenced children to select healthy food over sugared snacks, these authors suggest that occasional PSA placement will not be effective (as consistent with classical conditioning theory). They argue that because young children act relative to recent commercial influence, PSA placement must be frequent and continuous in order to achieve the salience level required to influence product preference and choice. These findings refute prior studies that suggest message repetition lack the assumed overwhelming influence over children's product choice behavior.

As mentioned earlier in this chapter, Macklin (1986b) directly tested classical conditioning effects on preschoolers' (four- and five-year-olds) product choice by pairing products and characters in three temporal orders. She presented each child with a picture of a pencil (either orange or yellow) and with a picture of a Smurf character. Following three exposures of the stimuli, each child chose either an orange or a yellow pencil. Across all temporal conditions (simultaneous presentation, forward presentation, and unpaired), no evidence was found to suggest any influence

of the character on product choice. When the children were given the opportunity to trade their pencils for a sticker, those children in the forward condition group (saw pencil, then Smurf) were less likely to trade.

Although classical conditioning theory includes the tenet of association, discussion of studies testing associative learning principles will be discussed in a subsequent section of this chapter.

Criticisms of Classical Conditioning

One of the most significant criticisms of classical conditioning claims that classical conditioning theories may best explain how children learn simple affective responses and reflexes, but fails to explain how children learn complex cognitive skills (Crain 1992; Estes 1970). Additionally, there may be limits to the types of responses that can be conditioned in the child. For example, despite numerous efforts, babies could not be classically conditioned to fear wooden blocks (Harris and Liebert 1984).

Despite the criticism that only simplistic responses can conditioned, the following classical conditioning proposition is offered:

P6: Preschool children can be conditioned, through structured exposure, to exhibit affective responses to stimuli.

In a consumer context, advertising message variables, such as an animated spokes-character, may be used to condition a positive affective response to a product. One of the qualities that makes animated spokes-characters enticing to children, is the

fun environment within which the character is portrayed (Burton 1966; Marshall 1982). Animation depicts life as an exciting adventure (Burton 1966). Structured exposure to advertisements that depict the character interacting with, or acting on, the product in a "fun" context may condition the child to a positive affective response to the character, and therefore, the product.

Operant/Instrumental Conditioning

Operant, or instrumental, conditioning is the behavioral learning theory attributed to B. F. Skinner. Skinner, critical of classical conditioning's presumption of eliciting stimuli, formulated a theory explaining behavior that does not seem to be elicited (Skinner 1938). He argued that behavior is often exhibited when no antecedent stimuli are observed. Therefore, this behavior is emitted, rather than elicited. Skinner defined an operant as observed behavior without an observed stimulus, and a respondent as observable behavior with an observed stimulus (Skinner 1938). Within the framework of this theory, the subject is allowed to "act on" the environment and experience the consequences of that action, that Skinner argues is more realistic to human behavior (Crain 1992).

According to operant/instrumental conditioning theory, learning occurs when the frequency of response increases in relation to the frequency of reinforcement (Stevenson 1972). Operant conditioning also holds that learning occurs through associations, although these associations are different from those of classical conditioning. In operant conditioning, the subject acts in a seemingly random manner

until the stimulus-response activity is engaged, and reward achieved. The reward triggers the subject to rehearse the behavioral sequence (and receive reward) solidifying the association between behavior and reward. Once the associations are formed, subsequent exposure to the stimulus will cause the subject to anticipate reward, and trigger the subject to complete the behavioral sequence in order to gain the reward (Estes 1970).

One of the important issues in operant/instrumental conditioning is the use of reinforcement stimuli to increase the probability of response. Skinner makes the distinction between positive reinforcement (stimuli presentation increases probability of response) from negative reinforcement (stimuli removal increases probability of response). Aversive stimuli are often confused with negative reinforcement; however, aversion is more akin to avoidance (the subject learns in order to escape) (Bower and Hilgard 1981; Skinner 1938).

Operant/Instrumental Conditioning in Child Behavior Research

Operant conditioning is a technique familiar to child behavior research. Numerous studies have shown that young children, especially infants, respond well to operant conditioning methods. Babies can be conditioned to turn their heads when the cheek is stroked or can be taught to increase the rate of sucking when reinforced by a sweet liquid (Lipsitt 1971).

Using operant conditioning techniques, preschoolers have learned to exhibit conservation of quantity, or the ability to understand that some characteristics of

objects remain stable when other characteristics change (i.e., the volume of liquid in a glass remains the same even when the shape of the glass differs), a skill typically reserved for older children (Bucher and Schneider 1973). Preschoolers can also be conditioned to exhibit particular behaviors when influenced by social reinforcement (Clarke, *et. al.* 1974).

In a unique study, Watson, Hayes, and Vietze (1979) tested Piaget's notion of centration (e.g., focusing on only one or two perceptual dimensions of an object) by giving preschoolers an operant/instrumental learning task in which correct responses were positively reinforced. Results suggest that when preschoolers receive an operant/ instrumental learning task with a limited number of stimuli, they tend to focus on a larger number of object dimensions. The researchers suggest that a preschooler's centration tendency may be related to task complexity.

Stevenson (1972) suggests that prior to language acquisition, conditioning may be the most appropriate explanation for young children's learning and behavior. Once a child acquires the ability to speak and use words to symbolize ideas, the child gains a new means by which to organize information.

Skinner (1953) offered suggestions on reinforcing children's behavior by using extinction and positive reinforcement. When the child misbehaves, the parent should refrain from responding, thereby forcing extinction of the bad behavior. When the child behaves in a desired manner, the parent administers positive reinforcement.

Operant/Instrumental Conditioning and Childhood Consumer Behavior

Operant/instrumental conditioning may lend itself quite well to consumer behavior examinations of issues such as brand loyalty or even consumer reward programs (Wells and Prensky 1996). Brand loyalty may be the result of positive reinforcement. The consumer continues to purchase a particular brand because he or she derives some positive reinforcement (or lack of negative consequences) from product use. Consumer reward programs, such as frequent purchaser rewards, exhibit elements of reinforcement concepts. Nord and Peter (1980) suggest that contexts such as cash rebates or a high pressure salesperson serve as positive and aversive stimuli, respectively. These authors also propose that brands or logos may encompass aspects of operant conditioning if consumers learn to anticipate certain rewards when the brand or logo is present.

While the child consumer behavior literature has not directly addressed operant/instrumental conditioning, the issue of premiums may be appropriately explained by this theory. Premiums in children's products often serve as reinforcers of purchase. If the child purchases the product (cereal), the purchase is rewarded with a special gift (toy). The child soon learns to associate certain products with premiums, and even use desire for the premium as a decision factor in product choice.

The use of premiums as product conditioning reinforcement has caused many child advocates to argue that the partnering of children's products with premiums is unfair and deceptive to children. Often these arguments are made on the grounds that the children will prefer and purchase the product for its advertised premium, not for

the attributes or benefits of the product itself (Ward 1980). However, results of studies on premium influence have been generally inconclusive. Price (1976) attempted the differentiation between premium and product preference. Although the results of her study did not strongly support the contention that premium offers increase *premium* preference, the kindergartners in her study showed increased preference for the *product* advertised with the premium and first graders exhibited decreased preference.

In an opposite finding, Heslop and Ryans (1980) experimental study of four- to eight-year-olds concluded that although advertised premium offers may produce some increase in product preference, premiums exhibit little influence on final product choice. Heslop and Ryans (1980) study reinforces the findings of the Shimp, Dyer, and Divita (1976) study that found little influence of premium offer on product choice, and led to the Federal Trade Commission's rejection of a proposed ban on premium advertising to children.

The suggestion that rewards may entice and encourage purchase behavior lends the following proposition:

P7: Positive reinforcements may modify preschoolers' future attitudes and behaviors by strengthening the association built between a stimulus and behavior.

In a consumer context, characters may also serve as positive/negative reinforcements of children's product purchase. The use of licensing characters on products, or as premiums, reinforces the positive affect a child may feel towards a

character, and the product. The child may like the character from a television show, movie, or toy. The child is then rewarded for purchasing products that license the particular character. Further social reinforcement takes place if the child shares his or her "character" products with other children who also feel positively toward the character. Children may become popular with their peers simply because they have the most Barbies or Star Wars action figures and the licensed paraphernalia to go along with the toys.

Providing an original animated spokes-character either as a packaging symbol or as a premium may also administer positive reinforcement for the product purchase (Fogarty 1995; Larson 1991; Ward 1980). Through exposure over time, a child may develop a positive affect for the character and product, especially if character premiums are used by the company to entice and reward product purchase. By examining both a child's positive affect, or "liking," for a character and a child's affect toward the product, we can gain a better understanding of how the character may serve as a positive reinforcement of the product. Adequate, and repetitive, positive reinforcement may influence the child's future product preferences and choice.

Criticisms of Operant/Instrumental Conditioning

Child development researchers often criticize operant/instrumental conditioning theory on two primary issues. First, operant conditioning oversimplifies behavior by attending only to observable behavior, at the exclusion of internal states such as thoughts, feelings, or drives. Skinner (1971) denied that thoughts and

feelings cause observable behavior. Second, operant conditioning denounces the concept of developmental stages and inherent age differences in abilities. According to this theory, environmental influences shape the child's behavior (Skinner 1953).

In summary, operant/instrumental conditioning theory provides a reasonable explanation of how children's behavior can be constructed through the use of positive and negative reinforcements. Although research results have been debatable, it seems that this theory still holds potential for explaining the relationship between characters, premiums, or other positive reinforcing aspects of the product, and children's product choices.

Information Processing Theory

Information Processing Theory addresses the processes by which cognitive structures form and change. It responds to Piagetian stage theory that proposes categorization of children based on their relative lack of abilities. Information processing emphasizes how children use the abilities they do have (Raju and Lonial 1990). Researchers who use this theory most often study processes of information selection, representation, storage, retrieval, and transformation (Meadows 1993). From a consumer behavior perspective, Information Processing Theory has helped us better understand children's information organization, memory and retrieval activities.

Information Organization

Much of the information processing research on children's consumer behavior addresses age differences in organizational strategies children use to structure and make sense of information stimuli. One heuristic children use to organize information and experience are schema, or scripts, of common sequences of events and consumer situations the child might have encountered before (John and Whitney 1986) (see Proposition 3). John (1985) suggests that the foundations of schema (script) theory from researchers such as Abelson (1976) may be the most appropriate foundation for studying changes in the development of knowledge structures in children. In one study for example, three-year-olds could explain a basic script of actions that take place during grocery shopping. Four-year-olds gave more detailed accounts of the shopping trip, and five-year-olds could extend the action script to include references to planning and mishap prevention (Hudson, Shapiro, and Sosa 1995).

Young children use schemas/scripts to understand not only consumer situations, but also use these devices to understand consumer information. For example, children develop schemas of particular characters seen in media presentations; schemas that include notions of the character's personality, desires, motives, and actions commonly undertaken to achieve those motives (e.g., the Trix rabbit is a comical, energetic advertising character who desires Trix cereal and often engages in trickery to achieve his motive of acquiring the cereal).

Children also develop "media schemas" that allow them to better attend to and comprehend consumer information (Meadowcroft and Reeves 1989). This is particularly relevant to consumer information (e.g., advertising and public service announcements) presented on television. Alwitt, *et. al.* (1980) suggest that preschoolers have difficulty paying attention to a large portion of what they see on television because their limited cognitive and linguistic abilities make information overload acute. However, these children learn through repeated exposure to television that certain form properties (e.g., sound effects, children's voices) cue the presentation of information that is understandable to the young child. These form properties are encompassed into the child's schema of what constitutes "children's television and advertising," and this heuristic is used to efficiently screen out information that may be too cognitively difficult for the child to comprehend and direct attention to relevant information. As such, the following proposition is offered:

P8: Preschoolers use schema, or scripts, to organize information and aid in interpretation of new environmental stimuli. These schema cue the child to pay attention, sort out, and process relevant information.

Because preschoolers use schema or script techniques to organize information, they are likely to develop a schema for the television formats they are exposed to. Format variables, such as animation, appear frequently in children's television. Schema concepts indicate that a child's experience with significant amounts of animation would define and shape a "children's television/advertising" schema, and all subsequent animated programs/commercials would be interpreted as being "for

children" and would increase attention to later animated presentations (Greenfield 1984; Wright and Huston 1983; Young 1990).

Although scripts provide some measure of organizing and comprehending new consumer information and stimuli, very young children sometimes have difficulty in extending one situational script to another, or generalizing from one consumer experience to another. John and Whitney (1986) found in their study of script utilization that four-year-olds may lack the cognitive structures necessary to form adequate scripts, because additional information provided to the children did not result in more effective script utilization. Hudson, Shapiro and Sosa (1995) found no statistically significant differences in the accounts of three- and four-year-olds, but did find significant differences between the abilities of these two ages and the five-year-olds.

Peracchio's (1992) study of script processing in five through eight-year-olds suggests that abilities may be related to information format. She found that verbally presented information was more difficult for the five-year-olds to process. When information was presented in a combined verbal and visual format, however, the younger children showed similar consumer learning as the older children. When task complexity and relevance were appropriate for the younger children, no age differences in processing capabilities were found.

Inferencing behavior has also been the focus of developmental and age-related differences in children's ability to organize and process consumer information. Roedder's (1980) study of elementary school children found that significant

differences in information processing abilities were dependent on the complexity of the task situation, supporting earlier findings of Murphy and Brown (1975). When the task involved complex processing, young children were found to process more incidental (i.e., unimportant or secondary) than central (i.e., important or primary) information and have difficulty accessing information and using information to make comparisons and choices. However, in simple cognitive task situations, younger children did not exhibit significantly less ability than older children in information processing and drawing inferences. Stevenson (1972) suggests that preschoolers are more likely to learn incidentally than older children do because they have less ability to discriminate between important and non-important information.

Information Storage and Retrieval

Information storage and retrieval has also been an area of significant study in children's consumer behavior. The focus of this research has been primarily on studying age differences in memory capacity and processing in children, with a keen interest in exploring mechanisms by which children can improve their storage and retrieval ability.

Several researchers have suggested that older adolescents and teenagers exhibit greater abilities to store and retrieve consumer information. Older children are typically able to recall a larger quantity of information, and retrieve more information without aid. (Reece 1984; Ward and Wackman 1971). This idea of age differences may be debatable though. Klees, Olson, and Wilson (1988) found

evidence to refute the idea that older children necessarily have greater memory processing capabilities than younger children. Although the fourth graders in their study had more consumer concepts in memory, there was still a significant overlap between the number of responses for first and fourth graders. These authors suggest that younger children may have greater abilities to process semantic memory concepts than has previously been thought. Wartella, Wackman and Ward (1978) also argue that more attention should be paid to semantic memory in order to better understand how children integrate various pieces of new information into their existing knowledge structures.

A differing perspective on memory processing comes from advertising research, rather than marketing. Thorson (1990) relates Estes's (1975) proposal that the simplest model to examine memory processing by child consumers is a simple association model. The activation and reactivation of associational links in memory occur whether the child is actively engaged in deliberate, thoughtful cognitive processing, or is simply acting as a passive sponge of environmental stimuli.

Processing Difficulties and Deficits

Children tend to show information processing difficulties in two primary areas, difficulties in encoding and storing information in memory and difficulties in processing and retrieving stored information. Encoding and storing difficulties result from small storage capacity; processing and retrieving difficulties are attributed to the complexity and amount of information that needs to be stored (John and Cole 1986).

John and Sujan (1990) attribute processing deficits in young children to factors such as: (1) high levels of perceptual boundedness that fail to suppress visually salient cues, (2) the lack of cognitive ability needed to retrieve, store, and use non-perceptual information, and (3) naïve causal reasoning. Children can be taught to use particular strategies to enhance storage and retrieval of information from memory, but younger children often do not recognize which strategies are needed. They will not automatically enable learned strategies in a problem-solving situation, unless specifically instructed to do so (John and Cole 1986).

The perceptual boundedness that fails to suppress visually salient cues is of particular importance when the child is processing persuasive information. Young children are likely to process perceptual qualities of an advertisement differently than they process its informational content. Schumann, Petty, and Clemons (1990) make the distinction between adults' processing of substantive stimuli and cosmetic stimuli in persuasive messages. Two different models suggest that adults process persuasive information along different routes and studies of children's information processing suggest likewise.

The Elaboration Likelihood Model (Petty and Cacioppo 1986) posits that individual and situational factors effect the route by which persuasive information is processed. Individuals having the ability and motivation to process persuasive arguments, do so through a central, cognitive route that emphasizes message content. Those individuals who do not possess either the ability (i.e., young children) or motivation to process message content cognitively, process persuasive arguments

peripherally (in this case, emphasizing message form cues). In the context of a young child's processing of persuasive information, Schumann and his colleagues' (Schumann, Petty, and Clemons 1990) notion of cosmetic stimuli would translate to the child's attention to incidental information such as the color of the character's shoes, rather than substantive stimuli such as product attributes.

A conceptually similar theory is the Heuristic-Systematic Model (Chaiken 1980; Chaiken and Eagly 1983; Eagly and Chaiken 1993). The Heuristic-Systematic Model posits that persons processing information systematically do so by evaluating the persuasive argument (i.e., message content) in relation to present knowledge about the object or issue at hand. Systematic processing assumes significant cognitive comprehension and elaboration of message content and sophisticated schema development. Heuristic processing, according to this model, assumes limited cognition and information processing. Persons utilizing this method, make decisions based on simple cues or heuristics (decision rules), rather than elaboration of the semantic content of the persuasive message. Message form attributes such as source effects are commonly suggested heuristics for decision making according to this model (Chaiken and Eagly 1983).

John and Sujan (1990) and Roedder (1981) provide similar explanation in the context of young children's message processing. Roedder (1981) indicates that "the best documented shortcoming of young children is their failure to evoke and utilize cognitive plans for storing and retrieving information" (p. 145). She presents a categorization of different information processing deficiencies in children: strategic,

cued, and limited. Placement within a category is determined by the child's ability to use, and the actual use of, various strategies and heuristics to aid the child in storing information in memory. Strategic processors (typically ten years and older) have the ability to use different strategies to aid in memory storage and retrieval, and spontaneously use these strategies when presented with new information. Cued processors (typically six to nine or ten years old) have some memory storage and retrieval strategies available, but often do not use them. Limited processors (younger than six years old) do not even have the memory strategies available for use. Even when these children learn memorization techniques, limited processors still do not seem to use these tools appropriately. In fact, they may use the strategies to encode incidental information to the detriment of relevant information (Roedder 1981; John and Sujan 1990).

One area that shows considerable evidence of young children's processing difficulties regards their ability (or more appropriately, inability) to understand commercial content. In general, research studies have concluded that children pay less attention to television commercials than they do to television programs (Ward, *et. al.* 1971; Raju and Lonial 1990). However, because young children tend to focus strongly on the perceptual or affective cues in advertising, they may have great difficulty understanding the differences between commercials and programs (Raju and Lonial 1990). They may also have difficulty understanding the persuasive and selling intent of advertising.

An informal character recognition study by this author found that when three-year-olds were asked about particular animated advertising characters, their descriptions of the characters were not focused on the persuasive nature or commercial role of the character (Neeley 1997). Instead, these children's character descriptions centered around incidental actions and behaviors the character exhibits in the commercial. For example:

- "He makes cookies" (Keebler Elf)
- "They walk around and they have tennis shoes" (personified M&M candies)
- "On TV he eats candies, he gives the yellow one a kick" (personified M&M candies)
- "He just walks, just like a happy M&M" (personified M&M candies)
- "He rides in a car sometimes, he just drives" (Kool-Aid character)

Statements such as these exemplify preschool children's attention to the incidental actions and behaviors that the character displays in the advertising, to the exclusion of the persuasive content.

Most research studies have concluded that advertising effects on children are largely age-related, due to processing deficiencies on the part of the preschoolers (Raju and Lonial 1990). Older children (approximately 8 years old and up) have a greater understanding of the persuasive goal of advertising. Young preschool and early elementary aged children are more likely to think that advertising serves an informational role. Older children are more aware of gimmicks that advertisers use to

attract kids' attention, and they tend to be more skeptical and cynical of advertising tactics. Older children are better able than preschool aged children to explain that characters are not "real" people or animals. Older children tend to exhibit less influence of advertising on product preferences than younger children. Therefore, the following proposition is offered:

P9: The younger the child, the more likely he or she is to process and retrieve incidental information from a consumer information message and not understand the persuasive role of the advertising.

This proposition may be applied two ways in regards to the use of animated spokes-characters. From one perspective, a preschooler may focus on, and remember, incidental information about the character, to the exclusion of central information about the character or product (e.g., he wears tennis shoes) (Roedder 1981; John and Sujan 1990). However, communications researchers have suggested an alternative perspective, that the use of a spokes-character may encourage and re-direct a child's attention on the central or important consumer information (Calvert, *et. al.* 1982; Greenfield 1984; Huston-Stein and Wright 1979).

One tactic thought to aid preschool aged children in their discrimination of advertising content is the disclaimer, which was proposed as part of the 1977 National Association of Broadcasters'(NAB) Children's Television Advertising Guidelines (Adler, *et. al.* 1980). However, research suggests that disclaimers are ineffective on young children whose processing deficiencies limit their understanding of unfamiliar

language such as "batteries not included" or "parts sold separately" (Stutts and Hunnicutt 1987).

Processing Deficiencies and Perceptual Salience

Because young children typically have limited cognitive and linguistic abilities for meaning interpretation, the perceptual salience of consumer information presentation may be an issue that needs more attention, particularly in this "television age." Television, by its very nature, is a dynamic audiovisual medium that provides a unique opportunity for information presentation to preschoolers because of its ability to attract their attention (Fowles 1976a, 1976b; Greenfield 1984; Hays and Birnbaum 1980; Wright and Huston 1983). Television attracts attention, informs, and teaches viewers through two dimensions, program form and program content. Program attributes that are directly perceivable by the senses are the form. These form attributes include animation, action, auditory presentations, and special effects. Content refers to the meanings conveyed in the program. Form variables that have consistently proven to increase attention in young children are action, fast pace, and sound effects – variables characteristic of animation (Acuff and Reiher 1997; Alwitt, *et. al.* 1980; Greenfield 1984; Hayes and Birnbaum 1980; Huston-Stein and Wright 1979; Krull and Husson 1979; Wright and Huston 1983). A child's effective learning of information from televised programs or commercials is likely to depend on the interrelationship between form and content message variables.

Because young children are simplistic information processors, it may be possible to increase message relevance and attention through the combination of message form and content attributes. The pairing of important or central message content with salient form attributes (e.g., visual action) may increase young children's information retention and understanding of relevant information (Calvert, *et. al.* 1982; Greenfield 1984; Huston-Stein and Wright 1979). Hayes and Birnbaum's (1980) findings support this proposition. Their study of four and five-year-olds discovered a higher level of memory for central/salient information presented only visually (83%) than for information presented in an audio/visual format (69%) or presented only aurally (47%). Calvert, *et. al.*'s (1982) study of kindergarten, third, and fourth graders also corroborates higher information comprehension when central content is combined with salient form attributes. However, increasing perceptual salience alone may not produce desired outcomes if the complexity of the message form stimulus is not also considered.

Stimulus Complexity

Research has shown that children attend to a message stimulus that is perceptually salient because it attracts and holds the child's attention (Huston, *et. al.* 1981; Lesser 1974; Rice, *et. al.* 1982; Wright and Huston 1983; Wright, *et. al.* 1984). The message attributes suggested to hold the greatest perceptual salience for young children are attributes related to the visual (e.g., action, pace) and aural (e.g., voices, sound effects) presentation of information. Perceptual stimulus complexity is often

defined as "uncertainty" (Attneave 1954), "redundancy" (Attneave 1954), "irregularity or novelty" (Berlyne 1963), or as "arousing conflict" (Berlyne 1957). Despite differing definitions, stimulus complexity is always assumed to positively correlate with attention; an increase in stimulus complexity promotes increased attention (Wartella and Ettema 1974).

Although stimulus complexity is always assumed to increase attention, perceptual salience through visual complexity may actually present a u-shaped distribution in young children (Halpern 1975). Visual complexity may be increased to a certain level, with subsequent increases in attention. However, a point of diminishing returns is met, and increasing complexity decreases attention. Too much pattern and greater numbers of objects on the screen often exceed a cognitive threshold in preschoolers, who are then unable to attend to and process the information (Watt and Welch 1983; Welch and Watt 1982). Diminishing returns may also be reached if action becomes too fast paced for the child to comprehend (Wright, *et. al.* 1984).

The Visual vs Verbal Debate

The testing of children's ability to discern television programs from commercials led to one of the most significant contributions of the application of information processing theory to children's consumer behavior. Researchers found that young children process and remember visual and verbal information differently (Macklin 1983, 1986a, 1987b; Perrachio 1993). Rossiter (1976) suggests that young

children may store significant amounts of visual information in easily accessible memory and ultimately base preferences and choice on simple visual recognition, rather than more complex, cognitive, or linguistic processing.

This call for attention to differences in the type of information processed by children has led to notable changes in methodologies used to study children. The greater use of visual questionnaire formats, visual testing scales, and action-oriented responses (pointing, raising a hand, etc.) have revealed that children may know information or even recognize stimuli, without being able to verbally convey that knowledge. Results of Donohue, *et. al.*'s (1980) study suggest that preschool aged children can easily identify the selling intent of commercials by pointing to a picture of a shopping situation instead of a picture of children watching TV. Macklin (1985a) replicated this study though, and found support for Donohue, *et. al.* (1980) only when the task condition was simple. When the children only had to choose between two behavioral pictures, they easily pointed to the picture that depicted shopping and purchase behavior. When Macklin increased the difficulty of the task by introducing more behavioral picture choices, the children showed little understanding of the selling intent of commercials. She deduces that conclusive evidence still does not exist whether young children understand the selling intent of television commercials, although visual testing procedures are more likely to evoke and measure knowledge than verbal responses.

Although this attention to visual information processing has led to significant methodological change in consumer behavior research, there appears to be

disagreement between different disciplines over preschoolers' attention to, and processing of, visual vs verbal information, and how this attention and processing leads to learning. Consumer behavior literature strongly proposes that preschoolers are most affected by visual, rather than verbal, information because of their limited cognitive and linguistic abilities (Macklin 1983, 1986a, 1987b; Perrachio 1993; Rossiter 1976). Hayes and Birnbaum (1980) also found that preschoolers had higher recognition levels for information presented visually than aurally, and only one child out of forty-two subjects recognized when a soundtrack was not congruent with the visual storyline. Hayes, Chemelski and Birnbaum's (1981) replication of the 1980 study also supports higher visual attention in preschoolers. These researchers found that when the children were told to "remember" what they saw, visual recognition was magnified above the level obtained when the children were told simply to "look at" the stimulus.

However, other communications research on preschoolers suggests increased attention and learning when visual and verbal information is combined because of the dual sensory routes that are stimulated; the auditory portion of the message may actually cue the child to pay visual attention to the presentation (Calvert, *et. al.* 1982; Huston-Stein and Wright 1979). As the child watches programming or commercials, prolonged action on the screen may actually lead to decreased attention as the child becomes bored. Audio features such as sound effects, voices, or music may serve however as a cue to re-attract and redirect the child's attention back to the screen.

Alwitt, *et. al.* (1980) found that cues signaling program content change from one sequence to another (e.g., a shift from live-action to animation) both re-attracted the attention of the children who were inattentive, and broke the focus of the children who were attentive. However, changes from one auditory dimension to another (e.g., change from adult voice to music) attracted the attention of children who were currently inattentive, but did not affect those children already paying attention.

Likewise, Pezdek and Hartman (1983) found that the five year old children in their two studies varied attention between a *Sesame Street* program and available toys. When the children were tested for comprehension of information presented visually, verbally, and in mixed mode, results suggested that even the children who appeared to play with toys rather than watch the television had similar comprehension levels as the children who only paid attention to the television. The researchers concluded that the children are cued by non-semantic features of the audio to return attention to the visual presentation during important information presentation.

Three methodological aspects of the consumer behavior studies possibly affect the proposition of better visual than verbal learning, and the differing results from the communication studies. First, all the consumer behavior studies rely on testing instruments that separate the verbal and visual aspects of information presentation. This separation presents an unrealistic situation that children encounter in television viewing. A child only experiences a separation of visual and verbal information presentation through the print and radio mediums, neither of which is really used by preschoolers.

Second, the consumer behavior studies rely on written verbal information rather than aural information. Preschoolers who do not have the cognitive and linguistic abilities to comprehend written information, may still be able to comprehend and retain verbal information presented in an aural, or auditory, fashion.

Third, most of the visual/verbal debate in consumer behavior research has centered on the measurement instruments, not the testing instruments. Children can provide better information if they are given the opportunity to express themselves through recognition, pointing, or hand signals, rather than interviewing (Donohue, *et. al.* 1980; Macklin 1985a). However, these children may be able to process stimulus conditions presented in an auditory, verbal format, even when the child cannot express his or her answers verbally.

It may be that the interaction of visual and verbal information presentation is most important for preschoolers' attention and learning, while still holding to a testing methodology using visual communication measures of attention and learning. As Calvert (1982), Greenfield (1984), Hayes and Birnbaum's (1980), and Huston-Stein and Wright (1979) all suggest, the pairing of important or central message content with salient form attributes (e.g., visual action) may increase young children's information retention and understanding of relevant information. As such, the following proposition is suggested:

P10: Preschool children process, store, and retrieve visual information more easily than aural information. However, aural cues are used to cue the child to the important visual information.

Because preschoolers more easily process, store, and retrieve visual information than verbal information, an animated spokes-character may provide a unique opportunity to provide information to consumers this age (Hayes and Birnbaum 1980; Macklin 1983, 1986a, 1987b; Perrachio 1993). The visual nature of an animated spokes-character may make it possible to convey product information and product/brand image or personality to the child. Additionally, the spokes-character can visually demonstrate positive affect toward the product.

Macklin's (1984) study is a beginning step in this direction. She studied six to eleven year olds' use of verbal labeling to link a character with a product. Younger children who saw and read aloud the label increased product/character matching more than children who were not exposed to the verbal label. She suggests that verbal labeling may assist in a child's visual recognition and memory of product and character, and subsequently may increase recognition and desire in a later product choice situation.

Further consumer behavior studies pairing visual and verbal stimulation are needed, particularly studies addressing whether the stimulus is directed toward the child viewer, or toward another object. For example, no studies exist that examine children's attention to and learning from action and verbal interactions between characters versus action and verbal interactions directed toward the child viewer.

Criticisms of Information Processing Theory

Although Information Processing Theory appears to provide a comprehensive examination of cognitive ability while compensating for many weaknesses inherent in Piagetian Theory, there are still criticisms of theoretical shortcomings. Two predominant criticisms of the Information Processing model of cognition are the absence of emotion and the absence of other people (Meadows 1993). Within this framework, activity takes place as rational, cognitive behavior, and affective processes are not considered. Social influences on the child's development are virtually ignored (Meadows 1993).

Associative Learning

The philosophical foundations of associative learning were presented in the previous section on classical conditioning. According to this theory, "the contiguous experiencing of ideas together in consciousness establishes an associative connection or bond between their internal representations" (Bower and Hilgard 1981, p. 135). Once this associative network is established, the subsequent presentation of one element on the consciousness evokes mental images of the associated elements (Asch 1969). The network may consist of a pair, or multiple elements, each with a difference valence. Learning occurs through the strengthening of the associative links between elements (Bower and Hilgard 1981).

Associative Learning in Child Behavior Research

Associative learning has become equated with verbal learning and consequently, is often measured by a paired-associate word task. In this task, a stimulus word is paired with a response word. The stimulus word is presented first, then the paired stimulus-response words are presented. Word presentations are repeated until a point at which the child anticipates and produces the response word at the presentation of the stimulus prompt (Stevenson 1972).

Another aspect of associative learning research is the factors that affect, or improve the child's ability to form mental networks. Preschoolers' associative learning has been shown to improve through the use of a role models's verbal descriptions (Zimmerman and Rocha 1984), visual-verbal modeling (Zimmerman and Rocha 1987); photographs and objects (Evertson and Wicker 1974), and the presentation of interaction between objects (Yuille and Catchpole 1973).

Associative Learning and Child Consumer Behavior

Within the context of child consumer information acquisition, only two studies exist, each focusing on the use of visual imagery to aid children's associative learning, and providing additional validation to the findings of Levin, McCabe and Bender (1975). Results of these studies suggest that preschoolers' have an easier time remembering brand names when visual representations (characters, colors, or pictures) are presented in a paired-associative framework with the brand names (Macklin 1985b; 1996). Therefore, the following proposition is offered:

P11: Preschool children form associative networks of consumer information. Exposure to a single element in that network will evoke recall and/or recognition of other elements within the structure.

Preschool children's associative networks of consumer information may encompass the product, the packaging, and the promotion. If a child sees the spokes-character on the product package, he or she may recognize the character, and then cue recall of a promotional message in which the character appeared. Memory of positive affect to the character advertisement may motivate the child to acquire the product (Shimp 1981).

SOCIALIZATION THEORY

Socialization Theory provides a unique perspective on children's acquisition of consumer skills in that it proposes learning based on a sociological model of human interaction, instead of a strictly individual, skill-based model. Socialization is defined as "*the process by which a person learns the skills necessary to function as an effective member of a society*" (Brim 1966). Socialization develops the child "from the dependent, hedonistic infant who can do nothing for himself to the mature, reasonably self-sufficient organism who manages his own life and gratifies both his own and others' needs" (McCandless 1969).

Socialization theory integrates individual, interpersonal, contextual and socio-cultural factors into a model that explains the behavior of an individual, within his or

her society (Moschis 1987). Socialization serves three primary purposes within a society (LeVine 1969). First, from an anthropological perspective, socialization serves to enculturate a person to his or her specific society. A child learns the particular beliefs, values, norms, material objects, communication and power structures of importance to his or her culture. Second, from a psychoanalytic perspective, socialization places controls on impulses and drives. According to this view, humans are born with certain biological and psychological impulses that must be checked in order to achieve an orderly society. Socialization teaches useful and appropriate outlets for these drives. Third, from a sociological perspective, socialization serves to train members of a society for their future roles. A child learns what roles are deemed socially-appropriate for his or her gender and social status, and what behaviors are appropriate for those roles.

McCandless (1969) adapts Ausubel's (1952) suggestions on adolescent socialization to that of younger children in his evaluation of adequate socialization. In order for childhood socialization to be successful, the child must be: (1) given ever-increasing opportunities to strive toward his or her desired goal-states; (2) given the opportunity to strive toward his or her primary status in the society through increasing self-esteem and self-satisfaction; (3) taught to move from immediate, physical satisfaction towards longer-term and higher-status goals; and (4) taught to strive toward increasing moral responsibility.

The Family as a Socialization Agent

Socialization occurs through agents such as the family, peers, educational systems, the media, and even religious organizations. These agents convey social values and norms, and teach people appropriate and desired behaviors. In preschool aged children, the family (parents in particular) are considered to be the primary and most influential socialization agent (Maccoby 1992).

Parental socialization is often addressed in terms of reinforcement and power structures between parent and child (McCandless 1969). Parents are the regulating force behind children's behavior. The extension of love, affection, and approval reinforces desired behaviors and undesired behaviors are discouraged through the withdrawal of love and affection. Parents additionally have both physical and psychological power over young children.

Maccoby (1992) however, suggests a contemporary perspective on parental socialization that views parent-child interactions as long-term, evolving relationships, rather than power struggles. She submits that children are socialized through close participation and reciprocity in familial relationships. Parents and children engage in reciprocal, non-coercive activity that requires joint participation. The partners form joint goals, behavioral expectations, and shared meanings in relation to the activity. The child adapts to the situations presented to him or her, and the parent adapts to the child's "zone of proximal development."

Socialization Theory in Child Behavior Research

Although socialization takes place throughout the life-span, the concept of anticipatory socialization describes children's learning of skills and values needed in anticipation of future societal roles. Mead (1934) defines three steps involved in the acquisition of role-related behaviors and norms. In the first stage, a child simply imitates the actions of the parent or other socialization agent, without much logical intent and thought about the actions. In the second stage, the child begins enacting play behavior. The child "plays" at possible future roles like mother, father, teacher, fireman, etc. The third stage coincides with more advanced cognitive development as the child undertakes his or her "game" stage. At this stage the child not only understands his or her role in the "game," but also can take on other roles and understand the relationships between the roles.

Much of the research on socialization and child behavior has focused on the actual process of socialization, and "how" the requisite values, norms, and behaviors are learned. Although children may be specifically and deliberately instructed and rewarded/punished for certain behaviors, research suggests that social learning often takes place in a non-intended fashion through observation and behavioral modeling.

Observational learning theory provides a cognitive framework for understanding how persons learn particular behaviors without direct experience or trial (Crain 1992). According to Albert Bandura (1977):

> [P]eople are neither driven by inner forces nor buffeted by environmental stimuli. Rather, psychological functioning is explained in terms of a continuous reciprocal interaction of personal and environmental determinants (p. 11).

By observing the relationship between the action and consequence of others' behavior, an individual can infer the same consequence on his or her own similar behavior.

An important element of observational learning is behavior imitation, or modeling. In order for modeling to occur, Bandura (1977) suggests that four processes must be present. First, modeling is contingent upon attention. An individual must attend to the referent person, in order to model that person's behavior. Second, an individual must be able to retain symbolic information about the model's behavior, in order to imitate it. Third, an individual must have the needed motor skills to reproduce the behavior of the observed model. Fourth, an individual must have sufficient reinforcement to motivate the imitation of a model's behavior (Crain 1992).

In this context, learning takes place as people act and then experience the consequences of their actions. Over time, actions that evoke positive repercussions should be exhibited more often than actions evoking negative consequences, because positive actions cause motivational anticipation of positive rewards (Bandura 1977).

An important assumption of observational learning is that the child possesses the cognitive abilities to process and store the information he or she observes. Observational learning goes beyond simple imitation and mimicry to encompass

selection of imitative behaviors, retention of behaviors, and even cueing of the behaviors (Aronfreed 1969). The child internalizes the observed behavior into a meaningful cognitive structure, where it is stored for future use. Vygotsky (1978) suggests that social/observational learning and cognitive development are interacting processes. Children develop the cognitive abilities necessary to interpret social stimuli through interactions in the public arena. As the child interacts with others, he or she observes unique behaviors. These observed behaviors are often interpreted as meaningful by the child because of the affect the child experiences as a result of the observation. Observed behaviors are then represented in the child's mind and assigned an affective value. At a later time, an experience may cue the child's memory of the observation, evoke the particular affect, and motivate the child to model the behavior.

Socialization Theory and Childhood Consumer Behavior

Socialization Theory has recently been applied to study the development of "consumption-related cognitions, attitudes and behavior" (Moschis 1987, p. 9). Research on the consumer socialization of children typically focuses on the role of social learning in the consumer development process. Factors such as family communication structures, direct and observational learning by children, and even peer influence in older children have been examined in relation to children learning consumer skills.

The traditional view of social learning presents the family as playing the initial, significant consumer socialization role as parents influence the behavior of their child through (1) direct instruction in consumer skills, (2) indirect influence through the child's observation and modeling of parent consumer behavior, and (3) parental supervision of the child's consumer opportunities (McNeal 1987; Moschis 1985; Reece 1982; Ward, Wackman and Wartella 1977a). Children are taught consumer skills through direct instruction, such as a parent teaching a child how to count money. A young child may also learn consumer skills by accompanying and observing a parent in a shopping situation. That child may later "play shopping" and imitate the actions of the parent in the store. As the child develops in age and maturity, the parent may actually accompany and direct the child in a selection, purchase, or consumption activity.

Ward, Wackman and Wartella (1977b) suggest however, that the family may play three additional roles in consumer socialization and information processing: (1) an indirect impact on developing consumer skills by directly influencing cognitive abilities, (2) a direct impact by motivating the child to use available cognitive abilities in consumer situations, and (3) a direct impact by teaching consumer skills that are unrelated to cognitive ability.

One area where family influence has been examined extensively is consumer socialization through interpersonal communication (Moschis 1985). Because family communication structures (such as norms, expectations, and reinforcements) teach children how to cope with experiences and situations that arise outside the family

context, these structures also prepare children to experience the marketplace (Moschis 1985). Parental communication styles additionally influence consumer socialization through control of exposure to consumer situations (Carlson and Grossbart 1988). For example, authoritative parents tend to restrict their child's exposure to media and consumption whereas permissive parents tend to allow their children direct consumer experiences with little interference.

Given the suggested influence of parents on children's consumer skills, the following propositions are offered:

P12: Children model the consumer behavior of significant others such as family members, and this behavior is reinforced through social rewards distributed by those significant others.

Although the mass media and commercial messages may influence preschool children, family members still serve as the primary socialization agents at this age (Maccoby 1992; McNeal 1987; Moschis 1987; Reece 1982; Ward, Wackman, and Wartella 1977b). Preschoolers are very aware and concerned about pleasing family members, especially parents. Family members and other important people in a preschooler's life may either increase or decrease the influence of a spokes-character by social rewards or punishment.

Other Socialization Agents

As children age, they are exposed to greater numbers and different types of people through extended family and friends, play groups, preschool and day care, and

ultimately school. As the child is exposed to more people, peers and reference group members begin to take over some of the socialization responsibilities from the family, and influence increases gradually throughout elementary school (Bachmann, Roedder John, and Rao 1993). Research into family and peer socialization suggests that "the family influences the content of expression, but peers influence the style of expression" (McCandless 1969).

Children influence peers in consumer situations also. They interact with each other about products. They model the behavior of friends and important reference group members in the display and consumption of products. Television and motion picture programming, advertising, and products offer children objects of discussion and play (Lyle and Hoffman 1972; Seiter 1993; Young 1990), and children grow more aware of reference group members preferred products and brands. Seiter (1993) argues that modern culture has evolved into a distinct, peer-oriented culture and peer influence on consumption can be seen as early as two years of age.

Another socialization agent that exerts more influence over children as they age is the mass media. Concerns over the influence of the media (television and movies in particular) have prompted numerous studies into children's behavior. Researchers and parents frequently express concern over children modeling violent behavior seen on television and in the movies. In two of the earliest media effects studies, Bandura and his colleagues, found that after young children watched a program containing scenes of violence they acted out aggression toward an inflatable "Bobo" doll (Bandura 1965; Bandura, Ross, and Ross 1963).

Additional studies have also examined the link between programming content, children's interpretations of the world, and children's behavior (Bryant and Anderson 1983; Buckingham 1996; Clifford, Gunter, and McAleer 1995; Cullingford 1984; Greenfield 1984; Rubenstein, Comstock, and Murray 1972; Wartella 1979). Young, preschool aged children exhibit the greatest discrepancies between interpretation of program content and reality (Salomon 1979). Preschoolers tend to believe that the actors are just "people inside a box" and that the actors know the child and can converse with the child. Preschoolers tend to interpret viewed content literally and lack any doubt of truth or validity in their observations (Young 1990).

Research on the relationship between advertising and children has given us interesting insights into advertising's socialization effect on children's product preferences, consumption habits, and consumption motivations (Atkin 1976; for an overview see Ward 1980). Several studies have found clear evidence that children's preferences for sugared versus healthy snack and breakfast foods are directly related to the type of commercial message seen (Goldberg, Gorn, and Gibson 1978a, 1978b; Gorn and Goldberg 1982). Commercial messages for sugared products produced more preference for sugared foods; public service announcements for healthy foods produced greater preference for fruits and vegetables, and children's programming that emphasized healthy eating habits had the greatest influence on children's choice of healthy foods.

Goldberg and Gorn (1974) examined the impact of television advertising on children's motivation to obtain the advertised product. The children's value of the

toy and their motivation to obtain the toy were a function of commercial exposure. Those children who believed they had a greater chance of obtaining the toy in the test situation, persisted longer at the puzzle-solving task than those who had lower expectancy of obtaining the toy.

Researchers have also directed their attention to the socialization of value systems through advertising. The public nature of advertising inherently conveys social norms and consumption values to its viewers, in addition to its persuasive message (O'Guinn and Faber 1987). Beuf (1976) suggests that television commercials should be assessed not only for the marketing-related persuasive influence they have over children, but also for their socialization power as well. She states that commercials sell the "American Way of Life" to children through the presentation of toys and food, while simultaneously toys and food are sold through association with the "American Way of Life."

In addition to concern over societal ramifications, some parents and researchers worry about advertising's influence on materialistic attitudes and product desires. They fear the possible family conflict that could result when the parent is unable to provide the product for the child. Gorn and Goldberg (1977) found evidence that a single commercial exposure to a toy produced positive attitudes toward the toy in low income children; however, more exposures were required before the children indicated they would exert the effort required to obtain the toy. Goldberg and Gorn's (1978) study of four and five year old boys found that those boys who were exposed to a commercial for a toy were more likely to select to play

with the toy, rather than a friend. Interestingly, this study also found that mothers exhibited moderating influence on the preschool child's preference for an advertised toy, but fathers did not. Action for Children's Television expressed this concern in 1971 with their statement:

> In the case of children's advertising, the purpose is to use the child as a surrogate salesman to pressure the parent into buying the product. This is unfair to the child . . . to the parent . . . and can be damaging to the parent child relationship (Robertson 1980).

Concerns were also raised in the 1970s and 1980s over the influence of "adult" product advertising on children. Robertson and his colleagues, (Robertson, Rossiter, and Gleason 1979) found weak evidence that exposure to commercials for medicine affect a child's beliefs and attitudes about illness and subsequent requests for medication; however, they found no evidence to suggest that the advertising influenced children to use medicine. Antithetically, Gorn and Florsheim (1985) found that advertising of "adult" products can influence children's perceptions of adult lifestyles and behavior, that could also provide inferential links to types and brands of products that "adults" use.

Particular concern exists over advertising's effects on young preschool aged children and the consumer knowledge these children acquire through social/observational learning. Children below first grade who watch approximately six hours of television per day hold more favorable attitudes toward commercials, than older children and light viewers (Rossiter 1980). Preschool children may have difficulty understanding commercial content because their limited linguistic skills

force dependence on visual gathering and coding of information (Crain 1992). This dependence on visual information may make preschoolers more susceptible to deceptive aspects of television advertising. The children do not have the ability to rationalize their own behavior and they may be more highly influenced by commercial contexts and attractive child models (Goldberg and Gorn 1978). Cullingford (1984) found in his study of British children that when asked why the child liked a particular advertisement, the child did not mention the product, but mentioned aspects of the commercial presentation such as the animation or anthropomorphism. Concerns over the effects of television advertising on young, particularly preschool children, prompted the National Association of Broadcasters' (NAB) and the Council of Better Business Bureau's National Advertising Division's (NAD) implementation of standards for advertising to children (Adler, *et. al.* 1980).

The preceding literature suggests that television exhibits socialization influence over children by suggesting particular behaviors and providing positive images of consumption. Therefore, the following proposition is offered:

P13: Children model the behavior of actors and characters they see on television and in promotional messages. This behavior can be reinforced by the actor or character's verbal and non-verbal messages.

Preschool children model the behavior of characters they see on television (Seiter 1993). An animated spokes-character provides an opportunity for visual information presentation about a product, and may also influence a child's learning of consumer information and behavior by encouraging modeling of the spokes-

character's actions. Although consumer information can be presented by the character in both an aural and visual format, Proposition 10 suggests that visually presented information, once cued, is more easily processed by preschoolers, and therefore may lead to a higher probability of modeling.

Criticisms of Socialization Theory

One of the criticisms of socialization theory is that childhood socialization is the same as maturation and development (Baldwin 1969). Maturation is a normally occurring process of development, but socialization must also be adapted to maturation. A parent or other socialization agent uses socialization techniques that are appropriate for the child, given his or her age or level of maturity. A parent changes, adapts, and even "matures" in his or her interactions with the child, as the child matures (Maccoby 1992).

Another criticism of socialization theory is that it assumes the child is completely passive in the socialization process (Maccoby 1992; Snyder, *et. al.* 1996). This criticism is particularly strong in studies of the socialization effects of the mass media on children (Buckingham 1996). However, Fowles (1976b) argues that full passivity on the part of the child can not be assumed or completely determined. She suggests that a child's response to television and advertising is more appropriately modeled as the interaction between the child's level of cognitive development and structural aspects of the program or commercial. Additionally, a parent or significant other may moderate the influence that the media has on a child (Goldberg and Gorn

1978). Other, non-media socialization studies of preschoolers have also found that young children play an active role in their own socialization by choosing environments and situations in which they will be exposed to different socialization agents, and by taking cues from environmental factors (Snyder, *et. al.* 1996).

The bulk of this chapter presented as overview of several cognitive development and learning theories that explain how preschool children acquire consumer knowledge. Additionally, child consumer behavior research was presented that supports the basic tenets of each theory. These theories provide the multi-theoretical foundation and related propositions.

SUMMARY OF THE SPOKES-CHARACTER STIMULUS AND PRESCHOOLERS

The cognitive development and learning theories presented in this chapter illustrate the variety of ways a preschool child acquires consumer knowledge and develops consumer preferences. In particular, this chapter presented several propositions regarding preschoolers' ability (or inability) to process consumer information. The use of an animated spokes-character as a stimulus in child-targeted advertising was suggested as a means by which to increase preschool children's attention to, and learning from, the commercial message. This suggestion was incorporated with a discussion of the notion of perceptual salience, and an

explanation of an animated spokes-character's salience to a young child because of its inherent visual action and auditory qualities.

In order to test selected research propositions presented in this chapter, this dissertation considers the animated spokes-character as an advertising message stimulus and focuses on the impact the spokes-character actions have on preschoolers' product memory, preferences, and decision processes. A list of all the propositions presented in this chapter can be found in Appendix A.

This dissertation assumes that various attributes of the spokes-character stimulus exhibit differential influence on the preschool child's attention to, comprehension of, and retention of the advertising message. The perceptual salience and complexity of the spokes-character stimulus, demonstrated by the animated spokes-character's action and vocalizations toward the product, are proposed as key factors in the young child's understanding of the product message.

This dissertation presents two separate studies examining the influence of particular animated spokes-character attributes on preschool children's product knowledge and preference. Several theoretical propositions submitted in this chapter inspired the research hypotheses for these studies. Propositions 1, 2, 6, 8, and 10 provide the foundation for the independent variables related to the complexity of spokes-character stimuli, specifically the nature of the visual and verbal presentation of product information. Propositions 3, 4, 5, 9, and 11provide the inspiration for using the various levels of a Hierarchy of Effects model (see Chapter 3) as the dependent variables in this dissertation. Of particular interest is the role of emotion in

a child's product preferences. Propositions 12 and 13 explicate social influencing factors that will be addressed in future research.

The next chapter presents the methodology for studying the influence of spokes-character's actions and vocalizations toward the product. Both conceptual and operational definitions of the dependent and independent variables are proposed, as well as the structure for the proferred studies.

CHAPTER 3

RESEARCH METHODOLOGY

INTRODUCTION

The purpose of this chapter is to present the methodology for studying the effects of the animated spokes-character stimulus on preschool children's product knowledge and preferences. The research question addressed by this dissertation could apply to a child's knowledge and preferences toward a product or a brand, however, because young children often have difficulty understanding the difference between products and brands, the use of the term product will imply either product or brand. This research question will be examined through two separate research studies. The focus of these studies is presented first. Study variables are defined and operationalized in the second section. The research hypotheses for each study are then presented and the remainder of the chapter is dedicated to the details of the two specific studies.

FOCUS OF RESEARCH

Employing two separate, theory-testing studies, this dissertation examines the effects of two particular characteristics of animated spokes-character advertising on

preschool children's product knowledge and preferences. The first study examines the referent of the spokes-character's action and determines whether a preschool child's product memory and preferences are most influenced when the spokes-character acts in a manner associated with the product advertised, performs a random action unrelated to the product, or performs no action at all. As discussed in the previous chapter, communications research with young children suggests that action, in general, is perceptually salient to preschoolers so a presentation with character action should hold the child's attention longer than a presentation without character action (Alwitt, et. al. 1980; Hayes and Birnbaum 1980; Huston-Stein and Wright 1979; Wright and Huston 1983). However, cognitive development and learning research proposes that young children tend to focus on incidental information at the exclusion of central information contained in an advertisement (Roedder 1981; John and Sujan 1990).

The second study in this dissertation examines the effects of an audio-visual presentation of an animated spokes-character on preschooler's product memory and preferences. In this case, the visual and auditory dimensions of the message are integrated, increasing the complexity of the stimulus as a whole (Watt and Krull 1974; Watt and Welch 1983). Increasing the complexity of the advertising stimulus is thought to increase perceptual salience, and therefore, preschoolers' attention to the message (Wartella and Ettema 1974; Watt and Welch 1983).

Additionally, some research suggests that preschool aged children may use and process the aural and visual components of the advertising message differently

than older children and adults (Hayes and Birnbaum 1980; Hayes, Chemelski, and Birnbaum 1981; Macklin 1983, 1986a, 1987b; Peracchio 1993; Pezdek and Hartman 1983). Young children may use the aural component of the message as a cue to important visual information, an action not typically seen in older children and adults with longer attention spans and more advanced cognitive processing abilities. It is also interesting to note that there may exist a perceptual threshold which, once reached, forces a decrease in attention and comprehension of the message (Halpern 1975; Watt and Welch 1983; Welch and Watt 1982; Wright, et. al. 1984).

VARIABLE CONCEPTUALIZATION AND DEVELOPMENT

This dissertation proposes two studies, each examining different aspects of the animated spokes-character stimulus on a preschooler's product knowledge and preference, as conceptualized within a proposed hierarchy of effects model.

Conceptualization of the Dependent Variables -- The Hierarchy of Effects Model

According to the Lavidge and Steiner (1961) Hierarchy of Effects Model, an adult consumer moves linearly from product awareness to product purchase:

Awareness ⟶ Knowledge ⟶ Liking ⟶ Preference ⟶ Conviction ⟶ Purchase

The Hierarchy of Effects Model provides a measure of advertising's impact on a

consumer, relative to the goals of advertising to provide information, influence an attitude, and motivate the customer toward action (Lavidge and Steiner 1961). The model does not assume equidistance between each step, nor does it assume each step is a necessary condition for progression to the next step. However, the traditional Hierarchy of Effects model may not be appropriate for preschool children, who lack many of the sophisticated cognitive and conative abilities that adults possess. These young children do not have the ability to cognitively process value-oriented information to form inferences about the utility of the product or brand in meeting needs. A modified conceptualization of the points in this hierarchy of effects model is needed to better reflect a preschool child's information processing abilities. Therefore, the following adapted model appears to be more appropriate:

Awareness ⟶ Knowledge ⟶ Liking ⟶ Preference ⟶ Intention ⟶ Acquisition

Lavidge and Steiner (1961) conceptualize the first step, awareness, as a simple consciousness of the existence of the product. In preschool children, this awareness is most commonly and appropriately conceptualized and measured as visual product recognition (Henke 1995; Macklin 1985b; Mizerski 1995). Visual recognition is assumed to be the simplest form of awareness since it is not dependent on sophisticated verbal or cognitive abilities.

At the second step in the hierarchy, Lavidge and Steiner (1961) posit product knowledge as an understanding of product attributes and values. Preschool children

generally lack sophisticated knowledge of products. As discussed in the first chapter, preschoolers think of products as holistic entities that either possess or do not possess a desired perceptible dimension (John and Sujan 1990; Rust and Hyatt 1991). These children usually do not have a conceptualization of how the product might meet their needs or provide value, but they may have some simple set of product beliefs and desires (Astington 1993; Bahn 1984, 1986). It may be possible to assess this simplistic knowledge structure through verbal recall, recognizing that knowledge may be underestimated because of a child's lack of verbal abilities.

The third step in the adult hierarchy is liking, or a favorable attitude toward the product. Affective responses to products are often simple for children, and children often indicate product preference and make product choices on an affective response to a few easily perceptible, physical product attributes (Bahn 1984, 1986; Diamond 1977; Shamir 1979).

After a consumer develops a liking for a product, the next step in the hierarchy for adults is preference, or the mental ranking of one product over all others in the choice set. Young children form and express preferences for some products (Guber and Berry 1993; McNeal 1987; Ward and Wackman 1973), although the child probably does not understand the concept of a choice set and does not rationally evaluate one product over another.

Next, Lavidge and Steiner (1961) posit the adult consumer forms a conviction toward the product. These authors suggest that conviction results from the congruence of preference and desire. The Theory of Mind perspective posits young

children's convictions structured as beliefs, desires, and intentions about propositions (Astington 1993). For example, a child believes the doll will drink from a toy bottle because she saw it do so on the television commercial. She desires the blond doll that drinks from a bottle, and intends to ask her parent to purchase the doll for her. However, other cognitive development, learning, and child behavior studies do not appear to support evidence of conviction in preschool children. Although debatable, this study examines the existence of intention by including such measure.

In the final step, the consumer completes the Hierarchy of Effects model by making the decision to purchase the product. Young children may not have the power or opportunity to directly purchase a product, unless accompanied by a parent or older person. However, a young child often has the ability and opportunity to encourage or request another person to make the purchase for him or her. Although the child may not make the actual purchase him or herself, the child still engages in purposeful acquisition of the product.

Within the framework of a Hierarchy of Effects Model, the spokes-character's role is to lead the child from product awareness to acquisition. The spokes-character serves as a heuristic for the product (Chaiken and Eagly 1983), which is reinforced through repetitive advertising (Guber and Berry 1993; Heslop and Ryans 1980; Rossiter 1980; Schneider 1989) and through packaging (Bahn 1984, 1986; John and Sujan 1990). When the child is first exposed to the character/product entity, the character, through his/her/it's actions, serves as a perceptually salient, attention-attracting device. If the character attracts and holds the child's attention to the

advertising, then central content information about the product can be taught (Calvert, et. al. 1982; Greenfield 1984; Huston-Stein and Wright 1979). In the store, the character serves as a recognition cue for the child (Macklin 1996; Peracchio1993).

Not only does the spokes-character provide a recognition cue for the child, but it also serves as an affective link between the child and the product. Children form affective responses to product spokes-characters, and this affect is potentially transferred to the product (Acuff and Reiher 1997). If the affective response is strong enough, the child reaches a point of product preference (relative to the character), and ultimately, acquisition.

Although we know that animated spokes-characters may provide persuasive influence over young children's product knowledge and preferences, we know very little about the particular characteristics or dimensions that exhibit the greatest influencing effects.

Operationalization of the Dependent Variables

The modified hierarchy of effects model for preschoolers proposes awareness, conceptualized as visual recognition, as the first step (see dependent variables table, Appendix B). For this study, character awareness is differentiated from product awareness. This differentiation is important for three reasons. First, consumer behavior research suggests that a person's positive attitude toward an ad can transfer to a positive attitude toward the product (Shimp 1981). The only way to measure the differential awareness of, and attitude towards, the ad and the product, is to measure

each separately. Second, this study proposes that children form character-product associative networks by which they evaluate products. Third, preschool children may have a tendency to focus attention and memory on incidental, rather than central, information contained in an advertisement. Measuring both character and product helps determine the child's attention to, and retention of, information.

Character recognition will be measured as the child's ability to point to the correct character (out of a set of visually presented characters) when asked by the interviewer, "Can you point to the animals you just saw on TV?" (see interview script, Appendix C). This test is frequently used in child studies and has proven to be an effective means of assessing simple visual recognition (Henke 1995; Macklin 1985b; Mizerski 1995). Product recognition will be measured as the child's ability to point to the correct product (out of a set of visually presented products) when prompted by the interviewer (See Appendix C) (Henke 1995; Macklin 1985b; Mizerski 1995).

The second step in the hierarchy, knowledge, is categorized into character knowledge and product knowledge. Both character and product knowledge, recognized as simplistic structures of perceptual beliefs and desires, are operationalized as recall (see Appendix B). This dissertation will measure character recall (e.g., knowledge) as the child's ability to verbally name and describe the character seen in the commercial (see Table 1), when asked by the interviewer, " Can you tell me about any of the animals that were in commercials you just saw on TV?" (see Appendix C) (Macklin 1996). Using a pre-determined set of character attributes,

the interviewer will check off the various attributes listed by the child and list any new attributes given (see response forms, Appendix D). The child's open-ended responses will also be tape recorded for further qualitative examination. Likewise, product recall will be determined by the child's ability to verbally name and describe the product seen in the commercial (Macklin 1996), again recorded in the same manner as character recall.

Child development researchers propose the use of visual or physical measures of children's thoughts and attitudes over verbal measures because of the incongruency between young children's cognitive and linguistic abilities (Henke 1995; Macklin 1985a, 1987; Rossiter 1976). In fact, early child cognition and behavior studies, such as Piaget's, are often criticized for their exclusive use of verbal measures (Macklin 1986a, 1987b; Meadows 1993). The exclusive use of verbal measures of children's thoughts and attitudes often leads to an inflated interpretation of age effects due to the underestimation of younger children's cognitive abilities (Meadows 1993; Scammon and Christopher 1981). This dissertation, however, will use both recall and recognition measures of the child's awareness and knowledge to ascertain both simple visual recognition and comprehension of beliefs and central and incidental message content.

Although not a step in the proposed hierarchy, the existence of a character/ product association is also an important dimension to measure in this dissertation. Determining the presence of this association will assist researchers in better understanding whether children piece together the various product and promotional

dimensions into a schema or product associative network (see Chapter Two, Propositions 8 and 11). This association is conceptualized as the child's ability to pair a spokes-character with its appropriate brand or product. The child's ability to point to a picture of the correct product when shown a picture of the spokes-character is the measure most often used to test this association (Henke 1995; Macklin 1985b).

The third step in the Hierarchy of Effects model is liking, again differentiated into character liking and product liking for this study (see Appendix B). Both character and product liking are conceptualized as simple, affective responses to the character and product shown in the commercial, rather than complex, cognitive evaluations.

Additionally, research suggests that preschool children often make product choices based on very simple affective reactions to perceptual dimensions of the object (see Chapter Two, Propositions 1 and 5). For this study, both character and product liking will be measured by the child pointing to a card on a 4-point pictorial (large smile/ small smile/small frown/large frown) scale (see Appendix G), when asked whether they "Really Like, Like a Little Bit, Don't Like, or Really Don't Like" the character and product (see Appendix C). Two, three, and five-point visual scales of affect and/or attitude are frequently used in child studies (Macklin 1986b; Mizerski 1995; Shimp, Dyer, and Divita 1976; Wells 1965). Originally a five-point visual scale was chosen for this study because it provided a neutral point, and allowed for greater discrimination in the measure (Rust and Hyatt 1991). Subsequent pretesting of the five-point scale revealed the children had significant difficulty understanding

the concept of a neutral point and became frustrated with the questioning so the final testing scale was modified to four points.

Product preference refers to a child's ranking of one product over all others in the choice set. This study will measure preference as the child's pointing to a picture of the advertised product instead of the picture of other products presented simultaneously (see Appendix B) (Goldberg, Gorn, and Gibson 1978a, 1978b; Gorn and Florsheim 1985; Macklin 1986b). To increase the realism of the child's preference context, the interviewer will offer the child a scenario: the child will have a babysitter and the babysitter wants to know what snacks the child would want to eat (see Appendix C) (Goldberg, Gorn, and Gibson 1978a, 1978b).

As mentioned previously, researchers debate the existence of preschoolers' ability to form convictions for a product. The Theory of Mind perspective suggests that young children do possess the ability to form a structure of beliefs, desires, and intentions toward an object (Astington 1993). This study examines this suggestion of a young child's intention toward products by asking the child at the completion of the interviewing session which product he or she would like to have. To accommodate a time delay between the intention measure and the actual product choice, the child is told by the interviewer "Because you were so helpful today, we will come back in a few days and bring you a snack. I need you to tell me which snack (child is shown pictures of four different products) you want me to bring."

This dissertation puts forth the proposition that a child becomes a consumer when he or she develops an awareness of, and a desire to, participate in purposeful

acquisition of commercial products. Purposeful acquisition is a more appropriate concept for the preschool child than purchase (as proposed by traditional adult models) because a young child often does not have the opportunity to make a direct purchase by him or herself. However, the child can choose a product when the invitation for choice is presented by another person, can request the product purchase of another person, or he or she can make a direct purchase accompanied by another person. This dissertation will measure product acquisition as the child's choice behavior when invited to choose a product at the completion of the study (see Appendix B) (Goldberg, Gorn, and Gibson 1978a, 1978b; Gorn and Florsheim.1985). A time delay between the measure of intention and product choice is introduced into this study to increase realism. Most children do not proceed directly from seeing a commercial to the store; there is often a delay of days between the exposure to the commercial and the actual choice opportunity.

The next section details the research hypotheses and methodology for the first study. Similar hypotheses and methodology information for Study 2 follows. Because the actual research procedure is the same for both studies, this procedure will be fully explained after the presentation of the hypotheses and methodology for both studies.

RESEARCH HYPOTHESES - STUDY 1

This dissertation is a study of associational learning. Certain behaviors (increased product knowledge and preference) are posited to result from the association built through the repetitive pairing of a product (conditioned stimulus) with a spokes-character (unconditioned stimulus). However, some researchers debate the necessary temporal order of the stimulus presentation. Laboratory-based classical conditioning studies of animals suggest that presentation of the conditioned stimulus must precede presentation of the unconditioned stimulus (known as forward conditioning) for behavioral changes to take place (McSweeney and Bierley 1984).

Bierley, McSweeney, and Vannieuwkerk's (1985) study of conditioning product preference in college students supports this temporal notion. However, Gorn (1982) found evidence of conditioning with the simultaneous presentation of conditioned and unconditioned stimuli, again in college students. Although McSweeney and Bierley (1984) argue that forward conditioning is not necessary, consumer behavior researchers generally find lack of conditioning effects with simultaneous presentation (Allen and Madden 1985).

Most relevant to this dissertation, Macklin (1986b) tested both simultaneous and forward presentation in her classical conditioning study of product/character pairing. She found no conditioning effects with simultaneous presentation. Buyback behavior (e.g., giving the subjects the option of trading the "prize" they received for participation for another "prize") was the only behavior evidenced from forward presentation effects. Because all animation sequences used in this study present the

conditioned stimulus (product) before the unconditioned stimulus (spokes-character), all behavioral effects are expected to result from the perceptual salience of the stimulus, rather than the presentation of the stimulus.

As suggested by communications research (see Chapter Two), a character's action is perhaps the most perceptually salient dimension of this animation stimulus (Huston, et. al. 1981; Lesser 1974; Rice, et. al. 1982; Wright and Huston 1983; Wright, et. al. 1984). Therefore, any character action should attract the child's attention to the commercial message. No studies to date have examined differential effects of the referents of the character's action on attention and comprehension.

Intuition would suggest that the greatest effects on attention and comprehension of product information would result from the character acting on the product, because this action would be the most direct visual pairing of character and product and would provide the most central information about the product. However, child information processing theory argues that preschool-aged children do not think in the same logical manner as older children and adults (Roedder 1980, 1981). Young children do not make the same inferences as older persons with higher cognitive abilities (Roedder 1980). Preschool children tend to focus attention on incidental information, at the exclusion of central information (Murphy and Brown 1975; Roedder 1980; Stevenson 1972).

Additionally, Alwitt, et. al. (1980) found that direct eye contact between the main character and the viewer, typical of presentations that show the character directly acting on the product, may decrease attention to the screen. This increased

attention to incidental information suggests that in the context of a character/product pairing, the child may focus so much on the character (incidental information) that he or she may not develop or retain knowledge of the product (central information). Therefore, hypotheses are not proposed for product knowledge in this study because the assumption is made that the child will focus so much on the incidental information (character) to the exclusion of the central information (product) that there should be no differences in product knowledge between the various types of action.

Given this research, the following hypotheses are proposed for the first study:

H1a: Children will exhibit the highest level of character awareness when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character awareness.

H1b: Children will exhibit the highest level of character knowledge when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character knowledge.

H1c: Children will exhibit the highest level of character liking when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character liking.

H2a: Children will exhibit the highest level of product awareness when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product awareness.

H2b: Children will exhibit the highest level of product liking when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product liking.

H3: Children will exhibit the highest level of character/product association when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character/product association.

H4: Children will exhibit the highest level of product preference when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product preference.

H5: Children will exhibit the highest level of product intention when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product intention.

H6: Children will exhibit the highest level of product choice when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product choice.

RESEARCH METHODOLOGY - STUDY 1

Experimental Stimuli

Original animated mock commercials were created for each condition and control in this study. The decision was made to use original animated commercials rather than existing commercials to maximize control over children's pre-established attitudes and preferences for characters and products.

Each animated commercial illustrates a character paired with a product, as indicated in the following:

Condition 1: The product is the referent of the character's action. The character is shown walking into view then eating the product.

Condition 2: The product is prominently displayed, but the character's action, bouncing up and down in the view, is unrelated to the product.

Control: The product is prominently displayed. The character is shown adjacent to the product but does not move after it walks into view.

In both conditions and the control commercial, a female voice-over was used for the verbal portion of the advertisement to prevent confounding by the interaction of voice and action, and because preschoolers attend more to women and children's voices (Alwitt, et. al. 1980). Additionally, the amount, speed, and pace of the character's action was controlled during the animation design, to prevent confounding. Attempts were made to equate the amount and speed of action shown during Conditions 1 and 2 so the children would not focus more on a higher amount

or speed of action.

Cheese-flavored crackers were chosen as the advertised product for Study 1. Food items are one of the few product categories that are relevant to young children, and as a result, are often used in consumer research with children (Bahn 1984). Young children are aware of different food items in the home, and many parents give young children some preference and selection in food products purchased and consumed. Also, food items, particularly snack foods, are often advertised to children. Interviews and observation of preschool-aged children indicated that these children like cheese-flavored snacks and cheese-flavored snacks are common with this age group. Additionally, cheese-flavored crackers will be selected, rather than sweet snacks such as candy, to mitigate the possible biasing effects of children showing extreme preference for sweets because their parents restrict sugared and sweet snack consumption.

The twenty-two second mock commercials were constructed using original animal caricatures and animated into a 2-dimensional cell-design sequence using the Macromedia Flash computer software. A brief observation of programming and commercials in children's targeted television reveals that the majority of animated programs and commercials currently on television use 2-dimensional artwork (i.e., Bugs Bunny), rather than 3-dimensional (i.e., Toy Story), so biasing should not occur due to stimulus novelty. In addition to the 2-dimensional experimental advertisement, another 2-dimensional advertisement currently seen on children's television (*Cap'n Crunch*) was included in the test sequence to reduce further bias.

The test commercial was inserted into a programming sequence of a television show and commercials normally broadcast during early morning hours (see Figure 1). The program, *The Wubbulous World of Dr. Seuss*, was used because it demonstrates program variables attractive to young children: singing and dancing puppets. This program's action is enough to attract young children's attention, but not so rapid as to cause biasing effects on the test commercial. The show is nationally broadcast weekday mornings on the Nickelodeon network during a time period (*Nick Jr.*) that is targeted toward preschool children. Discussions with parents of preschool children also indicated this program is well-liked by children in the target age group.

Commercial pods were placed at three points: (1) shortly after the beginning of the program, (2) approximately halfway through the program, and (3) right before the final program credits. This commercial placement is typical to programming; however, the programming segment times may differ from show to show depending on the action and plot. Each pod contains three approximately twenty-two second commercials, of which the testing commercial is the middle position in each pod. This middle placement relieves the possibility of primacy or recency effects. One other commercial was repeated twice so as to reduce the potential for presentation bias. It was placed in the first position in the first commercial pod, then again in the third position in the third commercial pod.

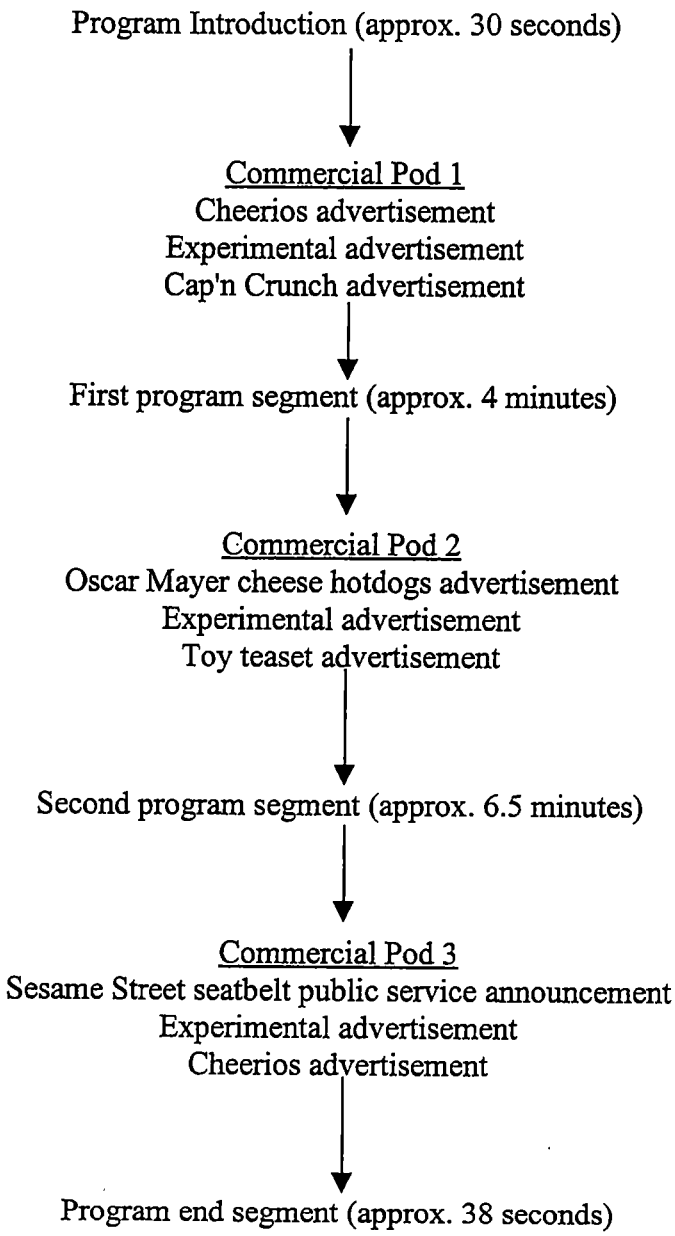


Figure 1. Program/Commercial Sequence

Each child received three treatment exposures to allow the child enough repetition to begin forming a character/product associative network. This is particularly important to this study since the characters and products are unfamiliar to the subjects. Repetition among children's commercials tends to be quite high (Neeley and Jones 1998), so three exposures during one program should not be so novel as to cause demand effects. Additionally, Rust and Hyatt (1991) suggest that "children's reactions to a commercial often shift on the second exposure" (p. 21). The entire programming/ commercial presentation was edited to a total length of approximately fifteen minutes, to reduce the children's fatigue and inattention.

Research Design

This study's design employed two treatment conditions and a control group. In addition, the relationship between the dependent variables and gender, age, and attention are explored. A post-test only research design is appropriate for this study because the subjects are not familiar with either the character or product and random assignment to conditions is built into the design to reduce subject biases (Campbell and Stanley 1963). The unit of analysis for this study is individual children's product memory and preferences (within a hierarchy of effects framework), given the particular character/product pairing.

Sampling Plan

This study's sample consists of a minimum of 96 children attending licensed preschool/child development centers in two cities. The first city is a mid-size southeastern metropolitan area containing a state flagship university; city two is a mid-size southwestern city also containing a state university of similar size as the first. Two cities were used for this sample due to scheduling restrictions and professional commitments on the part of the principal researcher. None of the theories used in this dissertation suggest differences between children from the two cities and children from each city were used in all conditions to maximize sample consistency. All participants were between two- and five-years-old. No attempts were made to sample for ethnic or socio-economic status differentiation.

Preschools chosen from the first city (southeastern U.S.) are described as follows:

Preschools 1, 2, 3: University sponsored preschool serving primarily children of university faculty and staff. Three different locations of this preschool were used.

Preschool 4: Private preschool located in a middle-class area of town, a few miles from a flagship state university and downtown business district. The school serves a combination of middle-class children whose parents pay full price for the service and children who attend the center on tuition subsidies for working or student parents.

Preschool 5: Private preschool housed within private elementary and secondary school adjacent to university. The school serves primarily middle-class children and children of university faculty/staff.

Preschools 6, 7: Preschool operated by YMCA. The school serves a wide variety of children of working and middle class parents. Two different downtown locations of this school were used.

Preschool 8: Private preschool originally started by a local Baptist church, but later developed into a private school. The school's enrollment consists primarily of middle class children.

Preschool 9: Private preschool operated by a local Presbyterian church located in an upper middle class neighborhood near the state university. The school serves primarily middle-class children whose parents are members of the church.

Preschools from the second city (southwestern U. S.) are also described below:

Preschool 10: University sponsored preschool serving primarily children of university faculty and staff.

Preschool 11: Private, non-profit preschool serving primarily middle and working-class children. Some children enrolled at this preschool were children of university faculty.

Preschool 12: Private preschool operated by a local Presbyterian church located in a middle class neighborhood near the state university. The school serves primarily middle-class children whose parents are members of the church.

Parents of children enrolled at the child development centers were contacted in writing by the researcher (see letter, Appendix H). Parents were informed of the purpose and nature of the study and were asked to sign a written consent for their child's participation (see Appendix I), as required by The Belmont Report and principles established by the Committee on Research Participation for research on vulnerable populations. Those parents permitting their children's participation also completed a brief questionnaire asking for demographic and television behavior information for the child (see Appendix J). Consent forms and questionnaires were

returned either directly to the researcher using a Business Reply mailing envelope, or were returned to the child's teacher or envelope at the preschool. The researcher then supplied the child development center director and teachers with a list of the children who received consent to participate in the study.

* * * * *

Because the same testing procedure will be used for Studies 1 and 2, the hypotheses and methodology for Study 2 will be presented next. The testing procedure for both studies will follow.

RESEARCH HYPOTHESES - STUDY 2

Communications research with children and television suggests that an audiovisual format may present a unique aspect of information presentation because of the interaction between visual and verbal display. Unique audiovisual features such as visual action, sound effects, music, and animation appear to attract and hold children's attention (Acuff and Reiher 1997; Alwitt, et. al. 1980; Fowles 1976a, 1976b; Greenfield 1984; Hays and Birnbaum 1980; Huston-Stein and Wright 1979; Wright and Huston 1983). However, young children still have very short attention spans and rely on the aural portion of the program or commercial to cue their attention to the important visual information content (Anderson and Levin 1976; Pezdek and Hartman 1983).

Researchers have suggested that the attention attracting and attention cueing ability of audiovisual information relates to the complexity of the message stimulus (Berlyne 1957, 1960; Wartella and Ettema 1974; Watt and Krull 1974; Watt and Welch 1983; Welch and Watt 1982). Visual complexity typically refers to the number of objects or movement of objects in the visual field (Watt and Krull 1974, 1977; Watt and Welch 1983; Watt and Welch 1982; Huston, et. al. 1981; Alvarez, et. al. 1988). Auditory complexity is often conceptualized as both the number of changes in the level of frequencies or the number of different sounds heard on the aural channel (Thorson, Reeves, and Schleuder 1985; Watt and Welch 1983). A more complex message stimulus is thought to increase attention and retention of information presented.

Wartella and Ettema (1974) examined preschoolers', kindergartners', and second-graders' attention to commercials that were controlled for visual and auditory complexity and controlled for product relevance. Preschoolers in particular exhibited higher levels of attention to the irrelevant product commercials that were higher in both visual and auditory complexity. Lowest levels of attention were paid to irrelevant commercials with high visual and low auditory complexity. For relevant products, highest attention was paid to commercials with low visual and high auditory complexity, and least attention was paid to low visual/low auditory complex commercials.

Watt and Krull (1977), as reported in Watt and Welch (1983), found a positive relationship between stimulus complexity and children's attention to *Sesame Street.*

Welch and Watt (1982) looked specifically at visual complexity and its effect on four- to six-year-olds' attention to, and learning from, *Sesame Street.* These researchers differentiated static from dynamic visual complexity. According to the authors' conception, static visual complexity relates to the diversity and organization of objects (e.g., number of and pattern of objects in the visual field). Dynamic visual complexity references the activity or movement of objects in the visual field. Results of this study found that static visual complexity (e.g., many objects) decreases the attention children paid to the program, but dynamic visual complexity (e.g., object movement) increased attention. Increased attention in the dynamic visual condition also related to higher levels of recognition and recall (learning) of the information.

This study incorporates the findings of Wartella and Ettema (1974), but differs from that study in its adaptation of the stimulus complexity concept to the visual and vocal presence of spokes-characters in the commercial message. This second study holds constant the amount of the character's physical action and the type of action (characters are shown consuming the product in every experimental condition). Although Study 1 hypothesizes that character action on the product will not promote as much attention and learning as random action, it is thought that the addition of an auditory component in this second study increases overall message complexity, and cues the child's attention to, and comprehension of, the product (central) message.

No other studies provide direct predictions of the experimental treatments so the following hypotheses are based on the findings of related but different studies such as Alvarez, *et. al.* (1988), Huston, *et. al.* (1981), Wartella and Ettema (1974),

Watt and Welch (1983), and Welch and Watt (1982), as previously reviewed.

H1a: Children will exhibit the highest level of character awareness when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character awareness.

H1b: Children will exhibit the highest level of character knowledge when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character knowledge.

H1c: Children will exhibit the highest level of character liking when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character liking.

H2a: Children will exhibit the highest level of product awareness when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product awareness.

H2b: Children will exhibit the highest level of product knowledge when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product knowledge.

H2c: Children will exhibit the highest level of product liking when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product liking.

H3: Children will exhibit the highest level of character/product association when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character/product association.

H4: Children will exhibit the highest level of product preference when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product preference.

H5: Children will exhibit the highest level of product intention when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product intention.

H6: Children will exhibit the highest level of product choice when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product choice.

RESEARCH METHODOLOGY - STUDY 2

Experimental Stimuli

The experimental conditions for Study 2 reflect varying levels of audiovisual stimulus complexity, which is usually measured in one of three ways, entropy, action, or using a subjective coding scheme. The original measure was one of entropy, derived from Information Theory (Watt and Krull 1974). Entropy is a measure of information (the degree of uncertainty reduction in the receiver), and considers the ability of the viewer to process the information presented (Watt and Krull 1974; Watt and Welch 1983).

According to the entropy conception of stimulus complexity, media presentations simultaneously encompass multiple types of entropy that are mathematically calculated; Set Time Entropy, Set Incidence Entropy, Verbal Time Entropy, Verbal Incidence Entropy, Set Constraint Entropy, and Nonverbal Dependence Entropy. Each type of entropy corresponds to complexity in both audio and visual modes (Watt and Welch 1983). Determination of the entropy level for a particular presentation allows the researcher to categorize different presentations in a

hierarchical progression, compare complexity program to program, and use complexity as an independent variable in testing.

The entropy measure of stimulus complexity does not seem to have gained much support since the late 1970s and early 1980s. Other researchers in this area examined slightly different, but related, conceptions of complexity (Wartella and Ettema 1974; Welch and Watt 1982). Because many of these researchers focus on the effects of television on children, more attention is paid to the visual attributes of action and pace (inherent in children's television) than in previous studies. Also, auditory features such as sound effects and types of voices take on a greater significance in testing.

Huston, *et. al.* (1981) specifically examined action and pace in their study of many different perceptually salient features of children's television. They define action as simply the "amount of physical movement" and operationalize action into a five-point scale from no movement to rapid movement through space (p. 35-36). These researchers also differentiate pace from action, and define pace as the "rate of change of scenes and characters" (p. 35). Results of this study found that animated children's programs have higher levels of many different perceptually salient attributes than did live programs. In particular, animated children's programs have higher levels of "rapid action, greater variability of scenes, more rapid tempo, more music, noise, visual tricks, and visual changes" than live programs (p. 39). Alvarez, *et. al.* (1988) used the same action scale in their study of children's gender differences in attention to action.

A third way of classifying stimulus complexity is through a subjective determination encompassing a wide variety of form variables and technological effects that modify the simplicity of the media presentation. Thorson, Reeves, and Schleuder (1985) used a coding scheme to determine a hierarchical classification of both visual and auditory complexity. According to their scheme, which is similar to that of Huston, *et. al.* (1981), visually complex video segments include multiple edits, scene changes, superimposed images, zooms, pans, and multiple moves by either central or background persons or objects. Audio complexity was defined as those segments containing many idea units as indexed by a count of linguistic propositions.

Although a variety of stimulus complexity measures currently exist, the scope and research questions of this dissertation are not necessarily congruent with previous measures. Therefore, message complexity is determined through the use of a subjective coding scheme (Thorson, *et. al.* 1985). Whereas Study 1 holds the verbal dimension constant in order to test effects of character action, Study 2 tests the opposite. The number of characters in the visual field (similar to Welch and Watt's (1982) static visual complexity) are held constant in this study while the number of characters speaking (similar to Thorson, *et. al.* (1985) and Watt and Welch (1983)) differs between conditions (verbal complexity). In all conditions, two characters are shown consuming the product.

As in Study 1, original animated mock commercials were created for each condition and control in this study. Again, original animated commercials were used instead of existing commercials to control for children's pre-established attitudes and

preferences for characters and products. Each commercial was coded for auditory complexity, by researchers unrelated to this study, according to a complexity schema (see Appendix K). The treatments are as follows:

Condition 1: Character A and Character B are visually present and talk to each other about the product. This condition represents the highest level of message complexity because it includes two characters (visual) and two character voices (verbal).

Condition 2: Character A and Character B are visually present, but only one character talks about the product. This condition represents a medium level of message complexity because it includes two characters (visual) but only one character voice (verbal). This condition will be counter-balanced by splitting the cell sample in half and exposing one group to a message with Character A talking and exposing the other group to a message with Character B talking.

Control: Character A and Character B are both visually present, but neither character talks. The script is read by a voiceover. This condition represents the lowest level of message complexity because it includes two characters (visual), but no character voices (verbal).

Fruit snacks were used as the advertised product for Study 2 because of their relevance to young children. Fruit snacks and fruit roll-up types of snacks are targeted to children and are commonly advertised on children's television. Advertisements for fruit snacks emphasize the fun experience involved in consuming this type of product. Often fruit snacks are molded into animal and character shapes, although few fruit snacks are advertised with a spokes-character. Some fruit snacks, however, employ a licensed character (i.e., Batman) on their packaging to attract

attention at the point of purchase. Although fruit snacks can be considered to be little more than a jelly bean or gummy bear candy, fruit snacks are positioned in advertising and packaging as being a nutritious snack for children.

The construction of test commercials was identical to that of Study 1, although different animal characters were used (Study 1 -- mouse; Study 2 -- bear and dog). The same program (*The Wubbulous World of Dr. Seuss*) and commercial pod sequence (see Figure 1) were used also. As in Study 1, each child received three treatment exposures to allow the child enough repetition to begin forming a character/product associative network.

Research Design

This study design employs three treatment conditions, one of which is counter-balanced. A post-test only research design is appropriate for this study because the subjects are not familiar with either the character or product and random assignment to conditions is built into the design to reduce subject biases (Campbell and Stanley 1963). The unit of analysis for this study is individual children's product knowledge and preferences (within a hierarchy of effects framework), given the particular character/ product pairing.

Sampling Plan

This study sample consists of a minimum of 48 children attending licensed child development centers/preschools. These participants were selected from the

same preschools used in Study 1 and recruitment procedures were the same as in Study 1.

TESTING PROCEDURE

In order to minimize the potential for sampling differences between the two studies, both studies were conducted concurrently. On the day of the study, the children were selected in groups of two to four children by the teacher and/or researcher and were led into a viewing room. In three instances, a child participated in the viewing portion of the test individually to accommodate scheduling and sampling size issues. Each group of children was randomly assigned to one of the experimental groups (both studies) or the control group (Study 1).

Care was taken to insure as realistic a viewing situation as possible, given the constraints of each testing location (Anderson and Levin 1976). The children were allowed to sit wherever they pleased, typically either on the floor or on a chair. While viewing the commercials, the children were allowed to move about the room, play with toys, books, or puzzles available at the child development center, and interact with each other. During viewing, research interviewers were assigned to observe each child and note the child's attention to the television and the child's activities. Following the viewing, each child was approached by one of the interviewers and was invited to go to another area to talk about the television shows they just saw. The interviewers questioned each child individually.

Each interviewer briefly talked to the child about his or her activities that day or some other familiar subject, in order to establish rapport. The interviewer then told the child that he or she would be asked some questions about the television show just seen, and that their conversation would be recorded. A child's resistance to questioning resulted in the immediate termination of the interview and the child was returned to his or her class (note: approximately 5 children were not interviewed because of refusal or resistance).

The interview first assessed character recall by asking the child to tell the researcher about any animals he or she saw on the television commercials (see interview script, Appendix C). The interviewer recorded the child's responses on an interview record (see Appendix D) and simultaneously tape recorded the conversation. If the child appeared confused or did not appear to understand the concept of the commercial, the interviewer cued with the questions, "Did you see a mouse (Study 1) or a bear and a dog (Study 2) in the commercials?" and followed with "Can you tell me about the mouse/bear and dog?"

Once the child finished describing the commercial, the interviewer then presented the child with a set of four flash cards. The advertised character appeared on one card (Study 1) or two cards (Study 2) and the remaining cards contained pictures of other animal caricatures unfamiliar to the child (mouse, bear, dog, and squirrel) (see Appendix E). The order of card presentation was rotated to reduce order effects. The child was asked "Can you point to the animals you saw on the TV commercials we just watched." The child's responses were again recorded on the

interview record.

Product recall and recognition was measured in a like manner, with each child first being asked to talk about any food he or she saw on the TV commercials and then asked to point to the product on a set of product flash cards similar to the character flash cards. The product flash cards contain pictures of cheese crackers, fruit snacks, potato chips, and peanut butter cookies (all food products that should be familiar to young children) (see Appendix F).

The child was then told that he/she and the interviewer were going to play a card game (see Appendix C). The product flash cards were re-sorted and the child was shown the advertised character card. The interviewer laid the product cards on the table in front of the child and the child was asked, "Can you point to the food here (interviewer points to product cards) that goes with this animal (interviewer points to character card)?" The child's response was recorded.

Next, the interviewer showed the child the set of pictorial liking cards and told the child, "These cards help me understand how much you like or don't like different things (see Appendix C). I'm going to ask you how much you like different things and I want you to use these cards to show me. If you *really, really* (emphasis) like something, I want you to point to the big smiley face. If you like something just a little bit, point to the little smiley face If you don't like something, I want you to point to the little frowney face. If you *really, really* (emphasis) don't like something I want you to point to the big frowney face."

The child was then asked to practice briefly by responding to the researchers'

questions. The child was asked to name something he or she *really* liked and then the interviewer showed the child that she/he would point to the big smiley face to indicate really liking something. The child was then asked to practice in the same way with an item he or she named as *really* not liking. The interviewer emphasized to the child that it was okay for the child not to like something in order to reduce positive response patterns, typical for young children who want to impress the interviewer.

When the interviewer felt comfortable with the child's ability to use the faces scale, he or she then asked the child, "How much do you like _____?" for each character card and for each product card. All characters and products were tested to determine if the child was displaying response patterns. The child's responses were recorded on the interview record (see Appendix D).

The child was then given the following scenario to assess product preference, "We're going to play pretend for a minute. Let's pretend that your Mommy and Daddy might have to go somewhere for a little while and you're going to have a baby-sitter. The babysitter wants to give you a snack, but doesn't know what kind of food you like. Can you point to the picture of the food you would want to eat for your snack?" (see Appendix C)

The child was presented with all four of the product cards and asked to make a choice. The choice was recorded on the interview record (see Appendix D). The child was then told to pretend that the baby-sitter returned the next day and the child needs to choose what he or she wants for a snack the next day. Then the child was told to pretend that the babysitter came back another day and the child needs to

choose a snack for that time also. Product choices were recorded.

The interviewer then told the child that he or she was almost finished with the questions. Product intention was assessed by telling the child, "Because you were so helpful when you talked to me today, we're going to come back in a few days after we've talked to all the kids in your class and bring you a snack for helping us. I need you to tell me which snack you want me to bring for you" (see Appendix C). The child was asked to select the product from the test cards and the interviewer recorded the child's response (see Appendix D). The child was then escorted back to his or her classroom.

After all the sampled children at each respective school were interviewed, the principal researcher and interviewers returned to assess each child's product choice. The product choice measure was conducted in one of two ways, depending on the preferences of the school director. Some school directors opted for a party situation while others selected a "take-home" option for the measure. In each choice situation, the child's responses were recorded on his or her interview response sheet.

In the party situation, all the children were told they would be having a party with the interviewers and each child would be allowed to choose his or her own snack. All children (both participants and non-participants) were brought individually into a separate room, were presented with the four product options, allowed to make their choice of the product, and were then escorted back to their snack room. Each product (cheese crackers, peanut butter cookies, potato chips, and fruit snacks) was placed in matching solid color gift bags. One serving of each snack

was placed in front of the bag so the child could see each product. The character flash cards used during interviewing were paper clipped to each bag so each product was shown alongside it's respective character.

In the "take-home" situation, the snack products were placed in the same gift bags with the character cards, as described above. Each participating child was brought in individually and told that he or she could select one of the snacks to take home as a reward for helping the interviewers. Each child made his or her snack product selection and the product was placed in a sealed paper sack with the child's name on it. The sacks were then given to the teacher, or the child was directed to place the sack in his or her "cubby" to take home that afternoon.

METHODOLOGICAL ISSUES

Internal Validity

Internal validity refers to the confidence in the proposed causal relationship (Cook and Campbell 1979). Although causation is more difficult to determine in human subject testing because of the inability to control for every possible influencing factor, we assume that to some extent we can study human behavior in a probabilistic manner and determine relationships between dependent and independent variables. Because the purpose of this dissertation is the application of existing theory (Calder, Philips, and Tybout 1981), a falsificationist perspective is appropriate to provide the strongest theory test possible, and internal validity and construct

validity are of greater concern than external validity.

Randomization of subjects into treatment groups will significantly increase the internal validity of this research by reducing selection threats (Cook and Campbell 1979). Threats of history, maturation, instrumentation, and statistical regression are reduced by the post-test only design that eliminates contamination and influence from pre-test to post-test (Campbell and Stanley 1963; Cook and Campbell 1979). Finally, separating the children for the testing phase of each study reduces imitation. Other internal validity concerns will be addressed as follows:

1. Preschool aged children typically do not have the cognitive ability to engage in hypothesis guessing or evaluation apprehension so this concern is minimized.

2. Trained interviewers who are blind to the hypotheses of the experiment will conduct the majority of the one-on-one interviews with the children to reduce the possibility of researcher expectancies (Garbarino, et. al. 1992).

3. Because Study 2 examines the effects of stimulus complexity on a child's product knowledge and preferences, and because the testing instrument conceptualizes and operationalizes stimulus complexity in a manner not previously tested, there is a particular concern over the complexity rankings of the three experimental conditions. A manipulation check on the researcher's complexity ranking of the three experimental conditions of will be conducted through subjective coding by other researchers. A team of graduate students not involved in the research will be given a set of parameters by which stimulus complexity is measured. Each coder will observe the experimental mock commercials, code each commercial for complexity, and rank order the commercials in order of complexity.

4. Careful planning, design, and scripting of treatment conditions and controls should reduce the confounding effects of differential message presentation.

5. The use of a post-test only design eliminates the interaction of treatments.

6. Subjects unable to complete both the interview and the choice measure portions of the study were eliminated from the analysis to reduce mortality threats.

Construct Validity

Peter (1981) defines construct validity as "the degree of correspondence between constructs and their measures" (p. 133). This dissertation is concerned with construct validity because the research involves theory application and the examination of variable association within a nomological net (Cronbach and Meehl 1955). As such, these two studies address issues of construct validity in the following manner:

1. Convergent and divergent validity will be assessed by pre-testing and manipulation checks during the data collection. Confidence is high in the construct consistency of this study because both conceptual and operational definitions were taken from similar previous studies and are based on an examination of a wide theoretical foundation.

2. The use of both recognition and recall measures for character and product awareness allows for comparison of information.

External Validity

External validity commonly refers to the extent to which we can assume the results of our study can be applied to other settings (Campbell and Stanley 1963; Cook and Campbell 1979). Although debate exists about whether external validity actually represents replicability or realism (Lynch 1982), this dissertation acknowledges the importance of general theoretical understanding with regards to the value of study results and conceptualizes external validity as such. However, since this study is most concerned with applying existing theory, rather than generalizability, the maximization of external validity within these two studies is not

as vital as ensuring internal validity and construct validity (Calder, Phillips, and Tybout 1981). As such, these two studies will address the concerns for external validity in the following manner:

1. Because this study seeks as its goal to examine relationships between the variables by building on and applying theory that has been used in other contexts, homogeneous population sampling is more appropriate for theory-construction than representative sampling.

2. The threat of the interaction of setting and treatment (Cook and Campbell 1979) will be addressed by conducting the testing in the preschool location that the children are familiar with and by setting up the viewing room to be as comfortable as possible. Because young children have a tendency to vary attention levels and typically experience distractions when viewing television at home, the children in this study will be allowed to interact with each other, move about the viewing room, and play with available toys while the viewing takes place.

Reliability

Reliability refers to the accuracy or precision of the measuring instrument in a study (Kerlinger 1992). The goal of maximizing reliability in a measure is to maximize the possibility of yielding the same results if the measure is used in another similar study (Babbie 1992; Peter 1979). Strict standardization of the testing procedure, detailed training of interviewers, and the use of scripts should increase the reliability of treatment implementation (Cook and Campbell 1979). Measure reliability is increased through the use of measures that have been tested and proven successful in similar previous studies.

ANALYSIS STRATEGY

Upon completion of the testing phase for the two studies, all data were cleaned, edited, and entered into a computer spreadsheet for analysis using the SPSS software program. At this time, the decision was made to exclude cases that were subject to mortality. There were several instances where children participated in the interview, but were unavailable during the choice measure phase of the studies.

Open-ended responses were transcribed throughout the study. During testing, interviewers also took open-ended notes about each child's behavior and perceived attention during the viewing. This information was converted into a subjective scale of perceived attention.

Character and product recognition (awareness) was measured as nominal-level (Yes/No) indications of whether the child pointed to the correct character and product cards, when prompted by the interviewer (see Appendices B and D). Frequency, Proportion, and Chi-Square analyses were appropriate for these measures.

A character and product recall (knowledge) score was calculated for each child by adding the number of attributes offered during the recall portion of the testing (see Appendices B and D). Given that this measure is ratio-level (metric data with a zero-point), descriptive statistics, t-tests, and ANOVA analyses were appropriate.

As with recognition measures, character/product association was also measured as a nominal-level (Yes/No) indication of matching the correct character and product pictorial cards. Frequency, Proportion, and Chi-Square analyses were

also appropriate here.

The interval-level of the character and product liking data allow for significance testing with t-tests and association analysis by the use of ANOVA (see Appendix B). An interval-level product preference score was calculated for each child by summing the number of times the advertised product was selected during the 3 trials (see Appendix D). T-tests and ANOVA were also used to determine associations between the preference measure and the experimental treatment.

In order to test the relevancy of a hierarchical framework of product knowledge to product acquisition, a discriminant analysis procedure was used to predict the significance of the knowledge, liking, and preference steps in determining final product choice.

Demographic and behavioral variables collected from the parents, as well as the child's age, were added for exploratory purposes.

SUMMARY

This chapter presented the methodological considerations and procedure for conducting the two studies proposed in this dissertation. The hypotheses for each study were presented, along with an explanation of the dependent and independent variables. The testing procedure was outlined, along with an analysis plan. The next chapter presents the results of the data analysis for Study One and Chapter Five presents the results for Study Two.

CHAPTER 4

STUDY 1 ANALYSIS

INTRODUCTION

The purpose of this study was to examine the influence that the direction of an animated spokes-character's action has on preschoolers' product knowledge and preferences. The primary research question was whether a preschool child's product memory and preferences are most affected when the spokes-character acts in a manner associated with the advertised product, performs a random action unrelated to the product, or performs no action at all.

The notion of influence of action direction lends itself to considerable discussion and debate. Communications research suggests that action, in general, is perceptually salient to young children and therefore, holds the child's attention longer than no action. Cognitive and learning research however, proposes that young children tend to focus more on incidental information to the exclusion of central information in an advertisement, which suggests that if action is incidental, it may distract a child from central product information.

Intuitively, one would think that the greatest effects on a child's attention and comprehension of an advertised message would result from a spokes-character's action directed at the product. Yet, spokes-character action (incidental information)

may actually distract the child away from paying attention to the product (central information) in the commercial.

This study attempted to corroborate the child information processing literature and presumed that preschool children would pay more attention to the spokes-character's action than to product information contained in a commercial. In the context of the two experimental conditions and the control condition, it was predicted that children would pay more attention to the commercial with random character action than to the commercial with character action directed at the product. Furthermore, children were expected to pay more attention to the two conditions with character action than to the control condition with no character action.

OVERVIEW OF STUDY

This study employed a post-test only experimental design with two experimental treatment conditions and one control. The steps in a modified Hierarchy of Effects model were used as the dependent variables, with the experimental conditions (type of action) as the independent variables. In addition, where possible, exploratory analysis was conducted on the potential for gender, age, and attention to serve as moderators of the hypothesized effects.

Response Rate

As discussed in Chapter Three, preschoolers enrolled at twelve child development centers in two cities were sampled for both Study One and Study Two. Center directors either provided the primary researcher with mailing lists of the two- to five-year-olds' parents, or committed to a number of children that would be eligible for the research. All parent information packets were sent through the school to the parents of approximately 450 children. These packets contained a cover letter explaining the research, a parental consent form, and a child information form that was completed and returned to the researcher. Some child development center directors also provided parental letters discussing the school's participation in the research. Consents for participation were received from the parents of 214 (47.6%) children.

An interviewing schedule was determined in consultation with the preschool directors. Due to incongruities between the interviewer's schedule, the preschools' schedules, and the individual children's schedules, only 177 children were interviewed for the two studies.

Of the 177 participants, five children's responses were removed from the dataset due to extreme amounts of missing data, refusal to complete the interview, or contamination. Attempts were made to interview five children who were ultimately not included in the sample due to inability to answer the questions (two children had Down's Syndrome, one child was hearing impaired, and two children had developmental difficulties). Nine children who completed the interviews were later

removed from the analysis sample due to possible contamination caused by problems with the television viewing equipment. These nineteen removals resulted in a final total sample size of 158 participants. These 158 children were divided into groups for the two studies that were conducted simultaneously to allow for potential comparisons.

Sample

The sample size for Study One consisted of 104 children ranging in age from 24 months to 68 months (mean = 45.76, std. dev. = 11.39). Two-year-olds made up 23.5% of the sample. The largest represented age group was three-year-olds, who comprised 34.3% of the sample. Approximately 32 percent (32.4%) of the sample were four years old and 9.8% were five years old. Forty-nine percent of the participating children were male and 51% were female.

The children were primarily identified by their parents as Caucasian (76.4%). Asian children comprised 6.8% of the sample, whereas African-American and Hispanic children each comprised 4.9% of the sample. Parents identified 4.9% of the children as being of mixed race. Study participants typically came from small families, with 87.1% reporting either one or two children households.

Parents were asked to estimate the number of hours per week the child typically watches television and videos. Television hours ranged from zero to twenty-one (mean = 6.37 hours; mode = 3 hours). The range for video hours was between zero and fifteen hours (mean = 5.79 hours; mode = 3 hours).

Analysis Strategy

Each hypothesis was analyzed using the SPSS software package. Nominal-level data were subjected to both frequency and crosstab (Chi-Square) analysis. Expected cell frequencies lower than five in a standard crosstab analysis resulted in the use of the Fisher Exact Test, rather than a Chi-Square. The Fisher Exact Test is appropriate in this circumstance because: (1) It assumes independent samples; (2) It utilizes a Chi-Square distribution; (3) It provides an exact probability of occurrence; and (4) It compensates for the small expected cell frequencies (Streiner 1986). One drawback to the Fisher Exact Test however, is that it only allows for testing of two dichotomous variables, so when necessary, 2 x 2 testing of variables was conducted. Additionally, although the Fisher Exact Test compensates for small cell sizes, results should still be interpreted with caution.

Interval-level data were analyzed using descriptive analysis and an Analysis of Variance procedure. Finally, planned pairwise comparisons between the two experimental test conditions ("directed action" and "random action") and the control condition ("no action") were also conducted.

Moderating Variables

To date, few related studies have examined this age group (preschoolers). Design of this study provided the opportunity to further consider potential factors that might directly moderate important measures of memory, attitude, and behavioral indicators (Baron and Kenny 1986). Child development, child consumer, and

communications research suggest the possibility of three important moderating variables that might affect children's responses to the test conditions. These three potential factors are presented below:

Age

The study of developmental psychology is based on the premise that information is processed differently at different ages, and that these processing abilities increase and refine with age (Piaget 1959/1929; Piaget and Inhelder 1969). Information processing theory in marketing also argues that preschool-aged children do not approach consumer decisions in the same logical manner as older children and adults (Roedder 1980, 1981). Young children do not make the same inferences as older persons with more sophisticated cognitive abilities (Roedder 1980). Communications research suggests that due to limitations in information processing ability, preschool children tend to focus attention on incidental information, at the exclusion of central information (Murphy and Brown 1975; Roedder 1980; Stevenson 1972).

Attention

Attention was also examined as a potential moderating factor to a child's response to the test stimuli. The assumption was that a child's increased attention to the program and commercials would contribute to a higher level of recall and recognition of the test variables and perhaps an increased influence by the

commercial stimulus.

Additionally, the notion of attention factors into this study through the hypotheses. Communications research (see Chapter Two) proposes that within the context of an animation stimulus, a character's action is perhaps the most perceptually salient dimension (Huston, *et. al.* 1981; Lesser 1974; Rice, *et. al.* 1982; Wright and Huston 1983; Wright, *et. al.* 1984). Therefore, any character action should attract the child's attention to the commercial message and hold the child's attention longer than a commercial without such action. As this research has previously suggested though, there may exist differences in attention and comprehension of commercial information, depending upon the nature of the character's action.

Attention was measured indirectly. During viewing of the test video, each interviewer watched one child and documented the child's body position relative to the television, the child's actions during the video, the child's verbal or physical responses to what he or she was viewing, and the child's interaction with other persons or objects in the room.

Notes taken by the interviewers were examined and were later coded into a three-point scale of perceived attention by the primary researcher and another interviewer. Inter-coder reliability checks resulted in 90% agreement for study participants. Discrepancies in category assignment were resolved through discussion. The determinants for category assignment were as follows:

Very Attentive: Eyes facing television screen throughout entire program; child appeared interested in program or commercials; child not affected by distractions; child made comments about the program or commercials

Moderate Attention: Child periodically faced television screen but looked away frequently; child watched during portions of program or commercials but was engaged in other activities; child was easily distracted

Minimal Attention: Child did not face television screen; child moved around the room; child talked significantly during program, but not about program or commercials; child highly distracted

Unable to Determine: Child exhibited no emotional, verbal, or physical reaction to program or commercials

Determining each child's true level of attention to the program proved to be difficult; some children who were perceived to be paying great attention to the screen were unable to provide correct recognition and recall, and some children who were not perceived to be paying attention (playing with toys, talking, moving about) presented significant levels of recognition and recall. Additionally, attention was

found to be negatively correlated with age (Pearson's = -.250; p = .004). Younger children were perceived to pay more attention to the television than older children.

Gender

Research examining the effects of gender on a child's attention to character action are inconclusive. Two studies suggest that gender may act as a possible mediator to a child's attention to action. Alvarez *et. al.* (1988) and Wright, *et. al.* (1984) found that boys attended more to animation and highly visual action in a televised programming context than girls. However, Alwitt, *et. al.* (1980) did not find gender differences in preschool children's attention to *Sesame Street* and child-targeted commercials.

Because of the inconclusiveness of gender effects, this study does not propose gender-differential hypotheses, but utilizes a large enough sample to test for gender as it might serve as a moderator.

Analysis of Moderators

Exploratory analysis of the moderating factors was performed in two separate stages. First, age, attention, and gender were inserted as layers within the larger chi-square analyses and as covariates for the Analyses of Variance. Second, separate subgroup analyses (e.g., males only) were conducted by condition, age, attention, and gender. For the interval-level dependent variables, it was decided a priori that certain pairwise comparisons be made also. These pairwise comparisions were conducted

using a Bonferroni adjustment for multiple comparisons to reduce the possibility of increasing Type I errors, inherent in multiple testing procedures (Larzelere and Mulaik 1977).

Analysis suggests that the only situation in which attention influenced the child's responses to the testing was for very attentive children on the character recognition variable. This influence will be discussed further in the section for the character recognition hypothesis.

Analysis of each hypothesis is presented below. The hypothesis test is presented first, followed by pairwise comparisons and a discussion of moderating factors. All variables were tested for significance at $\alpha = .05$; any variable achieving marginal significance at $\alpha = .10$ is indicated.

ANALYSIS OF RESEARCH HYPOTHESES

This dissertation was a study of associational learning. Certain responses (increased product knowledge and preference) were posited to result from the association built through the repetitive pairing of a product (conditioned stimulus) with a spokes-character (unconditioned stimulus).

Given this theory, the following hypotheses were proposed for the first study:

and female subgroups and analyzing each subgroup by condition. This segmentation of the dataset resulted in smaller expected cell frequencies, so the Fisher's Exact Test was required.

This analysis reflected that male study participants had the highest rate of character recognition after viewing the commercial with character action directed at the product (100%), followed by viewing the commercial with no character action (82.4%), then random character action (72.2%) (See Table 2).

Significant differences in character recognition for boys appeared in a pairwise directed action vs random action test (Fisher's Exact sig. = .046). There were no statistically significant differences in levels of character recognition between boys viewing random action vs no action, or for directed action vs no action.

Female study participants did not exhibit the same differential rates in character recognition. These results suggest that perhaps preschool aged boys may retain more character recognition after viewing a commercial in which the character

Table 2 -- Character Awareness/Recognition (Males Only)

	Directed Action	**Random Action**	**No Action**	**Total**
Recognition	16	13	14	43
(Row %)	(37.2%)	(30.2%)	(32.6%)	(100%)
(Col %)	(100%)	(72.2%)	(82.4%)	(84.3%)
No Recognition	0	5	3	8
(Row %)	(0%)	(62.5%)	(37.5%)	(100%)
(Col %)	(0%)	(27.8%)	(17.6%)	(15.7%)
Total	16	18	17	51
(Row %)	(31.4%)	(35.3%)	(33.3%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

is active and the action is directed at the advertised product. Preschool aged girls' character recognition levels; however, do not appear to be affected by the direction of character action.

Age

Age was also analyzed as a moderating factor to character recognition. A correlation analysis indicated a strong positive relationship between age and character recognition (Pearson = .287; p = .004). A crosstabulation supported the supposition that character recognition increases with age (see Table 3). Over sixty-two percent of the two-year-old study participants recognized the character, whereas 76.5% of the three-year-olds exhibited character recognition. Four- and five-year-olds showed increasing recognition capabilities as well, with 87.9% of the fours and 100% of the fives recognizing the mouse character. Chi-Square analysis indicated the possibility of age differences; however, since expected cell sizes were too small, more detailed analyses had to be conducted by age and by condition pairs so that a Fisher's Exact Test could be used.

Two-year-old study participants showed significant differences ($\alpha = .05$) in character recognition after viewing the commercial with character action directed at the product vs no character action (Fisher's Exact sig. = .021). Analysis found no differences between the directed action and random action commercials, or between the random action and no action commercials. Additional analysis was conducted by collapsing the directed action and random action conditions into one group and

Table 3 – Correct Character Awareness/Recognition by Age

	Directed Action	Random Action	No Action	Total
2 Year Olds	7	6	2	15
(% Within Age)	(100%)	(60.0%)	(28.6%)	(62.5%)
3 Year Olds	9	8	9	26
(% Within Age)	(81.8%)	(80.0%)	(69.2%)	(76.5%)
4 Year Olds	8	10	11	29
(% Within Age)	(80.0%)	(90.9%)	(91.7%)	(87.9%)
5 Year Olds	4	3	3	10
(% Within Age)	(100%)	(100%)	(100%)	(100%)

analyzing action versus no action. In this test, two year olds showed marginal differences (Fisher's Exact sig. = .061) in character recognition; the action test commercials generated higher recognition than the non-action commercial. Three-, four-, and five-year-olds did not show any differences between experimental conditions.

In summary, two-year-olds' appear to be the only age group which experiences differences in character recognition, based on character action. Overall, the two-year-olds viewing character action recognized the character at a higher rate than those not viewing character action. Product-directed action generated the highest level of character recognition and no action generated the lowest level of character recognition.

Three-, four- and five-year-olds' character recognition levels do not appear to be affected by either the absence/presence of character action, or the direction of the character's action. In fact, all five-year-old study participants recognized the character, regardless of commercial viewed.

Attention

Perceived attention was also tested as a possible moderator of the relationship between type of action and character recognition. Those children designated as Very Attentive during the viewing showed significantly higher levels of character recognition/awareness when character action was present, regardless of action direction, than when action was absent (see Table 4). A test of action vs no action commercials (collapsing directed action and random action) supports this finding (Fisher's Exact sig. = .004). In pairwise comparison tests of the direction of action, very attentive children had much higher recognition rates after viewing the directed action commercial than after viewing the no action commercial (Fisher's Exact sig. = .007). Very attentive children also had significantly higher levels of character recognition/awareness when viewing the commercial with random action, than they did when viewing the no action commercial (Fisher's Exact sig. = .035).

No statistically significant differential character recognition levels were found in children designated as Moderate Attention or Minimal Attention.

Table 4 -- Character Awareness/Recognition by Condition (Very Attentive)

	Directed Action	**Random Action**	**No Action**	**Total**
Recognition	12	9	1	22
(Row %)	(54.5%)	(40.9%)	(4.5%)	(100%)
(Col %)	(85.7%)	(81.8%)	(16.7%)	(71.0%)
No Recognition	2	2	5	9
(Row %)	(22.2%)	(22.2%)	(55.6%)	(100%)
(Col %)	(14.3%)	(18.2%)	(83.3%)	(29.0%)
Total	14	11	6	31
(Row %)	(45.2%)	(35.5%)	(19.4%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Therefore, these results suggest that when a child is paying considerable attention to a commercial, character action promotes higher character recognition.

Character Knowledge/Recall

H1b: Children will exhibit the highest level of character knowledge when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character knowledge.

Descriptive analysis of this variable revealed that in general, preschool children had difficulty recalling detailed information about the test commercial seen in this study. Children were asked for information regarding the animal seen in the commercial. Most children indicated they could not remember anything about the animal in the commercial (see Table 5). At best, children recalled no more than four character attributes and the total mean was less than one attribute, across all experimental conditions. An overall Analysis of Variance indicated no statistically significant ($F_{(2,103)} = 1.360$; $p = .261$) differences between the different types of character action.

A pairwise comparison analysis of the directed action and the random action commercials corroborated the no difference finding. Other pairwise comparisons did not suggest differences between the directed action and no action commercials or between the random action and no action commercials either. Therefore, Hypothesis H1b is rejected.

Table 5 -- Mean Number of Character Attributes Recalled

	Directed Action	Random Action	No Action	Total
Mean	1.0	.86	.58	.81
St. Deviation	1.19	1.15	.84	1.07
N	32	36	36	104

Gender

The character recall/knowledge data were examined for the influence of gender as a moderating factor, by entering gender as a covariate to condition in the model. Analysis of Variance, using a Bonferroni adjustment for multiple tests, did not reveal an effect for gender, nor for the gender x condition interaction.

Age

Age was also examined as a possible moderating factor to character recall/knowledge and was examined as a covariate in the model. In general, the three-, four-, and five-year-old study participants offered a greater number of character attributes than the two-year-olds (see Table 6). An Analysis of Variance, using a Bonferroni adjustment for multiple tests, did not indicate an age effect nor an age x condition interaction.

Table 6 -- Mean Number of Character Attributes Recalled (Age)

	Directed Action	Random Action	No Action	Total
2 Year Olds	1.0	.60	.14	.58
3 Year Olds	1.0	.91	.54	.80
4 Year Olds	.80	1.18	1.0	1.0
5 Year Olds	1.5	.67	.33	.90

Character Liking (Mouse)

H1c: Children will exhibit the highest level of character liking when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character liking.

This variable was measured on a 4-point pictorial scale of Strongly Like (1) to Strongly Dislike (4). Descriptive analysis of this variable revealed that in general, preschool aged children showed strong liking of, or positive attitude toward the test character (see Table 7). Results from an Analysis of Variance indicated that no statistically significant differences exist in character liking ($F_{(2,100)} = .720$; $p = .489$), based on the commercial viewed. Pairwise comparisons analysis further supported the finding of no differences; therefore, Hypothesis H1c is rejected.

Moderating Factors

Gender was examined as a possible moderating factor in the relationship between type of action and character liking. Analysis of Variance revealed no evidence of a gender x condition interaction. However, in a male sub-sample with the no action control removed, analysis exposed a significant difference in liking for those boys

Table 7 -- Mean Character Liking

	Directed Action	Random Action	No Action	Total
Mean	1.63	1.83	1.56	1.67
St. Deviation	1.04	.98	.89	.97
N	32	35	34	101

Note: Lower mean scores indicate stronger liking

viewing the directed action commercial (mean = 1.19) and those boys viewing the random action commercial (mean = 1.76) (t = 2.206; p = .035). These differences were not found in the female sub-sample. In addition, age was not found to be a moderating factor.

Product Awareness/Recognition

H2a: Children will exhibit the highest level of product awareness when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product awareness.

Product awareness/recognition appeared to be more difficult for study participants than was character recognition. Approximately half of the children recognized the product after seeing three exposures of the commercial (see Table 8). This recognition did not appear to be affected by the direction of the character's action (X^2 = 1.976; p = .372). Pairwise comparisons of the conditions corroborated this lack of differences. Therefore, Hypothesis H2a is rejected.

Table 8 - Product Awareness/Recognition by Condition

	Directed Action	**Random Action**	**No Action**	**Total**
Recognition	19	16	16	51
(Row %)	(37.3%)	(31.4%)	(31.4%)	(100%)
(Col %)	(59.4%)	44.4%)	(44.4%)	(49.0%)
No Recognition	13	20	20	53
(Row %)	(24.5%)	(37.7%)	(37.7%)	(100%)
(Col %)	(40.6%)	(55.6%)	(55.6%)	(51.0%)
Total	32	36	36	104
(Row %)	(30.8%)	(34.6%)	(34.6%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Gender

Gender was examined as a potential moderating factor in the relationship between type of action and product recognition. The boys showed a higher rate of product recognition than non-recognition only after viewing the directed action commercial (see Table 9). Viewing of either the commercial with random character action or no character action resulted in fewer boys recognizing the product than not recognizing the product. A paired Chi-Square analysis between conditions indicated this difference in males' product recognition lay only between the directed action commercial and the random action commercial ($X^2 = 4.480$; $p = .034$).

In summary, it appears that gender moderates the effects of condition on preschool children's product recognition. Boys exhibited higher product recognition levels only after viewing a commercial in which the character action is directed at the product. Girls' product recognition levels do not appear to be affected by the

Table 9 -- Product Awareness/Recognition by Condition (Males Only)

	Directed Action	**Random Action**	**No Action**	**Total**
Recognition	12	7	8	27
(Row %)	(44.4%)	(25.9%)	(29.6%)	(100%)
(Col %)	(75.0%)	(38.9%)	(47.1%)	(52.9%)
No Recognition	4	11	9	24
(Row %)	(16.7%)	(45.8%)	(37.5%)	(100%)
(Col %)	(25.0%)	(61.1%)	(52.9%)	(47.1%)
Total	16	18	17	51
(Row %)	(31.4%)	(35.3%)	(33.3%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

direction of character action in the commercial, as there were no statistically significant differences between commercials.

Product Knowledge/Recall

Research on children's information processing of advertisements suggests that in the context of a character/product pairing, the child may focus so much on the character (incidental information) that he or she may not develop or retain knowledge of the product (central information) (Roedder 1981; John and Sujan 1990). Therefore, hypotheses were not proposed for product knowledge/recall in this study because the assumption is made that the child will focus so much on the incidental information (character) to the exclusion of the central information (product) that there should be no differences in product knowledge between the various types of action.

Descriptive analysis of this variable supported the notion that in general, preschool aged children had difficulty recalling information. Most participants in this study gave no responses when prompted for recall information. The total mean for all responses was fewer than one (see Table 10). An Analysis of Variance revealed no statistically significant differences between the conditions ($F_{(2,103)} = .240$; $p = .787$). Pairwise comparison also failed to find significant differences.

Table 10 -- Product Knowledge/Recall

	Directed Action	Random Action	No Action	Total
Mean	.59	.61	.72	.64
St. Deviation	.80	.90	.81	.84
N	32	36	36	104

Gender

Analysis of Variance was conducted to determine if gender moderated the relationship between type of action and product knowledge. Analysis of Variance, using the Bonferroni adjustment for multiple tests, revealed no evidence of a gender x condition interaction; however, the control commercial may be preventing differences from disclosure. In analyses of separate male and female subsamples, removing the no action control, it appeared that male and female study participants recall approximately the same amounts of product information, but do so in a very different pattern (see Table 11).

Analysis of Variance conducted on the male sub-sample, removing the no action (control) from the study, resulted in a finding of marginally significant differences between the directed action and random action commercials ($t = -2.007$; $p = .053$), with the highest level of product recall resulting from viewing the directed action commercial.

Female participants showed an opposite response pattern from the boys'. A t-test between the two action commercials indicated the presence of a marginally significant difference ($t = 1.970$; $p = .058$). The females showed higher rates of product recall after viewing the random action commercial.

Table 11 -- Mean Number of Product Attributes Recalled (Gender)

	Directed Action	**Random Action**	**No Action**	**Total**
Males	.88	.33	.82	.67
Females	.31	.89	.63	.62

In summary, it appears that gender may moderate the influence of direction of character action in children's recall of product information from the different commercials, but this moderation is only evident when the control commercial was removed from analysis. Male study participants recalled higher amounts of product information after viewing the commercial with the character shown acting on the product, whereas the female participants exhibited the highest product recall levels after viewing the commercial with random character action.

Product Liking (Cheese Crackers)

H2b: Children will exhibit the highest level of product liking when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product liking.

This variable was also measured on a 4-point pictorial scale of Strongly Like (1) to Strongly Dislike (4). Descriptive analysis of this variable suggested that in general, preschool-aged children liked the test product (cheese crackers) (see Table 12). The study participants indicated the strongest liking scores after viewing the commercial with directed character action, followed by the commercial with random character action. The commercial with no character action produced the lowest product liking scores.

Analysis of Variance revealed that these differences in product liking scores were statistically significant ($F_{(2,99)} = 3.415$; $p = .037$). Paired comparisons, using a Bonferroni adjustment for multiple tests, revealed the difference was between the

directed action commercial and the no action control ($t = -2.062$; $p = .032$). There were no differences however between the directed action and random action commercials, or between the random action and no action commercials.

Additional analysis of action vs no action (collapsing the directed action and random action commercials) indicated statistically significant differences in product liking, depending on the presence or absence of character action. Those children viewing a commercial with character action liked the product more than those children viewing the commercial without character action ($t = 2.353$; $p = .021$). Therefore, Hypothesis H2b is only partially supported.

Gender

Gender was examined as a possible moderator of the relationship between type of action and product liking. An Analysis of Variance, using the Bonferroni adjustment, indicated a significant gender x condition interaction ($F_{(3,99)} = 2.936$; $p = .037$). Additional analysis of action vs no action (collapsing directed action and random action) supported this gender x condition interaction ($F_{(2, 99)} = 4.286$; $p = .016$).

Table 12 -- Mean Product Liking

	Directed Action	Random Action	No Action	Total
Mean	1.28	1.53	1.85	1.56
St. Deviation	.63	.93	1.05	.91
N	32	34	34	100

Note: Lower mean scores indicate stronger liking

A separate Analysis of Variance on the male subsample reflected that boys showed marginally stronger liking for the product ($F_{(2,47)} = 2.685$; $p = .079$) after viewing the commercial in which the character's action is directed at the product, and the lowest level of product liking after viewing the commercial with random character action (see Table 13). A separate analysis of the directed action and random action commercials only, verified these differences ($t = 2.274$; $p = .030$). It is evident however, that the difference with males is only related to the type of action and not the simple presence or absence of action. An analysis of the male subsample, collapsing the conditions into action vs no action revealed no significant differences related to presence or absence of action.

However, females appear to respond differently than the males in relation to character action. An analysis of action vs no action revealed that the girls showed more product liking after viewing one of the commercials with character action than after viewing the commercial with no character action ($t = 2.752$; $p = .008$). The presence of character action, in general, appears to promote higher product liking than does the absence of character action.

In particular, female participants appeared to have stronger liking for the product after viewing the commercial with random character action and the lowest liking after viewing the commercial with no character action, consistent with the findings for product recall/knowledge (see Table 13). A female sub-sample Analysis of Variance supported statistically significant differences ($F_{(2,51)} = 3.886$; $p = .027$). Pairwise comparisons detailed the significant differences for females viewing the

Table 13 -- Mean Product Liking (Gender)

	Directed Action	Random Action	No Action	Total
Males	1.06	1.75	1.56	1.46
Females	1.50	1.33	2.11	1.65

Note: Lower mean scores indicate stronger liking

directed action commercial versus the no action commercial ($t = -2.026$; $p = .048$) and those watching the random action versus no action commercials ($t = -2.657$; $p = .011$).

Age

The decision was made a priori to test age as a moderator of the relationship between type of action and product liking. Analysis of Variance revealed a significant age x condition interaction ($F_{(3,97)} = 3.090$; $p = .031$). Pairwise comparisons, using a Bonferroni adjustment for multiple tests, indicated the difference existed between the directed action commercial and the no action commercial (p. = .016).

An Analysis of Variance on each age subsample revealed that four-year-olds were the only age group that exhibited differential product liking scores across all three commercials ($F_{(2,32)} = 3.560$; $p = .041$) (see Table 14). However, an analysis of the directed action and random action commercials (removing the no action control) by age sub-sample revealed additional marginally significant differences ($\alpha = .10$) in the product liking scores exhibited by the three-year-olds ($F_{(1,21)} = 3.750$; $p = .067$) and the five-year-olds ($F_{(1,6)} = 5.714$; $p = .062$).

Table 14 -- Mean Product Liking (Age)

	Directed Action	Random Action	No Action	Total
2 Year Olds	1.71	2.00	1.67	1.81
3 Year Olds	1.00	1.55	1.75	1.44
4 Year Olds	1.20	1.36	2.08	1.58
5 Year Olds	1.50	1.00	2.00	1.50

Note: Lower mean scores indicate stronger liking

In summary, for preschool-aged children in this study, product liking scores appear to be dependent upon the direction of the character's action in the commercial. The nature of these condition differences varies with both the gender and the age of the child. Boys and girls respond differently to the direction of the action, as do different aged children.

Character/Product Association

H3: Children will exhibit the highest level of character/product association when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of character/product association.

Children participating in this study matched, or associated, the test character with the test product at a relatively high rate (64.1%) (see Table 15). Chi-Square analysis indicated no statistically significant differences between the commercials (X^2 = 3.774; p = .152). However, Pairwise comparisons of the commercials suggested that the differences between the random action commercial and the no action commercial were marginally significant (X^2 = 3.256; p = .071), but the differences

Table 15 -- Character/Product Association

	Directed Action	Random Action	No Action	Total
Association	22	18	26	66
(Row %)	(33.3%)	(27.3%)	(39.4%)	(100%)
(Col %)	(68.8%)	(51.4%)	(72.2%)	(64.1%)
No Association	10	17	10	37
(Row %)	(27.0%)	(45.9%)	(27.0%)	(100%)
(Col %)	(31.3%)	(48.6%)	(27.8%)	(35.9%)
Total	32	35	36	103
(Row %)	(31.1%)	(34.0%)	(35.0%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

between the other commercial pairings were not significant. Therefore, Hypothesis H3 is rejected.

Gender

Gender was tested as a potential moderator of the relationship between type of action and character/product association. Male study participants made correct character/product associations in 68.6% of the cases (see Table 16). The boys had the highest level of character/product association after viewing the commercial with no action, followed by the commercial with directed action. The random action commercial produced the lowest levels of character/ product association.

A Chi-Square analysis of the male sub-sample indicated that males showed significant differences in association levels between the commercial with random character action and the commercial with no character action ($X^2 = 4.062$; $p = .044$). These significant differences were not found between the directed action and random action commercials or between the directed action and no action commercials.

Table 16 -- Character/Product Association by Condition (Males Only)

	Directed Action	Random Action	No Action	Total
Association	12	9	14	35
(Row %)	(34.3%)	(25.7%)	(40.0%)	(100%)
(Col %)	(75.0%)	(50.0%)	(82.4%)	(68.6%)
No Association	4	9	3	16
(Row %)	(25.0%)	(56.3%)	(18.8%)	(100%)
(Col %)	(25.0%)	(50.0%)	(17.6%)	(31.4%)
Total	16	18	17	51
(Row %)	(31.4%)	(35.3%)	(33.3%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

The ability to associate the character and product appears to be depedent on the direction of the character's action for the boys, but association in the girls is not dependent upon the direction of character action.

Age

Age was also tested as a possible mediator. In general, ability to make the character/product association increased as age increased with 50.0% of two-year-olds, 54.3% of three-year-olds, 78.1% of four-year-olds, and 90.0% of five-year-olds making a correct association (see Table 17). Correlation analysis revealed a strong positive correlation between age and association (Pearson's = .287; sig. = .004).

Each age was divided into a separate subsample and commercials were tested in a pairwise format. The only statistically significant differences in commercials appeared to be for the youngest group. Two-year-olds showed the highest level of character/product association after viewing the commercial with character action directed on the product and the lowest level of association after viewing the

Table 17 -- Correct Character/Product Association (Age)

	Directed Action	Random Action	No Action	Total
2 Year Olds	6	2	4	12
(% Within Age)	(25.0%)	(8.3%)	(16.7%)	(50.0%)
3 Year Olds	4	6	9	19
(% Within Age)	(11.4%)	(17.1%)	(25.7%)	(54.3%)
4 Year Olds	8	8	9	25
(% Within Age)	(25.0%)	(25.0%)	(28.1%)	(78.1%)
5 Year Olds	4	2	3	9
(% Within Age)	(40.0%)	(20.0%)	(30.0%)	(90.0%)

commercial with random character action (Fisher's exact sig. = .015). These same patterns of difference were not significant for any other ages.

In summary, it appears that a child's ability to make a correct association between an advertised character and product is moderated the child's gender and age. Boys' ability to make the correct association appears to be dependent upon the direction of the character's action, whereas girls' behavior is not dependent upon the action. Additionally, it appears that age may only be related for the youngest children (2 year olds).

Product Preference (First Choice)

Study participants were asked to indicate product preference through the use of a scenario. The children were told to pretend that a babysitter would stay with them for a while and would bring snacks. The interviewer then suggested that the babysitter did not know what kind of snacks the child liked, but the child could

choose from one of four snacks. The child was asked to choose a desired snack from the set of product cards, then the scenario was repeated two more times.

Each time the child indicated a preference, that product was recorded. The first choice was then analyzed under the assumption that the child's first product choice would serve as a proxy for the child's highest preference product. No hypotheses were made for this variable however, since analysis was deemed necessary post hoc.

Chi-square analysis revealed that the children, in general, expressed very little preference (19.8%) for the test product on their first choice (see Table 18). A pairwise analysis of the conditions suggested that the only marginally significant difference in first choice preference was for the random action versus no action commercials ($X^2 = 3.44$; p = .063). No other differences between commercials were significant.

Table 18 – First Choice Product Preference

	Directed Action	**Random Action**	**No Action**	**Total**
Preference for test product	6	10	4	20
(Row %)	(30.0%)	(50.0%)	(20.0%)	(100%)
(Col %)	(18.8%)	(29.4%)	(11.4%)	(19.8%)
No preference for test product	26	24	31	81
(Row %)	(32.1%)	(29.6%)	(38.3%)	(100%)
(Col %)	(81.2%)	(70.6%)	(88.6%)	(80.2%)
Total	32	34	35	101
(Row %)	(31.7%)	(33.7%)	(34.6%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Gender

Gender was examined as a potentially influencing factor on first choice product preference. No differences were found between commercial conditions for males. Females expressed first choice product preference more after viewing the random action commercial, than they did after watching the directed action or no action commercials. A paired Chi-Square analysis between conditions suggested the differences between the random action commercial and the other two commercials were statistically significant (Fisher's exact sig. = .019 for random action vs directed action; Fisher's exact sig. = .029 for random action vs no action).

In general, it appears that the only factor affecting the study participants' first choice preference for the test product is gender. The female participants showed differences in preference, depending on the commercial viewed; however, the male participants did not exhibit significant differences between commercials. Age appears to have no bearing on first choice product preference.

Table 19 – First Choice Product Preference (Females Only)

	Directed Action	**Random Action**	**No Action**	**Total**
Preference for test product	1	8	2	11
(Row %)	(9.1%)	(72.7%)	(18.2%)	(100%)
(Col %)	(6.2%)	(44.4%)	(10.5%)	(20.8%)
No preference for test product	15	10	17	42
(Row %)	(35.7%)	(23.8%)	(40.5%)	(100%)
(Col %)	(93.8%)	(55.6%)	(89.5%)	(79.2%)
Total	16	18	19	53
(Row %)	(30.2%)	(34.0%)	(35.8%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Product Preference (Cumulative)

H4: Children will exhibit the highest level of product preference when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product preference.

Product preference was also measured through a summation of the number of times (out of three trials) the child pointed to the picture of the test product when given the opportunity to express preference. Each child was assigned a score from 0 to 3, reflecting a cumulated measure of preference reflecting the strength or consistency of preference.

In general, the study participants demonstrated little cumulative preference for the advertised test product so the overall preference mean is low (see Table 20). Product preference did not appear to be influenced by the direction of character action however, as these differences were not statistically significant ($F_{(2,100)} = .248$; $p = .781$). A Pairwise Comparisons analysis also found no differences between conditions. Therefore, Hypothesis H4 is rejected.

In summary, study participants displayed low preference for the test product

Table 20 -- Mean Product Preference

	Directed Action	Random Action	No Action	Total
Mean	.72	.68	.60	.66
St. Deviation	.68	.77	.65	.70
N	32	34	35	101

Note: Scale = 0 (no preference) - 3 (highest preference)

in general, and there do not appear to be any gender or age moderators of this preference.

Product Intention

H5: Children will exhibit the highest level of product intention when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product intention.

After viewing the commercials and participating in the interview, the study participants were told that each would have the opportunity to consume or take home one of the test products at a later time. Each child was asked to indicate which product he or she wanted the interviewer to bring back to the child. In general, the children participating in this study did not express high levels of intention for the test product with 82.5% indicating no intention for the test product. (see Table 21).

A Chi-Square analysis revealed no statistically significant differences in the responses ($X^2 = .512$; $p = .774$). Pairwise comparisons of the conditions corroborated this lack of difference. Therefore, the Hypothesis H5 is rejected.

In summary, both male and female study participants exhibited very low intention for the test product and there are no statistically significant indications of either gender or age as an influencing factor.

Table 21 - Product Intention by Condition

	Directed Action	Random Action	No Action	Total
Intention	6	7	5	18
(Row %)	(33.3%)	(38.9%)	(27.8%)	(100%)
(Col %)	(18.8%)	(20.0%)	(13.9%)	(17.5%)
No Intention	26	28	31	85
(Row %)	(30.6%)	(32.9%)	(36.5%)	(100%)
(Col %)	(81.3%)	(80.0%)	(86.1%)	(82.5%)
Total	32	35	36	103
(Row %)	(31.1%)	(34.0%)	(35.0%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Product Acquisition/Choice

H6: Children will exhibit the highest level of product choice when exposed to a commercial with random character action, followed by the commercial with character action focused on the product. Children viewing the commercial with no character action will exhibit the lowest level of product choice.

A time delay of between 0 and 42 days (mean = 12.84 days; standard deviation = 7.93) from the time of testing to the product choice was implemented into the study to mirror more realistic conditions. The 0 and 42 days cases were considered outliers and eliminated from the dataset for analysis of this variable.

During the choice situation, each child was presented with the opportunity to select one snack product from a choice of the four products seen during the interview. In general, the study participants did not choose the test product with much frequency (15.6%) (see Table 22). Expected cell frequencies were too low to provide confidence in a chi-square analysis, so the commercials were examined in a pairwise manner. These pairwise analyses did not provide evidence of statistically significant

Table 22 -- Product Choice by Condition

	Directed Action	Random Action	No Action	Total
Chose Test Product	5	3	7	15
(Row %)	(33.3%)	(20.0%)	(46.7%)	(100%)
(Col %)	(16.1%)	(9.4%)	(21.2%)	(15.6%)
Did Not Choose Test Product	26	29	26	81
(Row %)	(32.1%)	(35.8%)	(32.1%)	(100%)
(Col %)	(83.9%)	(90.6%)	(78.8%)	(84.4%)
Total	31	32	35	96
(Row %)	(32.3%)	(33.3%)	(34.4%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

differences between the commercials. Therefore, Hypothesis H6 is rejected. Analysis did not reveal any significant gender differences.

Age

Age was also tested as a moderating factor. Frequency analysis found that none of the two-, three-, or five-year-olds viewing the commercial with random character action chose the test product when given the opportunity (see Table 23). Pairwise comparisons and the use of the Fisher Exact Test indicated that the differences in product choice levels were marginally statistically significant ($\alpha = .10$) for the three-year-olds (Fisher's Exact sig. = .090) and for the four-year-olds (Fisher's Exact sig. = .087), but were not significant for the two- or five-year-olds.

In summary, test product choice among the study participants was very low. Differences between the children viewing different commercial conditions only appears to relate to age for the three- and four-year-olds.

Table 23 -- Chose Test Product (Age)

	Directed Action	Random Action	No Action	Total
2 Year Olds (% Within Age)	1 (4.35%)	0 (0.00%)	2 (8.70%)	3 (13.0%)
3 Year Olds (% Within Age)	3 (9.38%)	0 (0.00%)	3 (9.38%)	6 (18.75%)
4 Year Olds (% Within Age)	0 (0.00%)	3 (10.0%)	2 (6.67%)	5 (16.7%)
5 Year Olds (% Within Age)	1 (11.1%)	0 (0.00%)	0 (0.00%)	1 (11.1%)

Hierarchical Relationship

The Hierarchy of Effects model proposes that movement from awareness to product choice/acquisition occurs in a sequential order. A person must reside within each step of the hierarchy before moving to the next. Therefore, a person must have awareness before knowledge, knowledge before attitude (liking), attitude before intention, and intention must precede choice.

This study examined the relationship between variables in two ways: (1) by examining the correlation between the variables representing the steps in the Hierarchy of Effects model, and (2) by using the steps in the hierarchy as dependent variables and conducting a logistic regression analysis.

Variable Correlations

A bivariate correlation analysis suggests that the variables in the Hierarchy of Effect were related in two different structures, but not as a comprehensive model. There were significant correlations between the recognition, recall, and association

steps in the model, and between the preference, intention, and choice steps.

As expected, character recognition and character recall were strongly correlated ($\alpha = .01$), as was product recognition and product recall (see Table 24). Character recognition and product recognition were more weakly correlated ($\alpha = .05$), as was character recognition and product recall, and character recall and product liking. Interestingly, product liking and character liking were strongly correlated and character/product association is strongly correlated with product recognition and product recall, but not correlated at all with character recognition, character recall, character liking, or product liking. Character liking did not correlate with any other recognition, recall, or association variables, but product liking correlated with character recall.

There were no correlational links between character/product association and product preference. First choice preference was strongly correlated with product intention, as was cumulative preference (see Table 25). Product intention was

Table 24 –Correlation Matrix (Recognition, Recall, Liking and Association)

Variable	Char Recog	Char Recall	Char Liking	Prod Recog	Prod Recall	Prod Liking	Assoc
Char Recog	1.000						
Char Recall	.278**	1.000					
Char Liking	-.176	-.101	1.000				
Prod Recog	.241*	.177	.068	1.000			
Prod Recall	.241*	.368**	-.161	.304**	1.000		
Prod Liking	-.095	-.209*	.283**	.078	-.112	1.000	
Association	.178	.193	-.119	.418**	.415**	.049	1.000

** Correlation is significant at 0.01 (2-tailed)

* Correlation is significant at 0.05 (2-tailed)

Table 25 – Correlation Matrix (Preference, Intention, and Choice)

Variable	1st Choice Preference	Cumulative Preference	Product Intention	Product Choice
1st Choice Preference	1.000			
Cumulative Preference	.564**	1.000		
Product Intention	.418**	.226*	1.000	
Product Choice	.130	.030	.309**	1.000

** Correlation is significant at 0.01 (2-tailed)
* Correlation is significant at 0.05 (2-tailed)

strongly correlated with product choice. There was no direct correlation between product and choice.

In summary, correlation analysis provides a sketch of the relationships between the variables in the Hierarchy of Effects model. It appeared that the first steps and the last steps in the model held, but there were no links between association and preference.

Logistic Regression

Due to the hierarchical structure of the model, a series of logistic regression analyses were conducted to allow for sequential testing. The decision was made to start with the end of the hierarchy model and analyze each previous step for predictive power.

The first step in the logistic regression analysis was an examination of product choice. Variables in the Hierarchy of Effects model were entered as independent predictors and a forward stepwise regression was selected. Analysis suggested that the only significant predictor of product choice was product intention (see Table 26).

Table 26 – Regression Statistics (Product Choice)

Variable	B	S.E.	Sig.
Product Intention	1.8887	.6274	.0026
Constant	-2.1401	.3738	.0000

N = 92
Correctly Predicted = 83.70%

A test of the predictors of product intention was the next step in the hierarchy analysis. The logistic regression analysis revealed that the only predictive variables for product intention were product recognition (weak predictor) and cumulative preference (strong predictor) (see Table 27). Apparently, some preschool aged children may exhibit strong product intention simply as a result of product recognition, without going through any development of product knowledge, association, liking, or preference.

The next step in the Hierarchy of Effects model is product preference. Logistic regression analysis was conducted on both first choice preference and cumulative preference. Additionally, regression analysis was conducted on product intention to determine whether first choice or cumulative preference was the better predictor. Both first choice and cumulative preference exhibited significance in the

Table 27 – Regression Statistics (Product Intention)

Variable	B	S.E.	Sig.
Product Recognition	1.2269	.6934	.0768
Cumulative Preference	.8850	.4334	.0411
Constant	-3.4358	1.2247	.0050

N = 96
Correctly Predicted = 84.38%

intention model, but the beta coefficient for first choice preference was negative, so the decision was made to use cumulative preference.

A logistic regression analysis was conducted on cumulative preference, with both recognition, both recall, both liking, and the association variables entered into the equation. No significant predictors were found for cumulative preference. An examination of the distribution for the cumulative preference variable found a distribution highly skewed to the lower side. To compensate for this skewness, the variable was re-coded into a dichotomy (preference/no preference). Character/ product association, product liking, and character liking were then regressed onto this new preference variable (see Table 28).

The only variable that appeared to be a weak predictor of product preference was product liking. The negative coefficient was the result of the scaling of this variable with the positive endpoint as 1. An examination of the product liking and character liking variables found skewed distributions. As with the preference measure, the two liking variables were re-coded into dichotomies (like/dislike). This re-coding also removed the direction of the liking variables. These new dichotomous variables were again regressed onto the cumulative preference (dichotomous) dependent variable, and association was removed from the equation (see Table 29).

Table 28 – Regression Statistics (Cumulative Preference 1)

Variable	B	**S.E.**	**Sig.**
Product Liking	-.4551	.2603	.0804
Constant	.5516	.5752	.3376

N = 96
Correctly Predicted = 59.38%

Table 29 – Regression Statistics (Cumulative Preference 2)

Variable	B	S.E.	Sig.
Product Liking - dich	1.1225	.6539	.0860
Constant	-.9228	.7505	.2189

N = 97
Correctly Predicted = 61.86%

These regression results suggested that product liking was the only significant predictor of product preference, and it was a weak predictor. The analysis of the new dichotomous variables resulted in a slightly weaker significance level for product liking, but increased the predictive power of the overall model by approximately 2.5%.

An attempt was made to regress character and product recognition, character and product recall, and association as predictors for both character liking and product liking. No predictive models were found to explain liking.

The final equation regressed character recognition, character recall, character liking, product recognition, product recall, and product liking on character/product association. Results of this analysis suggested that the only predictive variables for character/product association were product recognition and product recall (see Table 30). Neither character recognition nor character recall exhibited significant predictive power for association.

In summary, it appears that product choice is best predicted by product intention, and product intention is best predicted by a consistent product preference (cumulative preference variable). However, it may be possible that some young children strive for

Table 30 – Regression Statistics (Character/Product Association)

Variable	B	S.E.	Sig.
Product Recognition	1.6324	.5158	.0016
Product Recall	1.4733	.4914	.0027
Constant	-.8729	.4930	.0766

N = 102
Correctly Predicted = 78.43%

familiarity and indicate intention for a product simply because it is recognized. Product preference is best predicted by product liking.

It is interesting to note that no significant predictive links are found between product liking or character liking and character/product association. Character/ product association however, seems to be driven completely by product recognition and recall. In this study, none of the character variables (recognition, recall, or liking) have any predictive power in the model.

SUMMARY OF STUDY 1 ANALYSIS

This chapter has presented the statistical analysis for the variables tested in Study 1. Only one of the proposed hypotheses (H2b) was partially supported and all other hypotheses were rejected. Additionally, the hierarchical structure of the tested model (Hierarchy of Effects) was not validated for this study.

Exploratory analysis did discover the presence of some interesting gender and age influences on preschoolers' product knowledge and preferences that suggest the need for further examination.

The next chapter presents the analysis of Study Two. Interpretations and discussions of both Study One and Study Two appear in Chapter Six.

CHAPTER 5

STUDY 2 ANALYSIS

INTRODUCTION

The purpose of this study was to examine the influence that the number (complexity) of different animated spokes-character vocalizations has on preschoolers' product knowledge and preferences. The primary research question was whether a preschool child's product memory and preferences are most affected when two spokes-characters speak to each other about the advertised product, when one spokes-character speaks to the other character about the advertised product without a returned response, or when neither spokes-characters speak and a voiceover is used.

Communications research with children and television suggests that an audiovisual format may present a unique aspect of information presentation because of the interaction between visual and verbal display. The combination of audiovisual features such as visual action, sound effects, music, and animation appear to attract and hold children's attention (Acuff and Reiher 1997; Alwitt, et. al. 1980; Fowles 1976a, 1976b; Greenfield 1984; Hays and Birnbaum 1980; Huston-Stein and Wright 1979; Wright and Huston 1983). However, young children still have very short attention spans and may rely on the aural/auditory portion of the program or commercial to cue their attention to the important visual information content (Anderson and Levin 1976; Pezdek and Hartman 1983).

Researchers have suggested that the attention attracting and attention cueing ability of audiovisual information relates to the complexity of the message stimulus (Berlyne 1957, 1960; Wartella and Ettema 1974; Watt and Krull 1974; Watt and Welch 1983; Welch and Watt 1982). Visual complexity typically refers to the number of objects or movement of objects in the visual field (Watt and Krull 1974, 1977; Watt and Welch 1983; Watt and Welch 1982; Huston, et. al. 1981; Alvarez, et. al. 1988). Auditory complexity is often conceptualized as both the number of changes in the level of frequencies or the number of different sounds heard on the aural channel (Thorson, Reeves, and Schleuder 1985; Watt and Welch 1983). A more complex message stimulus is thought to increase attention and retention of information presented.

This study holds constant the visual complexity, or amount of the character's physical action and the type of action (characters are shown consuming the product in every experimental condition). Although Study 1 hypothesizes that character action on the product will not promote as much attention and learning as random action, it is thought that the addition of an auditory component in this second study increases overall message complexity, and cues the child's attention to, and comprehension of, the product (central) message.

OVERVIEW OF STUDY

This study employed a post-test only experimental design with one "two-voice" experimental treatment condition, a "one-voice" condition that was counter-balanced (half the sample saw the dog speak and the other half of the sample saw the bear speak), and one "no-voice" control. As in Study One, the steps in a modified Hierarchy of Effects model were used as the dependent variables, with experimental condition as the independent variable.

Although a variety of stimulus complexity measures currently exist, the scope and research questions of this study are not necessarily congruent with previous measures. Therefore, message complexity is determined through the use of a subjective coding scheme (Thorson, *et. al.* 1985). Whereas Study 1 holds the verbal dimension constant in order to test effects of character action, Study 2 tests the opposite. The number of characters in the visual field (similar to Welch and Watt's (1982) static visual complexity) and the characters' action are held constant in this study while the number of characters speaking (similar to Thorson, *et. al.* (1985) and Watt and Welch (1983)) differs between conditions (verbal complexity). In all conditions, two characters are shown consuming the product.

Response Rate

As discussed in Chapters Three and Four, preschoolers enrolled at twelve child development centers in two cities were sampled for both Study One and Study Two. Center directors either provided the primary researcher with mailing lists of the

two- to five-year-olds' parents, or provided a number of children eligible for the research. Parent information packets were sent through the school to the parents of approximately 450 children. These packets contained a cover letter explaining the research, a parental consent form, and a child information form that was completed and returned to the researcher. Some child development center directors also provided parental letters discussing the school's participation in the research. Consents for participation were received from the parents of 214 (47.6%) children. Study One and Study Two were conducted simultaneously to allow for potential comparison.

Sample

The final test sample for Study Two consisted of 54 children ranging in age from 23 months to 60 months (mean = 42.23 months, std. dev. = 9.25). Two-year-olds made up 24.5 % of the sample. The largest represented age group was three-year-olds, who comprised 43.4% of the sample. Approximately twenty-eight percent (28.3%) of the sample were four years old and 3.8% were five years old. Forty-eight percent of the participating children were male and 51.9% were female.

The children were primarily identified by their parents as Caucasian (82.7%). Asian and African-American children comprised 3.8% of the sample each, whereas Hispanic children made up 1.9% of the sample. Parents identified 5.8% of the children as being of mixed race and 1.9% as other race. Study participants typically

came from predominately small families, with 82.7% reporting either one or two children households.

Parents were asked to estimate the number of hours per week the child typically spends watching television and videos. Television hours ranged from one to thirty (mean = 8.16 hours; mode = 5 hours). The range for video hours was between zero and twenty-one hours (mean = 5.79 hours; mode = 5 hours).

Analysis Strategy

Each variable was analyzed using the SPSS software package. Nominal-level data were subjected to both frequency and chi-square analysis. Expected cell frequencies lower than five in a standard chi-square analysis resulted in the use of the Fisher Exact Test, rather than a chi-square. The Fisher Exact Test is appropriate in this circumstance because: (1) It assumes independent samples; (2) It utilizes a chi-square distribution; (3) It provides an exact probability of occurrence; and (4) It compensates for the small expected cell frequencies (Streiner 1986). One drawback to the Fisher Exact Test however, is that it only allows for testing of two dichotomous variables so when necessary, 2 x 2 testing of variables was conducted. Interval-level data were analyzed using descriptive analysis and an ANOVA procedure.

An assumption was made that children's ability to respond may be related to gender, age, attention, and television viewing patterns. Unlike the first study where the purpose included exploration of these factors as moderators, the purpose of this second study was to simply to explore the relationship of the factors to the dependent

variables. The correlation of each of these potential factors with the dependent variables was explored using a Pearson Product Moment Analysis. Gender was not found to correlate with any other variable in this study, but age, attention, and television viewing patterns did correlate with some variables. Significant correlations are presented within the discussion of the dependent variables.

Analysis of each hypothesis is presented below. All variables were tested for strong significance at $\alpha = .05$, and any variable achieving marginal significance at $\alpha = .10$ is indicated.

ANALYSIS OF RESEARCH HYPOTHESES

This dissertation was a study of associational learning. Certain responses (increased product knowledge and preference) were posited to result from the association built through the repetitive pairing of a product (conditioned stimulus) with a spokes-character (unconditioned stimulus).

Since no previous studies provide direct predictions of the experimental treatments, the following hypotheses were based on the findings of related but different studies such as Alvarez, *et. al.* (1988), Huston, *et. al.* (1981), Wartella and Ettema (1974), Watt and Welch (1983), and Welch and Watt (1982). Given this research, the following hypotheses were proposed for this study:

Character Awareness/Recognition

H1a: *Children will exhibit the highest level of character awareness when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character awareness.*

A little more than half (57.4%) of the participants in Study Two recognized one or both of the characters appearing in the test commercials (see Table 31). Chi-Square analysis indicated that overall, the differences between commercial conditions were not statistically significant ($X^2 = 3.456$; p = .178). However, when the control (no voices) commercial were removed so only the two voices and one voice commercial were analyzed in a pairwise manner, the Chi-Square analysis suggested the presence of marginally significant differences ($X^2 = 3.243$; p = .072). The two voices commercial condition produced the highest recognition rates when compared to the one voice commercial. Because recognition within the one voice condition was not significantly different from the no voices control, Hypothesis H1a is only partially supported.

Table 31 – Character Recognition/Awareness

	Two Character Voices	One Character Voice	No Character Voices	Total
Recognition	14	7	10	31
(Row%)	(45.2%)	(22.6%)	(32.3%)	(100%)
(Col %)	(73.7%)	(43.8%)	(52.6%)	(57.4%)
No Recognition	5	9	9	23
(Row %)	(21.7%)	(39.1%)	(39.1%)	(100%)
(Col %)	(26.3%)	(56.3%)	(47.4%)	(42.6%)
Total	19	16	19	54
(Row %)	(35.2%)	(29.6%)	(35.2%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Character Knowledge/Recall

H1b: Children will exhibit the highest level of character knowledge when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character knowledge.

Descriptive analysis suggests that in general, children in this study had some difficulty recalling information about the characters seen in the commercials. On average, the children recalled approximately half of one character attribute (see Table 32). Children viewing the commercial with no character voices recalled the highest level of character information, while children viewing the commercial in which both characters visually appear but only one character talks, exhibited the lowest levels of character recall.

Analysis of Variance revealed the presence of a Condition main effect

Table 32 -- Mean Number of Character Attributes Recalled

	Two Character Voices	One Character Voice	No Character Voices	Total
Mean	.32	.25	.95	.52
St. Deviation	.67	.68	1.22	.95
N	19	16	19	54

($F_{(2,53)} = 3.292$; $p = .045$). Additional pairwise comparisons analysis indicated that the differences lay between the no voices commercial and both other commercials with character voices ($t = -2.144$; $p = .037$ for no voices vs two voices; $t = -2.263$; $p = .028$ for no voices vs one voice). The two voices and one voice commercials were further collapsed into a single "voice" condition and analyzed with the "no voice" condition. Results revealed that those children viewing the commercial with no voices exhibited higher levels of character recall than those children viewing a commercial with one or more character voices ($t = 2.581$; $p = .013$). Because these results were in a direction counter to that hypothesized, Hypothesis H1b is rejected.

Character Liking

H1c: Children will exhibit the highest level of character liking when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character liking.

Character liking was measured by asking each child for a liking score for the bear and a liking score for the dog (see Table 33). Liking was indicated on a pictorial

Table 33 -- Mean Character Liking

	Two Character Voices	One Character Voice	No Character Voices	Total
Mean	2.118	2.063	1.947	2.038
St. Deviation	1.039	.892	.911	.933
N	17	16	19	52

Note: Lower mean scores indicate stronger liking

scale of 1 (Strong Like) to 4 (Strong Dislike). These scores were averaged to create a mean liking score for character.

Generally, the preschool study participants held a relatively positive liking for the character(s) appearing in the test commercials. Analysis of Variance did not indicate the presence of a Condition main effect ($F_{(2,51)} = .152$; $p = .860$), nor did pairwise comparisons analyses suggest significant differences between commercial conditions. Given the direction of this character liking measure, along with the lack of significance, Hypothesis H1c is rejected.

Viewing Pattern Correlate

Parents were asked to estimate an average number of hours per week that their child watches television and videos. There was a negative correlation between the number of hours of videos watched and character liking (Pearson = -.282; sig = .047). This negative correlation may be attributed to children's growing sophistication with regards to animation. Many children own and frequently watch videos of animated movies such as those produced by Disney. The more hours a child spends watching these videotapes, the more sophisticated and perhaps more critically evaluative the

child may become. A child familiar with the technical advances of Disney animation may not respond as positively to an amateur animation such as that used in this research.

Product Awareness/Recognition

H2a: Children will exhibit the highest level of product awareness when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product awareness.

Frequency analysis suggested that the preschool study participants had a difficult time recognizing the product advertised in the test commercials. Only 38.9% of the children recognized the product (see Table 34). Chi-Square analysis suggested that the differences in recognition levels between the three commercials were not statistically significant ($X^2 = 2.330$; $p = .312$). Additional pairwise testing of the commercials did not provide evidence of significant differences either. Therefore, Hypothesis H2a is rejected.

Table 34 – Product Awareness/Recognition

	Two Character Voices	One Character Voice	No Character Voices	Total
Recognition	6	5	10	21
(Row%)	(28.6%)	(23.8%)	(47.6%)	(100%)
(Col %)	(31.6%)	(31.3%)	(52.6%)	(38.9%)
No Recognition	13	11	9	33
(Row %)	(39.4%)	(33.3%)	(27.3%)	(100%)
(Col %)	(68.4%)	(68.8%)	(47.4%)	(61.1%)
Total	19	16	19	54
(Row %)	(35.2%)	(29.6%)	(35.2%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Product Knowledge/Recall

H2b: Children will exhibit the highest level of product knowledge when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product knowledge.

In general, study participants had difficulty providing recall information of product attributes seen in the test commercials. On average, the children recalled well below one attribute (see Table 35). Analysis of Variance indicated these differences in recall levels between commercial conditions were not statistically significant ($F_{(2,53)} = .238$; $p = .789$). Additional pairwise comparisons did not find evidence of significant differences either. Therefore, Hypothesis H2b is rejected.

Table 35 -- Mean Number of Product Attributes Recalled

	Two Character Voices	One Character Voice	No Character Voices	Total
Mean	.26	.38	.26	.30
St. Deviation	.45	.72	.45	.54
N	19	16	19	54

Age Correlation

This study was based on the assumption that age may have some role in a child's ability to answer some of the interview questions. A bivariate correlation analysis confirmed a positive relationship between age and product recall (Pearson = .397; sig. = .003). The older children were able to recall more information than the younger children in the study.

Product Liking (Fruit Snacks)

H2c: Children will exhibit the highest level of product liking when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product liking.

As with the Character Liking variable, Product Liking was measured by the use of a four-point pictorial scale (1 = Strongly Like; 4 = Strongly Dislike) (see Table 36). Children were asked to point to the "smiley face" or the "frowny face" on the card that showed how much the child liked each of the products used in the study.

Table 36 -- Mean Product Liking

	Two Character Voices	One Character Voice	No Character Voices	Total
Mean	1.44	1.75	2.00	1.74
St. Deviation	.98	1.13	1.29	1.15
N	18	16	19	53

Note: Lower mean scores indicate stronger liking

Generally, the children indicated positive liking for the advertised product (fruit snacks). Although the liking scores appeared to be in the direction hypothesized, an Analysis of Variance did not find evidence of a Condition main effect ($F_{(2,52)} = 1.092$; $p = .344$). Pairwise comparisons did not support differences between the commercials either. Therefore, Hypothesis H2c is rejected.

Viewing Pattern Correlation

A strong negative correlation was found between the number of hours (per week) of television watched and product liking (Pearson = -.394; sig = .005). This correlation may suggest that those children who watch more television express less liking for the products they see advertised. Perhaps as children watch more television and are exposed to a greater number of advertised products they learn to filter many of the commercial messages and learn to better evaluate the products seen on television commercials. However, caution is advised when interpreting this correlation because television viewing hours is strongly correlated with age (Pearson = .282; sig. = .004). It could be that increasing evaluative skills are simply related to increasing age, not television viewing (note: see "Correlates" in the Cumulative

Product Preference results section).

Character/Product Association

H3: *Children will exhibit the highest level of character/product association when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of character/product association.*

Because this study utilized two different animated spokes-characters, character/product association was measured as the child's ability to match a picture of either one of the characters, or both the characters to a picture of the advertised product. No attempts were made to record association of characters individually.

Slightly less than half (48.1%) of the children participating in this study made a correct association between at least one of the characters and the advertised product (see Table 37). Chi-Square analysis suggested that none of the differences between commercial conditions were statistically significant ($X^2 = 1.125$; $p = .570$). Pairwise testing of the commercials did not support differences either. Therefore, Hypothesis H3 is rejected.

Product Preference (First Choice)

Product preference was measured by giving each child a scenario of having a baby sitter come over to stay for a while. The child was told the babysitter would bring a snack to the child, but she did not know what kind of snack the child liked.

Table 37 – Character/Product Association

	Two Character Voices	One Character Voice	No Character Voices	Total
Association	8	7	11	26
(Row%)	(30.8%)	(26.9%)	(42.3%)	(100%)
(Col %)	(42.1%)	(43.8%)	(57.9%)	(48.1%)
No Association	11	9	8	28
(Row %)	(39.3%)	(32.1%)	(28.6%)	(100%)
(Col %)	(57.9%)	(56.3%)	(42.1%)	(51.9%)
Total	19	16	19	54
(Row %)	(35.2%)	(29.6%)	(35.2%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

The child was shown the four product pictures and asked which snack he or she would like to have, if those were the choices the babysitter brought.

A post hoc decision was made to examine the children's first choice of product, under the assumption that first choice serves as a proxy for the most preferred product. No hypotheses were proposed for this variable.

Approximately one-third (35.2%) of the study participants chose the advertised product as their first choice (see Table 38). A Chi-Square analysis suggested there were no statistically significant differences between the three commercial conditions ($X^2 = 1.193$; $p = .551$). Additional chi-square tests of pairs of commercial conditions did not find evidence of differences either.

Table 38 – First Choice Product Preference

	Two Character Voices	One Character Voice	No Character Voices	Total
Preferred test product	7	7	5	19
(Row%)	(36.8%)	(36.8%)	(26.3%)	(100%)
(Col %)	(36.8%)	(43.8%)	(26.3%)	(35.2%)
Did not prefer test product	12	9	14	35
(Row %)	(34.3%)	(25.7%)	(40.0%)	(100%)
(Col %)	(63.2%)	(56.3%)	(73.7%)	(64.8%)
Total	19	16	19	54
(Row %)	(35.2%)	(29.6%)	(35.2%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Product Preference (Cumulative)

H4: Children will exhibit the highest level of product preference when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product preference.

As in Study One, product preference was measured through a summation of the number of times (out of three trials) the child pointed to the picture of the test product when given the opportunity to express preference. Each child was assigned a score from 0 to 3, reflecting a cumulated measure of preference, reflecting the strength or consistency of preference.

The average preference score for study participants was approximately one (.98) (see Table 39). Most children chose the test product once out of their three opportunities to express preference. Children viewing the commercial with one

character voice exhibited a higher rate of product preference, followed by the children viewing the commercial with two character voices. The commercial with no character voices elicited the lowest rate of product preference.

Analysis of Variance revealed these differences were marginally significant ($F_{(2,53)} = 2.443$; $p = .097$). Additional pairwise comparison analysis indicated the difference lay only between the one voice commercial and the no voices commercial ($t = 2.145$; $p = .037$). Although these differences were significant, they were only partly in the direction proposed. The two character voices commercial facilitated a higher product preference score than the no voices control (hypothesized), but the one voice commercial garnered the highest product preference score of all three conditions (counter to hypothesis). Therefore, Hypothesis H4 is partially supported.

Correlates

A bivariate correlation analysis confirmed that there was an inverse relationship between age and product preference (Pearson = -.279; sig. = .043). The older children exhibited less cumulative preference for the advertised product than the younger children.

Table 39 – Product Preference (Cumulative)

	Two Character Voices	One Character Voice	No Character Voices	Total
Mean	.89	1.38	.74	.98
St. Deviation	.66	1.15	.81	.90
N	19	16	19	54

Additionally, a negative correlation was found between the number of hours of television watched and cumulative preference (Pearson = -.331; sig. = .018). As with the product liking variable, those children who watch more television may be exposed to a larger variety of products and may develop the ability to evaluate advertised products and may actually express less desire and preference for those products.

Product Intention

H5: *Children will exhibit the highest level of product intention when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product intention.*

After viewing the commercials and participating in the interview, the study participants were told that each would have the opportunity to consume or take home one of the test products at a later time. Each child was asked to indicate which product he or she wanted the interviewer to bring back to him or her.

In general, the children participating in this study expressed intention for the test product less than half of the time (42.6%), but higher than the 25% intention rate that would be expected by chance (see Table 40). Chi-Square analysis failed to find any significant differences in product intention between the three commercial conditions ($X^2 = 1.210$; p = .546). Pairwise chi-square tests also failed to find any

Table 40 – Intention for Test Product

	Two Character Voices	One Character Voice	No Character Voices	Total
Intention for test product	7	6	10	23
(Row%)	(30.4%)	(26.1%)	(43.5%)	(100%)
(Col %)	(36.8%)	(37.5%)	(52.6%)	(42.6%)
No intention for test product	12	10	9	31
(Row %)	(38.7%)	(32.3%)	(29.0%)	(100%)
(Col %)	(63.2%)	(37.5%)	(47.4%)	(57.4%)
Total	19	16	19	54
(Row %)	(35.2%)	(29.6%)	(35.2%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

significant differences. Therefore, Hypothesis H5 is rejected.

Product Acquisition/Choice

H6: Children will exhibit the highest level of product choice when viewing the commercial in which both spokes-characters visually appear and talk about the product, followed by the commercials in which both spokes-characters visually appear but only one character talks about the product. Children viewing the commercial in which both spokes-characters visually appear, but neither character talks about the product (voiceover), will exhibit the lowest level of product choice.

A time delay of between 0 and 19 days (mean = 7.11 days; standard deviation = 4.63) from the time of testing to the product choice was implemented into the study to mirror more realistic conditions and time delays between exposure to a commercial and an actual product choice situation. Approximately fifty percent (50.9%) of the participants made their choice less than one week following the test date and 49.1% of the participants chose between one and two weeks after testing. During the choice

situation, each child was presented with the opportunity to select one snack product from a choice of the four products seen during the interview.

In general, less than half (42.6%) of study participants chose the advertised product, when given the opportunity to either consume or take home an actual snack product (see Table 41). However, as with product intention, this choice rate is still higher than the 25% expected by chance. Chi-Square analysis did not find evidence of any statistically significant differences in product choice between commercial conditions ($X^2 = .618$; $p = .734$). Additional pairwise analysis of commercial conditions corroborated this lack of differences. Therefore, Hypothesis H6 is rejected.

Table 41 – Product Choice

	Two Character Voices	**One Character Voice**	**No Character Voices**	**Total**
Chose test product	8	8	7	23
(Row%)	(34.8%)	(34.8%)	(30.4%)	(100%)
(Col %)	(42.1%)	(50.0%)	(36.8%)	(42.6%)
Did not choose test product	11	8	12	31
(Row %)	(35.5%)	(25.8%)	(38.7%)	(100%)
(Col %)	(57.9%)	(50.0%)	(63.2%)	(57.4%)
Total	19	16	19	54
(Row %)	(35.2%)	(29.6%)	(35.2%)	(100%)
(Col %)	(100%)	(100%)	(100%)	(100%)

Note: The potential relationship between product choice and time delay was considered. A bivariate correlation analysis failed to find any statistically significant relationship though.

Hierarchical Relationship

The Hierarchy of Effects model proposes that movement from awareness to product choice/acquisition occurs in a sequential order. Therefore, a person has product awareness before product knowledge, product knowledge before product attitude (liking), product attitude before product intention, and product intention precedes product choice. Because this dissertation focuses on the influence of animated spokes-characters on children, spokes-character components (awareness, knowledge, attitude, and character/product association) were added to the hierarchy model.

As in Study One, this study examined the relationship between variables in two ways: (1) by examining the correlation between the variables representing the steps in the Hierarchy of Effects model, and (2) by using the steps in the hierarchy as dependent variables and conducting a logistic regression analysis.

Variable Correlations

The same two correlational structures found in Study One were found in this analysis (see Table 42). There were significant correlations between the recognition, recall, and association steps in the model and between the preference, intention, and

Table 42 –Correlation Matrix (Recognition, Recall, Liking and Association)

Variable	Char Recog	Char Recall	Char Liking	Prod Recog	Prod Recall	Prod Liking	Assoc
Char Recog	1.000						
Char Recall	.396**	1.000					
Char Liking	-.319*	-.077	1.000				
Prod Recog	.226	.410**	-.118	1.000			
Prod Recall	.269*	.269*	-.160	.341*	1.000		
Prod Liking	-.103	.088	.155	.181	.069	1.000	
Association	.155	.218	-.165	.296*	.021	-.113	1.000

** Correlation is significant at 0.01 (2-tailed)
* Correlation is significant at 0.05 (2-tailed)

choice steps. However, a correlational link between association was not found.

As expected, character recognition and character recall were strongly correlated ($\alpha = .01$), but product recognition and recall were more weakly correlated ($\alpha = .05$). Product recall was related to both character recognition and character recall, but product recognition was only related to character recall. Character liking was weakly correlated with character recognition but no correlational relationships were found for product liking. The only predictive variable for character/product association was product recognition.

As in Study One, there were no correlational links between character/product association and product preference. First choice preference and cumulative preference, product intention, and product choice were all strongly correlated with each other (see Table 43).

In summary, correlation analysis provides an idea of the relationships between the variables in the Hierarchy of Effects model. As in Study One, the first steps and

Table 43 – Correlation Matrix (Preference, Intention, and Choice)

Variable	1st Choice Preference	Cumulative Preference	Product Intention	Product Choice
1st Choice Preference	1.000			
Cumulative Preference	.667**	1.000		
Product Intention	.542**	.396**	1.000	
Product Choice	.542**	.438**	.394**	1.000

** Correlation is significant at 0.01 (2-tailed)

the last steps in the model held, but there were no links between association and preference in the middle of the model.

Logistic Regression

As in Study One, a series of logistic regression analyses were conducted to allow for sequential testing. Given the lack of predictive power of the character variables in Study One, the decision was made to test this model in a forwards manner and eliminate weak variables along the way.

The first logistic regression analysis was conducted using character/product association as the dependent variable with character and product recognition, recall, and liking variables as the independent variables (see Table 44). As found in Study One, the character recognition, character recall, and character liking variables did not provide predictive power for character/product association. The only variable that appeared to have any influence on association was product recognition, and even this relationship was weak.

Table 44 – Regression Statistics (Character/Product Association)

Variable	B	S.E.	Sig.
Product Recognition	1.2031	.6779	.0760
Constant	-.7218	.4722	.1263

N = 54
Correctly Predicted = 66.67%

A logistic regression test was conducted to determine the predictors of product liking. Product recognition and product recall were entered into the equation as independent variables. As in Study One, no significant predictors of product liking were found.

The next step in the hierarchy analysis was testing of product preference. Again, the distributions of cumulative product preference, product liking, and character liking were skewed, so each was recoded into a dichotomous variable.

The logistic regression analysis used product preference as the dependent variable and product recognition, product recall, and product liking (dichotomous) were entered as the independent variables (see Table 45). Analysis revealed that the only significant predictor of product preference was product liking, and it was a very strong predictor.

A logistic regression on product intention followed. (see Table 46). Product

Table 45 – Regression Statistics (Product Preference)

Variable	B	S.E.	Sig.
Product Liking	2.2417	.7869	.0044
Constant	-.8815	.7754	.2556

N = 53
Correctly Predicted = 77.36%

Table 46 – Regression Statistics (Product Intention)

Variable	B	S.E.	Sig.
Product Recognition	1.4243	.7805	.0680
Product Recall	-1.6955	.8675	.0507
Constant	-1.7971	.9690	.0636

N = 53
Correctly Predicted = 60.38%

recall, product recognition, product liking, and product preference were regressed onto product intention. Interestingly, product preference dropped out of the model and the results indicated that product recognition and product recall were the only predictors of product intention. Both predictors were weak, and product recall was negatively correlated with product intention.

The last regression equation tested product choice as the dependent variable with product intention as the predictor (see Table 47). Product intention still proved to be a strong predictor of product choice, as expected.

The decision was made to examine the possibility of the effects of cumulative product preference (non-dichotomous) on product choice, so a new logistic regression test was conducted using product intention and cumulative preference (see Table 48).

Interestingly, when both cumulative preference and product intention were entered into the model, the predictive power of the overall model increased, the

Table 47 – Regression Statistics (Product Choice 1)

Variable	B	S.E.	Sig.
Product Intention	1.6847	.6001	.0050
Constant	-1.0561	.4105	.0101

N = 54
Correctly Predicted = 70.37%

Table 48 – Regression Statistics (Product Choice 2)

Variable	B	S.E.	Sig.
Cumulative Preference	.9965	.4442	.0249
Product Intention	1.2247	.4442	.0593
Constant	-1.8100	.5614	.0013

N = 54
Correctly Predicted = 72.22%

power of intention decreased, and cumulative preference became another significant predictor of choice.

In summary, it appeared that product choice was best predicted by product intention and cumulative product preference. This predictability of cumulative preference is not surprising given that this variable serves as a proxy for consistency of preference. It is interesting to note however, that product preference was not a significant predictor for product intention. Intention appeared to be best described in relation to product recognition and product recall.

Preference was determined by product liking, though liking could not be predicted by the other variables in the Hierarchy of Effects model. As in Study One, none of the character variables served as predictors of character/product association.

SUMMARY OF STUDY 2 ANALYSIS

This chapter has presented the statistical analysis for the variables tested in Study Two. Only two of the proposed hypotheses were partially supported (H1a and H4) and all other hypotheses were rejected. Interestingly, age and regular viewing

patterns were found to correlate with several of the variables such as product recall, liking, and preference. Again, the Hierarchy of Effects Model does not apparently hold for this study either. Interpretation and discussion of both these findings, and those of Study One are found in the following chapter.

CHAPTER 6

DISCUSSION

INTRODUCTION

The purpose of this chapter is to provide a final discussion and interpretation of the findings of this research project. The first chapter provided an overview of the issues surrounding children as consumers. It introduced the need for further examination of preschool aged consumers (who are often ignored in child consumer studies) and discussed the factors that influence these children's consumer decisions, in particular, animated spokes-characters. The second chapter of this dissertation presented a variety of developmental psychology, information processing, marketing, communications, and social psychology theories that provide a better understanding of why preschool children behave the way they do in consumer situations. The second chapter also presented the theoretical propositions upon which this dissertation was based.

The third chapter presented an overview of the two studies that comprise this research, the hypotheses that were tested, and the methodology and process of the two research studies. The fourth and fifth chapters presented the results of Study One and Study Two, respectively.

This chapter examines those results and provides a discussion of the research findings regarding the tested variables. This chapter posits linkages both between the

two studies and between the studies and previous literature and research. Additionally, this chapter presents implications of the study findings for practitioners, child advocates, and researchers. It also discusses limitations of the current studies and suggests topics for future research in this area.

PURPOSE OF THE RESEARCH

The use of a spokes-character to promote products to children has been hotly debated for the past twenty years. Spokes-characters may be an effective way to establish brand awareness and build positive brand associations in children. However, if spokes-characters are influential in the formation of a child's product knowledge and ultimately, product preferences, these characters could be used to promote non-socially desirable consumer behaviors in children, or even promote the consumption of harmful products (as argued by many child advocates).

Studies of the relationship between spokes-characters and children and the influencing ability the characters have over children have been generally inconclusive. Children have been shown to have relatively high recognition of spokes-characters (Bahn 1984, 1986; Fisher, *et. al.* 1991; DiFranza, *et. al.* 1991; Henke 1995; Mizerski 1995), but the influencing power of spokes-characters has not yet been substantiated (Henke 1995; Macklin 1986b; Mizerski 1995; Reeves and Greenberg 1977). The only study that links spokes-characters to consumption was a time series analysis of the spending for the R. J. Reynolds Joe Camel campaign,

market share data, and usage surveys on adolescent cigarette smoking (Pollay, *et. al.* 1996).

The purpose of this research was to further contribute to the debate by examining the effects of two particular characteristics of animated spokes-character advertising on children's product knowledge and preferences: direction of spokes-character action and auditory complexity. The differences between this research and past research, however, are significant. First, this research examines spokes-characters' influence on preschool aged children (2 – 5 years old), assuming that these children would be at highest risk for influence because of their limited cognitive abilities. Second, this research uses both unique spokes-characters and unique product brands, unseen previously to the children, to control for pre-determined character and product attitudes and preferences.

Third, because previous research has failed to produce any explanations for "why" a spokes-character might be influential to children, this research examines two particular spokes-character attributes, suggested by communications research as having greater potential to attract and hold a young child's attention. Fourth, this research uses a Hierarchy of Effects model, an often accepted typology of the process by which a consumer develops product knowledge, preference, and ultimately chooses a product. No research studies to date have followed the entire process from character recognition to product choice, they have only proposed that character recognition and recall influence product attitudes and product choice.

The first study in this dissertation examined the referent of the animated spokes-character's action and determined whether a preschool child's product memory and preferences were most influenced when the spokes-character acts in a manner associated with the advertised product, performs a random action unrelated to the product, or performs no action at all. The second study investigated the influence that the number of different animated spokes-character voices (auditory complexity) have on preschoolers' product memory and preferences and determined whether the child retained more information after hearing two character voices, one character voice, or no character voices.

EXAMINATION OF THE VARIABLES

A modified version (see Chapter Three) of the Hierarchy of Effects model proposed by Lavidge and Steiner (1961) was used as the structure for both studies in this dissertation. The steps in the hierarchy were proposed as the dependent variables and the assumption was made that children move linearly from character/product awareness to product choice or acquisition.

Awareness → Knowledge → Liking → Preference → Intention → Acquisition

An intermediate step of character/product association was proposed as an important factor between knowledge and liking. A discussion of each step in the hierarchy and the resulting test findings are presented.

Character Awareness/Recognition

In general, preschool aged children exhibited relatively high spokes-character awareness, considering the children only saw the spokes-character three times in one fifteen minute time period. In both studies, more than half of the children recognized the spokes-characters seen in the test commercials, although recognition levels were higher for children in Study One (77.7%) than for children in Study Two (57.4%). However, within each study, there did not appear to be significant differences in recognition levels between the experimental conditions, except in Study Two where there was a marginally significant difference between the two-voice condition and the one-voice condition.

Interestingly, some children in Study One, upon recognition of the test character, offered open-ended information about the character or commercial, that was not prompted by the interviewer. For example:

He said he got snack

I saw a cheese mouse

Here he is! Hey, that looks like Sparky! (note: the character's name was Squeeker)

Hey, that's the guy who was on

There's the Cheezies again

Oh, he was eating Cheezies

No additional comments were offered upon recognition of Study Two characters however.

Relatively high levels of visual character recognition were expected in these studies, given the suggestion by communications researchers that animation serves as an attention-attracting device for young children (Acuff and Reiher 1997; Alwitt, *et. al.* 1980; Greenfield 1984; Hayes and Birnbaum 1980; Huston-Stein and Wright 1979; Krull and Husson 1979; Wright and Houston 1983). Young children may also pay more attention to animated commercials because they develop a schema associating animation with "children's television" (Greenfield 1984; Wright and Huston 1983; Young 1990). Consumer behavior researchers as well support this notion of preschoolers' reliance on visual information because verbal information is more difficult to process (Macklin 1983, 1986a, 1987b; Perrachio 1993; Rossiter 1976).

Perhaps the most interesting finding of this examination of character recognition is the possibility of gender differential responses. Gender differences in children's attention to character action have been proposed in the past, and were tested as a moderator of the relationship between character action and recognition in Study One. Males responded much more strongly to the commercial in which the spokes-character is shown eating the product than to the other commercials showing

different character action. Females, however, did not show statistically significant differences between the types of character action portrayed in the commercials.

Age may also play a moderating role in character recognition. In Study One, the two-year-olds had significantly higher character recognition levels after viewing character action than they did after viewing the commercial with no action. The other age groups (3, 4, and 5) did not vary across conditions in character recognition.

Not surprising, attention also appeared to influence the level of character recognition in the study participants. Children identified as being highly attentive to the program and commercials had greater recognition of the character after viewing a commercial with character action directed on the product, than they did for the no character action control. There was no variance across conditions in character recognition for children identified as moderate and minimal attention.

Character Knowledge/Recall

As expected, preschool children in both Study One and Study Two exhibited relatively low levels of character recall. Language skills develop and refine with age, and younger children typically have more difficulty expressing themselves verbally, than do older children (Piaget 1951/1929; Piaget and Inhelder 1969).

This task was difficult for the preschool aged children, and most participants said they could not remember anything about the characters in the commercials. If the child did not offer free recall of the character(s), interviewers were instructed to prompt recall by asking the child if he or she saw a mouse (Study One) or a dog or

bear (Study Two). Even with prompting, most children were still unable to recall any memory or knowledge of the character or character attributes. After viewing the Study One commercials, children typically recalled short bits of easily perceptible character information such as:

- Mouse
- Cheese
- Blue (mouse's color)
- Eating cheese/ talking about cheese
- Bakery (commercial referred to product coming from a bakery)

Children in Study Two typically only recalled the types of animals appearing in the commercials:

- Dog
- Bear

A few children were able to recall substantially more information about the character in the test commercials. In Study One for example, children gave the following descriptions of the character or the commercials:

He was jumping / he played

I saw a mouse that said "Cheezie"

He had a commercial about cheese

He liked to eat cheese stuff

The level of detailed explanations of the characters and commercials recalled in Study One were not found with Study Two. The most complex descriptions given were:

A bear came and a dog came

I saw a dog on the commercial

He stood there

Interestingly, although children participating in Study One retained more detailed information than Study Two children did, only Study Two children exhibited differential levels of character recall information between experimental conditions. The referent of the character's action appears to play little part in character recall, but the existence of character voices heard in the commercials does. Those children viewing the commercial with no character voices had significantly higher levels of character recall than the children hearing two voices. Perhaps the presence of voices, especially multiple character voices, is distracting to young children and prevents the retention of information.

Communications research suggests that young children may exhibit a threshold of visual stimulus complexity beyond which, comprehension of information diminishes (Watt and Welch 1983; Welch and Watt 1982; Wright, *et. al.* 1984). Although the combination of visual and auditory complexity may increase a child's attention to a stimulus (Calvert *et. al.* 1982; Huston-Stein and Wright 1979) perhaps a

threshold exists for combined audiovisual complexity as well. If this threshold exists, adding increasing aurally complex components to a commercial with a spokes-character (which already has a high attention-attracting visual component) may actually cause decreasing ability to recall character information.

Another interesting finding was in Study One, children who normally watched more television on average, exhibited significantly higher recall of character attributes than children who watch less television. This could be an indication that children who have more exposure to and experience with television learn to discriminate and retain information about the television program than those children who do not view much television. However, this relationship should be interpreted with extreme caution. The average number of television hours viewed was highly correlated with age. Older children watch more television than younger children; therefore, it is very difficult to determine if the increase in character recall results from television viewing, from increasing cognitive abilities that come with age, or from the youngest children's inability to communicate as effectively as the older children.

As suggested by developmental psychologists, care must be taken when using recall ability as a measure of cognitive ability. One of the greatest criticisms of using interviewing techniques in research with young children is the tendency to underestimate cognitive ability because of the lack of linguistic skills (Flavell 1965; Henke 1995; Macklin 1985a; Macklin 1986a, 1987b; Meadows 1993; Rossiter 1976; Scammon and Christopher 1981) Therefore, it is difficult to determine if the

differences in two-year-olds' recall abilities are more related to age or experimental condition. Additionally, the fact that recall was only prompted with a simple question of whether the child had seen a mouse/dog/bear may have also contributed to lower levels of recall than may have resulted from more elaborate or detailed aiding or prompting.

Although difficulties surround the use of recall measures in research with children, this technique has been used previously (Macklin 1996) and is still the best method of determining awareness with children.

Product Awareness/Recognition

Product recognition was more difficult for the children than character recognition. Approximately half of the children in Study One and less than half of the Study Two children recognized the advertised product, when shown a picture.

Perhaps the children's lack of product recognition could be explained as resulting from the commonly cited tendency for young children to process incidental information (character) at the exclusion of central information (product) (John and Sujan 1990; Raju and Lonial 1990; Roedder 1981). Research has suggested that adults may process peripheral, cosmetic, or source stimuli in certain situations (e.g., low motivation) rather than paying attention to central or message content stimuli (Petty and Cacioppo 1986; Schumann, Petty, and Clemons 1990). This same notion might apply to children and may better explain children's higher processing of source

cues since children have fewer abilities, and perhaps motivation, to process complex information.

The only factor that seems to affect product recognition is gender. As in character recognition, showing the spokes-character acting on the product produces a higher level of product recognition for boys, but this influence is not apparent with the girls, supporting the findings of Alvarez, *et. al.* (1988) and Wright, *et. al.* (1984). The results of this research imply a differential effect for males' and females' product recognition; however, this effect was not directly tested. As yet, no studies have suggested a reason for these gender differences.

One other note, communications researchers have suggested that the use of a spokes-character may actually re-direct a child's attention to the important consumer information (Calvert, *et. al.* 1982; Greenfield 1984; Huston-Stein and Wright 1979). This appears to be the case for the males in Study One. The boys viewing the commercial showing the character acting on the product exhibited the highest level of product recognition, and this recognition was significantly higher than the recognition produced by the boys viewing the commercial with random character action. These results support the findings of Macklin (1996) that children have an easier time remembering brand names, when then those brand names are paired with visual cues that are congruent with the brand name (e.g., bees and "Honeys"). Using a spokes-character to act in a manner consistent or congruent with the product (e.g., mouse and cheese crackers) serves as a visual cue to aid memory retention of product/brand names.

Product Knowledge/Recall

As with product recognition, study participants had more difficulty expressing product recall information than they did expressing character recall. Product recall information tended to be less detailed than character information. For example, in Study One, product attributes typically recalled included:

- Cheezies (brand name)
- Cheese

and more detailed explanations were offered for both studies including:

There was this little commercial with this guy...and there was about they treated crackers from the bakery. Something like that. -- Study One

He says cheese is good for you – Study One

[the mouse] was eating them because they were snacks – Study One

There was one grapey and one orangey – Study Two (the fruit snacks were shown to be different colors and the commercial script included dialogue about the different fruit flavors, including grape)

Product recall may have been more limited than character recall because of the inherent abstract presentation of the product as compared to the character. This research specifically used product category names, rather than brand names, to reduce pre-determined brand attitudes. The pictures of products shown in the experimental commercials were abstract in nature (e.g., red box with slice of cheese on it; pile of brightly colored round candies). The characters, on the other hand, were much larger and had distinctive, visually

perceptible characteristics. Products, in general, tend to have more abstract qualities than do persons or characters, which may limit the encoding of important product information for young children who have difficulty processing abstract concepts. Again, this result supports Macklin's (1996) finding of higher brand/product recall when a product is paired with a more concrete, visual image.

Gender also appears to play a significant role in how young children recall product information from the different types of character action. Boys recall more product information after viewing the commercial with character action directed on the product, but girls recall more information after viewing the commercial with random character action. This finding further corroborates the proposition that male and female children process action-oriented commercial information differently.

Age did not prove to be a factor in product recall for Study One, but was found to have a positive correlation with recall in Study Two. Increasing ability to recall product information seems to be related to increasing age, supporting one of the basic assumptions of cognitive development theory.

Character/Product Association

This research was based on the assumption of associative learning. It was assumed that in order for an advertising spokes-character to exhibit influence on a child's product preferences, the child would have to associate

the spokes-character with the advertised product. Though not a step in the Hierarchy of Effects Model, this association was posited as a crucial beginning point in the development of a product associative network.

It appears that the direction of the character's action may play a role in the formation of character/product association, but only for males. Those boys viewing the commercial with directed action made significantly more correct associations than did boys viewing the random action commercial (supporting the action findings of recognition and recall). Again, girls do not exhibit this same tendency.

One of the most surprising findings of this research however, was the overall lack of importance of character/product association in linking a child's character and product awareness and knowledge with product preference. Prior to this research, the assumption was made that a child must be able to make a correct association between the character and product in order for the character to influence the product preference and decision. After reviewing the results of this research however, the evidence of character influence on product preference does not appear, or at least is not facilitated by character/ product association. Perhaps, preschool children make product preferences and choice based on more simplistic cognitive, or affective structures that do not require an associational link. Children may move directly from product liking to product choice, and although a spokes-character may serve as a

perceptual cue to a product, that character may not be a motivating force behind a product decision.

Another possibility that was introduced in the literature review chapter, but not tested in this research project, is the moderating or mediating effect of social influence, particularly influence from a parent. Parental recognition or approval of an advertising spokes-character (e.g., the parent mentions a character or purchases a product with an overt character) may lead some children to place more importance on a product and its associated character than if the child just sees the character/product association without either validation or a disapproval from a parent.

Character Liking

Character liking was posited to be an important step in the progression from awareness to choice because affective responses are relatively simple for young children and these children often make product choices based on an affective response to a few easily perceptible product attributes (Bahn 1984, 1986; Diamond 1977; Shamir 1979). The assumption was made that if a young child perceives the spokes-character as one of these product attributes, the child may make a positive affective response to the product, as suggested by Bahn (1984, 1986). This positive correlation between character liking and product liking was found in Study One, but was not supported in Study Two.

Character liking appears to be an interesting variable, but probably unrelated to subsequent steps in the hierarchical model. Character liking was generally high for both studies, but there were no condition, gender, age, or attention factors that explain any differences in character liking for either study. Young children appear to form positive affective responses to advertising spokes-characters in general, but this research does not suggest any possible sources for this liking, nor does it suggest that preference and choice are attributable to liking.

Perhaps, preschoolers' character liking may result from the formation of a "child's television" schema (Alwit, *et. al.* 1980; Greenfield 1984; Wright and Huston 1983; Young 1990), proposed in the literature review (see Chapter 2). If a child forms this "television" schema to include animation and animated characters as being "for kids," positive affective responses to all animated characters in general may result, because the child perceives a personal relevance and higher involvement with the character.

Product Liking

As with character liking, product liking appears to be high for participants in both studies. The snack products used in this research were chosen because of their appeal and perceived relevance to young children. Snack products are often advertised to children, and children are large

consumers of snack products. This research methodology assumed the children would express positive affect toward the products in most cases.

In conjunction with the development of a "children's television" schema, young children may develop the notion that snack products are "for kids" because of the large amount of snack product advertising targeted toward children. In the particular case of snack products advertised using an animated spokes-character, young children may form the impression that advertised snack products are "for me," resulting in a strong positive affective response to the product.

Product Preference

Each child was given a scenario and asked to express preference for one of the four available products. The child's first selection was recorded and assumed to serve as a proxy for the child's most preferred product. Product preference was also operationalized as a cumulative measure, which represented consistency of preference.

The children participating in the research expressed relatively low first choice or cumulative preference for the test products (cheese crackers and fruit snacks). First choice preference for the test product was slightly less than chance (19.8%) for Study One and above chance (35.2%) for Study Two. The test products seemed to appeal to the children and the children gave very positive liking responses for the test products when asked about the products

one at a time. However, when all products were presented simultaneously and the child was asked for a preference from multiple products, the children expressed higher preference for the peanut butter cookies and potato chips than either test product. Product liking appeared to be an individual response whereas product preference was relative. This is not a particularly surprising finding since the children may have considered the cookies and potato chips more "special" and desirable than the cheese crackers ("ordinary") or the fruit snacks ("unknown").

Observation of the children during the cumulative preference test concluded that many of the children chose products for variety, when given the three preference trials. Many of the children appeared to select their second and third preference choices arbitrarily, or appeared to make conscious effort not to choose the same product twice (even though each child was told he or she could chose a product more than once).

Product Intention

When given the opportunity to express intention for one of the snack products used in the study, less than half of children in each study expressed intention for the test product. However, in Study Two, children expressed product intention at a rate (42.6%) greater than chance (25%). Product intention appears to be based on some factor not tested in either study for this dissertation because it does not seem to be influenced by the direction of the

character action, the number of character voices, gender, age, or attention to the television program.

As with product preference, determining the influence factors for product intention is very difficult. Prior to the data collection, it was thought that the children might either express intention for a product consumed frequently in the home (familiarity), or express intention for a product whose consumption was infrequent, controlled, or restricted by parents (novelty). Parents completed an information form prior to their child's participation and each parent was asked to indicate how often the child consumes the various products used in the research. Additionally, measures of product liking were collected from each child. An examination of product consumption, product liking, preference, and intention did not find any logical relationships between familiarity, novelty, liking, and intention however.

Perhaps, preschool aged children may not possess a cognitive state of conviction or intent, separate from desire or preference. The children were told the researchers would be back "another day" to bring real snacks, but needed to know which snack to bring the child. This suggestion may have been too abstract for the children to understand the notion of a future point in time. As a result, the children appeared to express intent for a snack not chosen during the previous preference measure, again suggesting the possibility of the children variety seeking.

Product Choice

As with product intention, less than half of participants in either study chose the test product; however, in Study Two the test product was chosen at a rate (42.6%) greater than chance (25%). Interestingly, the males were completely uninfluenced in their product choice by the random action commercial; no male viewing the random action commercial chose the test product. The number of character voices in the commercial had no effect on product choice as well, and again, there are no logical relationships between product familiarity, product novelty, product liking, and product choice.

Like product intention, children's product choice appears to be a variable that is yet, unpredictable, at least by character action or auditory complexity. Some researchers (Shamir 1979; Swanson 1987) have suggested that young children's inability to process multiple product attributes or dimensions results in product familiarity becoming the most salient attribute for preference. Although product familiarity was found not to correlate with choice, many children's preferences and choices appeared to result from recognition of the product and more familiarity with one product over another. In particular, children had difficulty recognizing the fruit snacks used in Study Two. Several children, when shown the picture of the fruit snacks, referred to the fruit snacks as "gummy bears," which the children were familiar with.

Perhaps, we as researchers assume that more thought and cognitive activity takes place during a child's decision making process regarding a

product. These young children may make decisions based on completely arbitrary criteria such as what the child ate for lunch or what he or she thought a friend might choose. When the researchers returned for the final product choice test, most of the children did not appear to make a connection between the previous testing period and the product choice test, even though the products were the same and the characters were shown adjacent to the product choices.

OVERALL INTERPRETATION OF FINDINGS AND STRATEGIC IMPLICATIONS

The previous section presented a discussion and interpretation of the findings for the individual dependent research variables. This section presents a discussion of the findings related to stimulus complexity, the hierarchy of effects model, the hypothesized direction of influence, and the theoretical propositions. In addition, this section examines the findings regarding particular population subgroups in this study and the strategic implications related to those subgroups.

Upon recollection, several interesting overall findings of this research emerge. First, the notion that an animated advertising spokes-character exhibits strong influence on preschool children's product knowledge and preferences is not validated, at least not in this research context. This is not to suggest that spokes-characters have no influencing ability on young children, simply that the characteristics of the

spokes-character examined in this study (action and vocalizations) do not appear to influence response toward a snack food product.

Stimulus Complexity and Preschoolers' Attention

Another interesting overall finding of this research relates to the relationship between visual/verbal stimulus complexity and attention. Given the overall results of both Studies One and Two, this research asserts that spokes-character action appears to have more influence on preschoolers' attention, product awareness, knowledge, and preferences than the number of spokes-character voices, supporting the idea of visual over verbal processing.

Interviewers involved in this research noted on several occasions that the children seemed to react more positively to the simpler commercials than the more complex commercials. The visual action associated with animation provides some measure of stimulus complexity that serves to increase attention (Acuff and Reiher 1997; Alwitt, *et. al.* 1980; Greenfield 1984; Hayes and Birnbaum 1980; Huston-Stein and Wright 1979; Krull and Husson 1979; Wright and Huston 1983); however, the combination of even simple character action with increasing auditory complexity (as in Study Two) may actually push the children past their stimulus threshold.

As a point of observation, communications researchers have suggested that an audio-visual presentation of information may be particularly beneficial for young children's limited attention spans. Because young children have difficulty processing large amounts of information, their attention to televised programs and commercials

tends to waiver, especially when watching a program with extensive action or dialogue. Children who watch television on a regular basis may learn that changes in the auditory component of a program (voices, music, etc.) may signal changes in the visual content or signal changes between the program and commercials. Ultimately, these auditory changes will cue the child to re-direct his or her attention back to the television screen (Alwitt, *et. al.* 1980; Calvert, *et. al.*, 1982; Huston-Stein and Wright 1979; Pezdek and Hartman 1983).

This proposition was upheld in this study as interviewers observed participants who did not pay as much attention to the program, re-direct their attention to the screen at the onset of music or voice changes. These children also showed a tendency to waiver their attention of the program and re-direct attention to commercials, as suggested by Pezdek and Hartman (1983). However, auditory stimuli that re-attracts attention may subsequently push a child over a stimulus threshold.

In Study One, there is a significant positive correlation between visual complexity and attention. Children paid more attention to the action commercials and less attention to the non-action commercial. However, the finding was opposite for Study Two. The strong negative correlation in the second study indicates that the children paid more attention to the "no voices" commercial and less attention to the "one" or "two voices" commercials, suggesting that adding an auditory complexity component may actually counter-indicate attention, in the presence of a spokes-character.

Strategic Implications

The results of this research regarding visual/verbal processing of information suggest that companies marketing products, services, and ideas to children may do well to use an animated spokes-character in their communications. Children recognize these characters and the use of a spokes-character provides an important visual cue to a child, especially a child with limited linguistic abilities. Additionally, the visually presented interaction of a character with a product/service/idea may increase the child's awareness and knowledge of, and attitude towards, the object or idea. What is still unproven however, is whether or how the spokes-character influences product preference and choice in the child.

One word of caution is suggested when developing spokes-characters or assigning a spokes-character to a product. Although preschool children's cognitive abilities limit the formation of many sophisticated conceptual relationships, they do appear to exhibit some logical connections between the character animals and the products, even in the absence of commercial influence. For example, when asked to match characters and product, several children in both studies (who did not appear to be greatly influenced by the commercial) associated the mouse with the cheese crackers and suggested the reason for the association was that, "Mouses (sic) like cheese." This tendency did not occur with the dog and bear characters as the children did not see a logical, or relevant, connection between a dog and fruit snacks or a bear and fruit snacks. However, children told the interviewers that dogs like bones and

bears like honey, and some children even suggested they could not make associations between the character and product choices given because bones (or dog food) and honey were not offered as options. These incidental findings support the results of Macklin's (1996) study of children's associations between visual cues and brand names.

Young children form schema and associative networks surrounding concepts and have the ability to recognize experiences that are inconsistent or incongruous with those schema. Relevant connections between the brand name (Honey's), the color (yellow) and the image (bees) was logical for children in Macklin's (1996) study, as the association between the mouse and cheese crackers were in this Study One. However, incongruities between a bear, dog, and fruit snacks (Study Two) caused some children to question the logic of those character/product pairings.

Another suggestion for practitioners is to exercise caution with the auditory portion of animated commercials directed at young children. While these children appear to react positively and pay attention to visual complexity, increasing auditory complexity in the form of more voices (or sounds, music, etc.) may provide more stimulus complexity that the child can process and may ultimately lead to decreased attention to the commercial.

Hierarchical Effects Model

The Hierarchy of Effects Model (Lavidge and Steiner 1961), an often cited tool for measuring the success of advertising, does not appear to explain

the process by which preschool aged children move from product awareness to product choice, at least not within the context of the food products used in this study.

Counter to the assumptions of this research, the child's knowledge and liking of an advertising spokes-character did not seem to have any effect on the child's ultimate product preference, intention, or choice. Additionally, character/product association did not provide the expected link between character/product knowledge and product preference.

Another interesting finding is that although character liking was high for children participating in both studies, this liking does not have any influence on the progression toward product choice. Preschool aged children seem to form positive affect towards a spokes-character, but this affect can not be assumed to influence character/product association, product preference, or product choice. This finding supports the results of both Mizerski's (1995) and Henke's (1995) studies that assert the lack of a direct relationship between character recognition, character liking and product usage.

The inconsistency in finding a relationship between product preference and product choice (present in Study Two but not in Study One) is not completely surprising. In related studies, Heslop and Ryans (1980), and Shimp, Dyer, and Divita (1976) found that premium offerings (another positive reinforcement), while increasing product preference, had no effect on children's product choice.

It appears that within the structure of a hierarchical model, the only variables that influence the child's preference and intention for the test product are product recognition, product recall, and product liking (in some contexts).

It is possible that the lack of significance of the hierarchical model in this study is related to specific details of this study, and is not an indicator of the weakness of the hierarchy, in general. Children did not appear to follow a hierarchical structure when a spokes-character was paired with a food product.

Perhaps young children perceive a different relationship between an advertising spokes-character used in conjunction with a food product, than they would if the character were paired with another type of product. In the case of the food product, a child may perceive the character as a toy, and the food as the means by which to acquire the toy. Many companies encourage this behavior by pairing toy representations of their advertising characters as premiums that can be acquired through purchase of a food item or saving of UPC seals or other product "currency." This research only examined the hierarchy of effects model as it relates to food products, so the model may accurately represent the process by which a child is influenced by advertising, for other product types.

Additionally, this research (and a traditional hierarchical model) did not incorporate social influences, such as the moderating role of parents, in a child's response to an advertising spokes-character and a child's product preferences. Some

children stated during testing that their parents did not allow them to eat certain products (or stated that you were not supposed to eat much "junk food") that were offered as options in the measurement process. Goldberg and Gorn (1978) suggested that mothers may have a tremendous moderating influence on a child's response to a commercial message, especially the persuasive component of that message. A more appropriate model for testing advertising effectiveness on children should perhaps account for parental (or social) influence, particularly for preschoolers who tend to be very attentive to, and concerned with, pleasing parents.

Research Implications

Perhaps the greatest contribution of this research is to the academic endeavor and the research stream in advertising to child consumers. This research provides an examination of previously proposed character attributes, and also provides a replication of tests conducted on the first few steps of the Hierarchy of Effects Model. This research also provides an important contribution in its rejection of the Hierarchy of Effects Model for use with young children, at least in the context tested in this situation.

It may be time to rethink the notion of a hierarchical model, at least as it pertains to preschool aged children. It appears that one of the key weaknesses of the traditional Hierarchy of Effects model is its lack of a socially influencing factor. Preschoolers often seek the approval of parents and will act in a manner consistent with parents' instructions. Perhaps a more appropriate model of advertising

effectiveness with children is not hierarchical at all, but maybe layers of concentric information rings or influences, or maybe a network-style model with multiple linkages of influence.

Or, perhaps the Hierarchy of Effects model is an appropriate model to explain the persuasion process that occurs in older children and adults. Preschool aged children may still not have the cognitive ability to form a logical influence chain. In light of the developmental psychology literature, it would be interesting to examine further the notion of a hierarchy with preschoolers or perhaps examine at what age a young child begins forming hierarchical relationships between concepts such as persuasive advertising messages.

Insignificance of the Hypothesized Direction of Influence

This research assumed that increasing the complexity of the perceptual stimulus in the test commercials would result in increasing the children's attention to the commercials, which would ultimately increase the knowledge gained and persuasive power of the commercials. The two differing notions of where the preschool children would focus their attention were presented in Chapter Three. Communications researchers argue that any character action should provide the needed perceptual salience to hold a young child's attention to the commercial information (Huston, *et. al.* 1981; Lesser 1974; Rice, *et. al.* 1982; Wright and Huston 1983; Wright, *et. al.* 1984). However, child consumer behavior and information processing researchers suggest that preschool children will focus their attention on

incidental information and ignore central, or product relevant, information (Murphy and Brown 1975; Roedder 1980; Stevenson 1972).

Study One hypothesized that preschool children would exhibit higher levels of product knowledge and preference (as measured by the steps in the Hierarchy of Effects Model) after viewing the commercial with random character action, followed by the commercial with character action directed at the product. Since any character action was hypothesized to elicit greater product knowledge and preferences than non-action, the commercial control with no character action was expected to garner the least amount of product knowledge and preferences.

Generally, results of this study did not support the hypotheses. The hypotheses for all variables, except Product Liking, were rejected. Significant gender differences also complicated the overall results of this test since male participants were found to respond more strongly to the commercial with directed character action whereas the female participants either showed no significant differences between commercials, or responded more strongly to commercials showing random character action.

Study Two hypothesized that for all dependent variables, the commercial with two character voices talking about the product would elicit higher product knowledge and preferences than either the one character voice commercial or the no character voices commercial. These hypotheses were made on the assumption from communications research that higher levels of perceptual stimulus complexity would

elicit higher levels of attention to the commercial and higher level s of resulting product preference.

The results of this study were similar to those of Study One. In general, study findings resulted in the rejection of hypotheses for all but two variables. Hypotheses for character awareness/recognition and cumulative product preference were partially supported. Higher levels of character awareness/recognition resulted from viewing the commercial with two character voices, only when the no voice control was removed from analysis. Product preference was found to be highest with the one voice, rather than the two voices commercial.

The Study Two findings suggest the presence of stimulus perceptual threshold, beyond which young children have difficulty processing information. It is possible that the children had difficulty understanding and retaining the information in the two voices commercial because of the added auditory complexity that was not present in either the one voice or no voice commercials. Interestingly, study participants exhibited higher character recall after viewing the commercial with no character voices, than they did after viewing the commercials with either one or two voices.

Implications

This finding provides the greatest implications for researchers and academicians interested in children's information processing and consumer behavior. These two studies served as tests of two theories originating in mass communications

and child consumer behavior. In relation to Study One, communications research suggests that increasing stimulus complexity, in general, results in increased attention to, and retention of, information presented in the media, whereas child consumer behaviorists suggest that the young children would focus on the incidental information (random action) at the exclusion of central information (product). Both theories appeared applicable and neither gave any indication of being stronger than the other theory. The communications literature did not provide suggestions as to which type of character action would be most salient to the children. As a result, the suggestion of the child consumer behaviorists was chosen for testing purposes in this research endeavor. Although it appears that the child consumer behavior theories were not substantiated, additional attention and consideration of the theories is warranted.

One difficulty with the design of the research for Study One was determining what aspects of the test commercials were central and incidental. The decision was made to designate product information as central and character action information as incidental. Therefore, the random character action commercial was hypothesized to garner more attention than the directed action commercial. However, the hypotheses were that the incidental information would promote more retention of product (central) information, a notion perhaps atheoretical, at least for the product-related variables. Or, given that the character-related variables did not appear to have any influence on the ultimate product association, preference, or choice, perhaps the

character (incidental) information distracts the children (at least the males) away from retention of product (central) information.

These findings provide ample opportunity for a deeper examination and testing of these two theories. The child consumer behavior (information processing) theories appear to best explain the responses of the female participants but do not explain the responses of the males. Perhaps more direct testing of these two theories, taking gender into consideration, is needed.

The results of Study Two, lend little support to the notion of increasing auditory stimulus complexity, and probably lend more support to the concept of a stimulus threshold for preschool aged children. This finding again lends ample opportunity for deeper examination into the effects of increasing auditory stimulus complexity with young children who appear to be more visually-oriented.

Theoretical Propositions

Chapter Two proposed thirteen theoretical propositions that were derived from a variety of cognitive and developmental psychology and social psychological learning theories (see Appendix A). Ten of these propositions were incorporated into this research study through either the dependent, hierarchy of effects, variables or the levels of the independent, stimulus complexity, variable.

P1: *Preschoolers process information perceptually and exhibit perceptual boundedness. In order to "break-through" this boundedness, marketers must present advertising messages that are perceptually salient.*

This proposition formed the foundation for this research examining the differential effects of various levels of perceptually salient stimuli on preschoolers' product knowledge and preferences. This proposition is supported by the general results of this research that suggest young children pay more attention and gain more information from commercial messages presented with higher levels of stimulus complexity (action and voices) than from commercials with lower perceptual salience (no action/no voices).

P2: Preschoolers exhibit less developed levels of cognitive structures and abilities than older children, which causes them to easily lose attention to information presentations.

This proposition was assumed and incorporated into the development of perceptually salient independent variables. Because this research examined a group of preschoolers and did not compare these preschoolers' responses to those of older children, evaluative statements cannot be made. However, an exploratory correlation analysis of perceived attention with child's age found that for the children in the study (ages 2 – 5), increasing age resulted in decreased attention to the television (Pearson's = -.250; sig. = .013).

P3: Preschoolers comprehend their environment by forming simplistic structures relating beliefs about and desires toward humans or inanimate objects. Often these structures are comprised of holistic conceptions of persons or objects.

Research participants' abilities to associate the advertised character and product, as well as information suggested in recall measures, tested this proposition.

The children had difficulty recalling character and product information, but this difficulty is related to age and cognitive development. Some recall information however, suggested the presence of these associative structures, and the children were able to associate the character and product at a relatively high rate for Study One, but at a lower rate for Study Two. These results suggest support for the proposition of holistic conceptual structures, but more information is needed about the components of these structures.

P4: Preschool children's belief structures form as a system of primary and secondary representations.

This proposition is supported by the incidental information offered to the researcher by study participants. Several children indicated the presence of primary and secondary representations ("beliefs" and "beliefs about beliefs") through their inferential comments about mice liking cheese, dogs liking bones, and bears liking honey. This proposition was not directly tested however so indicators should not be over-interpreted.

P5: Children's beliefs and desires can be moderated by simplistic affective states.

The assumption was made that children form strong affective responses to objects (concepts, etc.) and that these responses have the ability to moderate beliefs and desires. Bahn (1986), suggested that young children's brand/product preferences judgments are comprised of simple cognitions and affect, and that affect often

exhibits the greatest influence on judgments. This research project assumed that strong affective responses to the advertised spokes-character might directly influence a child's product preference and choice, regardless of any additional product information. Although results of this research suggest that the children exhibited high affect for the character, this character affect did not appear to influence product preference or choice. However, product affect did evidence a significant role in product preference, as some children appeared to express preference for and choose a product simply because they "really liked" the product, regardless of any persuasive message seen for the product.

P6: Preschool children can be conditioned, through structured exposure, to exhibit affective responses to stimuli.

This proposition was supported by the findings of this research. In general, the children exhibited strong affective responses to both the advertising spokes-character and the advertised product, after viewing three repetitions of the commercial message. Caution should be taken however in assuming that positive affect leads to preference, because this conclusion is not supported by these results.

P8: Preschoolers use schema, or scripts, to organize information and aid in interpretation of new environmental stimuli. These schema cue the child to pay attention, sort out, and process relevant information.

This proposition is supported in two separate conceptual dimensions within the research. First, the children's character/product associations and recalled

information relating the logic of mouse/cheese pairing and the non-logic of dog, bear/fruit snacks pairing suggests the presence of a simple schema of the various animals and expectations about those animals. Second, within the concept of a "television" schema (suggested by Alwitt, *et. al.* 1980), study participants were observed to change attention levels throughout the program, but redirect attention when various programming change cues were evident (change from talking to music, change from program to commercial, etc.).

P9: The younger the child, the more likely he or she is to process and retrieve incidental information from a consumer information message and not understand the persuasive role of advertising.

This proposition was not directly tested through a sample of "older" and "younger" children. The assumption was made that preschoolers, in general, constitute a sample of "younger" children and that all children in this sample would more likely process and retrieve incidental information from the commercials. Open-ended recall responses from the children do not provide direct evidence for this assumption; however, within Study One, participants appeared to be distracted by incidental information (character action) without recalling more information about the commercial. Additionally, in the few cases where age served as a moderator of response, the two-year-olds exhibited higher responses after viewing the directed action commercial, than they did after viewing the random action (incidental) commercial. No tests were conducted to assess the children's ability to understand the persuasive role of the advertising.

P10: Preschool children process, store, and retrieve visual information more easily than aural information. However, aural cues are used to cue the child to the important visual information.

The male study participants tended to respond more to the visual action than did the females. The direction of character action was often an influencing factor in the boys' product knowledge and preferences, whereas the girls did not show the same tendencies. Additionally, the observation that the children often averted attention away from the television, but re-directed attention during programming change cues lends support to this proposition.

P11: Preschool children form associative networks of consumer information. Exposure to a single element in that network will evoke recall and/or recognition of other elements within the structure.

In general, study participants exhibited relatively high levels of visual character/product association. In addition, several children offered non-prompted comments about the product, when shown a picture of the character, and vice versa. There appears to be evidence to support the existence of product associative networks, but caution is urged in making assumptions about the resulting influence that association has on product preference or choice.

Examination of Subgroup Behavior

One of the most interesting findings of this research is the existence of subgroup differences in young children's responses to advertising spokes-character

attributes. Boys and girls responded differently to the experimental stimuli in this research, as did two-year-olds, children who were highly attentive to the television, and children who were heavier viewers of television and videos on a regular basis. Since gender was only examined as a moderator in Study One, discussion of gender differential responses are based on Study One findings only. Discussion of age, attention, and tv/video viewing relationships are based on the results of both studies.

Males

Although the hypothesized direction of influence and the hierarchy of effects model were generally not substantiated in this research, care must be taken not to assume that the participants did not respond at all to the stimuli. Overall, male participants exhibited higher levels of the character-related dependent variables for Study One than for Study Two. Character recognition and character liking levels were over 80% for Study One, and approximately 50% for Study Two. Product-related variables scored lower on recognition (Study One - 52.9%, Study Two - 34.6%), but product liking was higher than 80% for both studies. The greatest difference between the two studies was for the preference, intention, and choice variables. Although the boys expressed higher character and product recognition, recall, and liking in Study One, product preference, intention, and choice were higher than would be expected at random for Study Two.

The young males participating in this research responded more to the commercial with character action directed on the product, as compared to the

commercials with random character action or no character action. In tests of character recall, product recognition, product recall, and product liking, the boys showed significantly higher levels of each variable after viewing the commercial with directed character action. Only in the case of character/product association did no action supercede action, and in no case did random character action garner the highest scores.

This research adds support to the suggestion of gender differential responses to televised message content, proposed by communications researchers ten to fifteen years ago. Alvarez, *et. al.* (1988) and Wright, *et. al.* (1984) found that boys paid more attention to animation and highly visual action in a televised programming context, than girls. However, communications research has not addressed the question of differential attention paid to different types of action. This research begs the question of "why" these differential responses occur.

One explanation could be related to gender differences in cognitive structures or processes. Perhaps, due to differences in information processing between young boys and girls, random action may distract a young boy's attention to the point that he does not pay any attention to the product information, whereas directed action acts as a focusing mechanism to direct attention towards important information.

Another explanation, more sociological in nature, is offered by Greenfield (1984) and Seiter (1993), who suggest that boys may be conditioned to pay attention to visual action. Both researchers posit that programming and advertising for boys' toys tends to include more blatant action and attention-getting devices than does

advertising for girls' toys. Perhaps boys add an additional component of "action" to their schema for television and advertising directed towards them. Additionally, boys may pay more attention to action because society rewards boys for active behavior while girls are rewarded for interpersonal behaviors.

The fact that boys showed greater response to directed character action provides an interesting strategic implication for practitioners. This research suggests that the practitioner must consider the gender of the target population not only when segmenting and targeting the market for a product (or service or idea), but also when designing the spokes-character and deciding the nature of the spokes-character's actions in relation to the product. Males appear to respond more strongly when the spokes-character is shown physically interacting with the product, than if the spokes-character's action is unrelated to the product.

Given the actions many current spokes-characters undertake in commercials, showing the character interacting directly with the product may be particularly important for male targets. This is not to suggest that a spokes-character be shown cannibalizing itself or products of its type (e.g., the M&M guys eating M&Ms), but when using a spokes-character that is not a product representation, the interaction of the character and product is particularly important. For example, the Kool-Aid character is often shown in commercials driving a car, walking, or playing sports, but never drinking Kool-Aid. However, Fred Flintstone and Barney Rubble are always shown eating Fruity Pebbles.

Child advocates and the government can also benefit from this suggestion of possible gender differential effects of character action. If males appear to respond more strongly to certain types of character action than do females, there may be a need for more, or different, protection of boys who may be more easily exploited by action. Perhaps young boys may need further, or different, consumer education to resist commercial tactics. Some advocates have created messages for children (e.g., the late 1980s HBO program "Buy Me That"), advising kids of the persuasive tactics used by advertisers and the possibility of deceptive creative strategies. Additionally, special consumer education messages could be developed for boys that specifically warn of how directed action can be used to attract boys' attention, or special teacher discussion guides that encourage teachers to talk to boys about the use of action in commercial messages. If more studies confirm this finding, companies that use directed action to attract young boys' attention to the commercial message may potentially find themselves the target of industry regulatory efforts to protect young boys from exploitation.

Females

As with the males, although the overall hypothesized direction of influence and the hierarchical effects model were not substantiated for this research, female participants still showed response to the stimuli. Study One garnered higher levels of the character and product-related variables than Study Two (character recognition 71.2% for Study One, 57.1% for Study Two), and the females' responses, in general,

were lower than the males for the character and product-related variables. Interestingly though, the females exhibited higher levels of product preference, intention, and choice than the males across both studies. Also interesting is the higher level of perceived attention that the girls paid to the programming and commercials than the boys (Study One -- 88% female, 80.4% male moderate or high attention; Study Two -- 96% female, 84.6% male moderate or high attention).

Female research participants exhibited very different responses to spokes-character action than did the males. Whereas males tended to respond more strongly to directed character action, females either exhibited no differential responses based on character action or the girls responded more to random character action. On three product-related dependent variables (Product Recall, Product Liking, and 1st Choice Product Preference) female participants exhibited higher levels of response after viewing the commercial with random character action. It appears that while random character action may distract the boys' attention away from message content, random action may focus the girls' attention toward product-related information and influence. Interestingly, random character action appears to have no effect on the retention of character-related information.

Although the findings of gender differential responses to the character action support the conclusions of Alvarez, *et. al.* (1988) and Wright, *et. al.* (1984) for the males, the suggestion that females respond more to random character action in some situations is counter to these authors' suggestion that girls are more attentive to verbal than visual content in a televised message presentation.

Again, the questions that surround gender differential responses to action can be addressed from both a psychological and sociological perspective. Bio-psychological research has suggested differences in brain activity and information processing for male and female adults. Perhaps these differences occur at an earlier age than first thought. From a consumer psychology viewpoint, males and females may process persuasive messages in a different manner, or may focus on different aspects of the message. The incidental versus central information processing argument has been used to explain age differences, but to date, has not addresses the possibility of gender differences.

Although gender differences may occur in central vs incidental information processing (an idea not yet examined in child consumer studies), an alternative explanation might be that gender differences result from socialization practices that encourage young boys toward action-related behaviors and young girls toward verbal and relationship-building behaviors, as suggested by Greenfield (1984) and Seiter (1993).

With respect to strategic implications for practitioners, the same suggestion is given as with boys. Marketers and advertisers should be concerned about the spokes-character's action when designing and targeting commercials for girls. In the case of the Kool-Aid character example mentioned in conjunction with advertising to boys, perhaps the character's current actions (e.g., driving a car, walking, surfing, etc.) are more influential and conducive to advertising targeting girls than boys. However, other characters that are typically shown consuming a product may not be as

influential for young females. The notion of gender differences provides a unique opportunity for academic researchers to work in conjunction with practitioners to determine the effectiveness of different character and message creative strategies when targeting girls vs boys.

Additionally, child advocates may want to address this issue of gender differences in information processing and persuasion in the development of consumer information and education campaigns. Perhaps the same strategy is not likely to be effective with both young boys and young girls and different strategies may need to be developed.

Two-Year Olds

This research provided much needed information about a target market that is usually ignored in consumer behavior studies (preschoolers), particularly the youngest members of this target (two-year-olds). Better understanding of how young children interact with and react to various marketing and advertising factors provides researchers more knowledge of the earliest stages of consumer socialization and begins to provide more information about the early development of brand awareness, knowledge, and loyalty.

One of the most interesting findings of this research was the discovery that two-year-olds respond to advertising spokes-characters and persuasive messages differently than other preschool aged children. These two studies assumed that at the least, the two-year-olds and three-year-olds would respond similarly.

In Study One, the two-year-olds' ability to recall character information was affected by the character's action. The two year olds exhibited significantly higher levels of character recognition after seeing a spokes-character engaged in action (as compared to no action), and directed action exhibited higher responses than random action. The three-, four-, and five-year-olds were not affected by the presence or absence of character action, or by the direction of character action.

As suggested by developmental psychology theory, age also played a part in a child's ability to recall information. As expected, product recall increased with age. Additionally, there is evidence of increasing character/ product association abilities with age. Two-year-olds participating in the research had the lowest levels of association and appeared to have significantly different levels of character/ product association that were dependent on the character's action. Directed character action appears to better facilitate the two-year-olds' correct association than does random character action. The fact that character/product association requires higher levels of cognitive processing to develop the relationships between the two factors may explain why two-year-olds have difficulties that are not exhibited in the older children.

Perhaps the two-year-olds need the additional stimulus provided by the character's action to cue attention towards the information contained in the commercial and make the message more perceptually salient. These children, in the first phase of the preoperational stage of cognitive development (Stutts and Hunnicutt

1987), are just beginning to undertake symbolic processing and are still very dependent on perceptual understanding. The older children, however, are in the later phases of the preoperational stage and are developing intuitive processing abilities that may not need the additional action to cue attention or form impressions in the child's memory.

With the two-year-olds, attention to, and retention of, information appears to be highly dependent upon perceptually salient stimuli, particularly visually presented information. Character action is highly salient to this age group, and perhaps even more so for the two-year-olds than the other ages because of their sensori-motor/early preoperational tendency toward centration and animism (Meadows 1993; Piaget 1951/1929; Piaget and Inhelder 1969; Singer and Revenson 1996).

The strategic implications of these findings for the youngest children suggest that practitioners need to be aware of the added perceptual stimuli required by two-year-olds (and older children in earlier cognitive development stages). If a practitioner is concerned about targeting these very young children, adaptations to the creative message may be needed. Additional perceptual stimuli does not appear to distract or be detrimental to the older children, but it probably is necessary for the youngest children.

With regards to the use of an advertising spokes-character with young children, practitioners will probably see the benefits (at least with young boys) of presenting the character in action directed at the product. This directed action may be of particular importance at the early stages of an advertising campaign when there is

the greatest need to develop the association between character and product. Again, showing the character action directed at the product should not reduce the knowledge gained by older children, but should increase the information retained by the youngest members of the target.

Highly Attentive

This research was based on communications theory that suggests increasing levels of stimulus complexity in an advertisement directed towards preschool aged children would facilitate increased attention toward the ad, increased retention of product information, and increased product preference. The basic assumption was that attention promoted information retention and persuasion. As a result, each child was monitored and his or her perceived attention to the television was recorded and analyzed in conjunction with the two studies.

Surprisingly, the only situation in which attention had any direct relationship with information retention, product preference, or choice, was for character recognition in Study One, and the differences were only for those children deemed "highly attentive." The children who were perceived to pay the greatest attention to the television exhibited higher levels of character recognition after viewing one of the commercials with character action (no difference between directed or random action). Those very attentive children who did not view a commercial with character action had significantly lower character recognition scores. The finding that character action did not affect recognition for those children exhibiting either moderate or low

attention was unexpected since this research was based on the assumption that perceptual salience increases attention to the televised message and increased attention leads to increased retention of persuasive information.

This finding provides important implications for researchers and academicians interested in child information processing. Perhaps attention serves as a proxy for involvement in the commercial message; higher levels of involvement may facilitate the encoding of information within the child's long-term memory. If so, researchers have a great opportunity in determining what behaviors or processes constitute attention in a young child. One of the difficulties with determining attention in the children involved in this study was that the child's appearance of "watching" the television did not always coincide with retention of information. Other children were observed "not paying attention" because they were engaged in other activities, but some of these children provided astonishing details of the televised program and commercials.

Practitioners should also be interested in determining attention in young children, particularly if attention is a proxy for involvement, since higher involvement often leads to higher product knowledge and preference. Practitioners can benefit from added knowledge about what factors affect and increase a young child's attention to a commercial message for purposes of both providing stimuli to increase attention or perhaps even targeting more involved children. This study examined character action and vocalizations and suggests that character action should be an

important component of a commercial message directed towards young children because of the nature of character action increasing attention for some children.

Heavy TV and VideoViewers

Exploratory analysis in Study Two suggests that two factors may have some effect, or provide added information about the effects of a persuasive message on young children. Product liking appears to be related to the amount of television a child normally watches. Those children reported to view larger amounts of television during an average week expressed less liking for the advertised product. Perhaps these children are exposed to a larger choice set of products and learn to discriminate and evaluate advertised products differently than their peers who do not watch as much television. This relationship was not directly tested in the design of this research study, so the possible effects are only implied, and must be interpreted with caution due to the strong correlation with age.

Preference consistency was also found to be negatively correlated with the amount of television normally watched. As with product liking, those children who view more television may be exposed to a wider variety of products and may be more discriminating in expressing preference for one particular product, especially when given a wider choice set than the child may normally have at home.

These exploratory findings suggest that increased television viewing may not be as negative as many people believe. Children who viewed more television on average, exhibited less liking and preference for the advertised product than those children who viewed less television. It may be possible that children develop media savvy from watching television and as a result, learn to evaluate commercial messages more critically. Additionally, children who watch television may learn what is and what is not important information to retain from programming and commercials and may develop cognitive mechanisms that allow filtering of relevant from non-relevant information.

Much of the concern over the influence of television and children came from early communications and advertising studies in the 1970s after the introduction of Sesame Street. Studies of the influence of television advertising on children in the 1970's suggested that television advertising was highly influential on children's expressions of product preferences (for an overview see Ward 1980). However, at the time of these studies, television was still a novel concept to many children and much of the advertising directed at children was limited to "children's television time" during Saturday morning cartoons.

Children's consumption of television was still quite limited, compared to adolescents and adults. The past twenty years, however, have seen a proliferation of children's television programming, and the creation of 24-hour networks devoted solely to children. This increased exposure to television and it's subsequent advertising provides greater opportunities for developing critically evaluative

attitudes toward commercial messages and may stimulate evaluative thinking at younger ages. Even as early as 1980, Goldberg and Gorn found that as children watched more televised commercial messages, they tended to become annoyed with the advertisement. This annoyance at excessive commercial exposure may lead children to become more cynical and skeptical about advertising messages, and more sophisticated about commercial messages in general.

Another interesting exploratory finding was the negative correlation between average hours of videos watched and character liking. Again, it appears that children who watch more videos may develop a sophisticated taste and appreciation for the highly technical and sophisticated animation produced by companies such as Disney, and do not exhibit positive attitudes toward less sophisticated (more amateur) developed animation.

LIMITATIONS

The results of this research warrant several caveats. Both studies were subject to research design, measurement development and data collection difficulties that may have resulted in biases or under/over estimated results. The nature of this study being one of spokes-character attributes assumed that the presence of a spokes-character is beneficial to the development of product attitudes and preference in children, but never tested that assumption through a character/no character examination.

Two additional methodological issues may limit the interpretations of this research. First, parents were very hesitant to allow their young children's participation in research, particularly research concerning consumer behavior, because of a negative opinion of marketing and advertising to children. Some children also had communication difficulties that prevented their participation. As a result, it was very difficult to recruit large numbers of preschoolers for this research so sample sizes (particularly in Study Two) were small which limited the power of the Chi-Square, Fisher's, and F-tests. Therefore, results should be interpreted with caution and effort should be made not to over-generalize the results.

The design of the studies with Study One examining spokes-character action and Study Two examining spokes-character vocalizations may have introduced difficulties for the child participants. The children seemed to have much more difficulty with Study Two than with Study One. These difficulties may have resulted from the increased stimulus complexity of Study Two approaching the stimulus threshold of the children, or the increased complexity may have contributed to less concreteness in the measurement development of the second study. The difference in visually presented character action was much more evident in the test video than was the difference in spokes-character vocalizations, particularly for very young children without sophisticated linguistic abilities.

Another limitation that plagued both studies and may have led to incorrect estimations was the children's difficulty in product recall and recognition. One explanation for the difficulty in product recognition and product recall could be that

the products were more abstractly displayed in the test cards, than were the characters. In each study, the characters were prominently and clearly displayed in both the commercial and the testing cards, as the card pictures were simply color laser prints of the animation cell graphics. Additionally, in recall measures, children were only prompted with simple recall cues (e.g. "Did you see a mouse/bear/dog (or cheese crackers/fruit snacks) in the commercials?"). This simple prompting may have resulted in an assumption of lower knowledge levels than what actually exists. More elaborate or detailed cueing or prompting may have resulted in more accurate assessments of knowledge levels.

The products however, took on lesser prominence in the commercials and may have been difficult to recognize on the test cards because a different technique was used to design the animation graphic and the test card graphic. For example, in Study One, the cheese crackers are shown as a red box with a wedge of yellow cheese on the front of the box (resembling *Cheez-its* brand crackers) and the product package was drawn within the animation cell. On the test cards however, a red foil package of *Cheez-its* was modified and used as the product picture. Although similar in nature, these pictures were not duplicates. In Study Two as well, the fruit snacks were shown as multi-colored circles piled in a chest. Actual fruit snack candies were computer scanned and color-enhanced to provide graphics for the test cards.

Another difficulty with Study Two was that some children misunderstood what the fruit snacks were, and thought they were candy, gummy bears, or

bubblegum balls. This confusion prompted the decision to have the interviewers verbally identify all product graphics on the test cards (fruit snacks, cheese crackers, potato chips, and peanut butter cookies), but the identification did not appear to have much effect on reducing confusion as children often still asked what the fruit snacks were.

The children participating in this research were found to be experienced and sophisticated consumers of television programs and commercials. Many of the children verbally acknowledged the transition from program to commercial during the viewing. This sophistication in television viewing made the production of the test commercial difficult and the difference between the test commercial and the "real" commercials may have biased the children. The test commercial had both visual and auditory stimuli, but did not have background music or sounds that are very common in advertisements. This lack of background noise may have artificially increased the children's attention to the test commercial due to novelty.

Another issue with this research that may have contributed to a lack of significant findings was the use of an unknown spokes-character. The need existed to use an unknown character for experimentation purposes, but the unknown quality of the character may have complicated the children's recognition and recall after only three exposures to the test commercial. Parents of these children suggested that existing, well-known characters may exhibit influence that is unattainable with an unknown character in an experimental setting.

Additionally, the children in this study were only exposed to the test character/commercial three times in a single fifteen minute time period. This "single-shot" test eliminated the possibility of exposure over time that is inherent in a traditional Hierarchy of Effects model. The children may simply have not had enough time across exposures to develop extensive knowledge, associations, or preference for the advertised product.

The final limitation of this research not discovered until the analysis phase was the possible biasing of responses by the interviewers. Although the interviewers for this study were trained extensively and were continually warned about with which young children's responses can be led, analysis of the audiotaped interviews suggests that some interviewers exhibited unconscious leading of responses. This biasing could have led to the overestimation of some of the children's responses, primarily recognition and recall.

SUGGESTIONS FOR FUTURE RESEARCH

This research provides further information regarding the role of animated spokes-characters in marketing communications with children. Although the overall results of spokes-character influence are not substantiated, this research provides many opportunities for further examination.

First, these two studies were created on the assumption that the presence of an advertising spokes-character is beneficial when advertising to young children.

Further research is needed, comparing a commercial using a spokes-character with a commercial not containing a spokes-character to validate this widely held assumption.

Second, more research is needed to assess the appropriateness of using the Hierarchy of Effects model with young children. The hierarchical model did not hold in this research context of pairing advertising spokes-characters with food products. It was suggested that perhaps children may perceive a different relationship between the spokes-characters used with food products and spokes-characters used to promote other types of products. Additionally, the general public and many child advocates still believe in the existence of a persuasive influence of spokes-characters on children. This question presents substantial opportunity to test the hierarchical model in other product contexts, or to present a test of opposing models (perhaps a hierarchical model vs a social network-type model). Another suggestion is the testing of a hierarchical model with a wider age range of children. The youngest children (2 - 3) may not yet process information in a hierarchical fashion, but older children (in Piaget's late pre-operational or early-concrete operational stages) may construct hierarchies of information and persuasion. Additional studies may help determine the age at which hierarchical processing begins.

Third, this research only tested two spokes-character attributes, direction of action and number of voices. These are only two of many attributes associated with spokes-characters that lend opportunity for further study. More examination is needed of other spokes-character attributes such as human versus non-human forms,

age or gender representations, or even how the character is shown interacting with the product (touching versus consuming).

Fourth, the finding of gender differences in children's responses to spokes-character action opens the door to many more studies of gender. Particularly interesting is the fact that the child consumer behavior theories appear to appropriately explain the information processing of females, but not males. More research is needed to examine the factors contributing to these gender differences – Are there inherent cognitive processing differences between male and female children? Are there socialization influences that encourage male children to respond more strongly to physical action than female children? Other interesting studies might include examining differences in girls vs boys retention of commercial information for current commercials, based on the character's action (i.e., Kool-Aid, M&Ms, etc.).

Fifth, this research used an unknown spokes-character and only exposed each child to the character three times in a fifteen-minute period. Perhaps more exposure or more time is needed to form character/product associations that link awareness and knowledge to product preference and choice. Studies of different exposure levels or time periods would be beneficial to this endeavor to help determine how long it takes to form associations.

Sixth, the notion of an audiovisual stimulus complexity threshold is ripe for examination. Experimental studies of different levels and combinations of auditory and visual stimulus complexity, and particularly stimulus complexity effects on

different aged children would provide much needed information on how young children process verbal and visual information differently and simultaneously. Complexity threshold studies may also provide more evidence for gender differences in processing perceptual stimuli.

Another suggestion for future research is related to how young children elaborate persuasive messages. Specifically, elaboration models developed for adults could be tested with children to determine if the information processing cues, strategies, and even moderators are similar, or quite different. Comparative studies such as these would lend more understanding of how children's cognitive processing develops into the processing strategies that adults possess, particularly the notion of involvement in young children.

The idea that increasing exposure to television may result in more sophisticated evaluation of persuasive messages is both intriguing, and potentially controversial. In-depth interviews with children of various ages and various levels of television viewing could potentially uncover information about how children learn to process audiovisual information, and whether increasing exposure to this information may stimulate higher order cognitive processing at younger ages.

Finally, more research is needed that examines how children form spokes-character schemas and knowledge, and how these character schemas may affect product preferences. This question begs a longitudinal panel study examining children's exposure to different spokes-characters, development of knowledge about

spokes-characters, influences on attitudes about the spokes-characters, and ultimately spokes-character influence on product preferences.

SUMMARY OF RESEARCH

This dissertation presented two studies examining the effects of animated spokes-character attributes on preschoolers' product knowledge and preferences. A Hierarchy of Effects Model was tested and results suggest that young children's spokes-character recognition and recall bear no influence on product preferences or ultimate product choice. However, study findings do suggest that young children may retain more information from visually presented information than from verbally presented information, and findings also suggest that gender may play a significant role in a child's response to spokes-character actions.

The results of this research were subject to several limitations that were presented in this chapter, and the results also suggest the need for more examination of the various issues surrounding the influence of animated spokes-characters on preschoolers' product knowledge and preferences.

REFERENCES

REFERENCES

Aaker, David A. (1996), *Building Strong Brands*, New York: The Free Press.

Abelson, Robert P. (1976), "Script Processing in Attitude Formation and Decision Making," in *Cognition and Social Behavior*, eds., J. S. Carroll and J. W. Payne, Hillsdale, NJ: Lawrence Erlbaum Associates.

Achenreiner, Gwen Bachmann (1995), *Children's Reliance on Brand Name Heuristics: A Developmental Investigation*, unpublished doctoral dissertation, University of Minnesota.

Acuff, Dan S. and Robert H. Reiher (1997), *What Kids Buy and Why: The Psychology of Marketing to Kids*, New York: The Free Press.

Adler, Richard P., Gerald S. Lesser, Laurene Krasny Meringoff, Thomas S. Robertson, John R. Rossiter, and Scott Ward (1980), *The Effects of Television Advertising on Children: Review and Recommendations*, Lexington, MA: Lexington Books.

Advertising Age (1997), "RJR Retires 'Joe Camel,' Starts New Ad Campaign," (July 11).

Allen, Chris T. and Thomas J. Madden (1985), "A Closer Look at Classical Conditioning," *Journal of Consumer Research*, 12 (December), 301-315.

Alvarez, Mildred M., Aletha C. Huston, John C. Wright, and Dennis D. Kerkman (1988), "Gender Differences in Visual Attention to Television Form and Content," *Journal of Applied Developmental Psychology*, 9, 459-475.

Alwitt, Linda F., Daniel R. Anderson, Elizabeth Pugzles Lorch, and Stephen R. Levin (1980), "Preschool Children's Visual Attention to Attributes of Television," *Human Communication Research*, 7 (Fall), 52-67.

Anderson, Daniel R. and Stephen R. Levin (1976), "Young Children's Attention to 'Sesame Street,'" *Child Development*, 47, 806-811.

Anderson, William and Patrick Groff (1972), *A New Look at Children's Literature*, Belmont, CA: Wadsworth Publishing Company, Inc.

Armstrong, Larry (1997), "Psst! Come Into my Web," *BusinessWeek*, (June 30), 67.

Aronfreed, Justin (1969), "The Concept of Internalization," in *Handbook of Socialization Theory and Research*, David A. Goslin, ed., Chicago: Rand McNally and Company, 263-324.

Asch, Solomon E. (1969), "A Reformulation of the Problem of Associations," *American Psychologist*, 92-102.

Astington, Janet Wilde (1993), *The Child's Discovery of the Mind*, Series ed. Jerome Bruner, Michael Cole, and Annette Karmilogg-Smith, Cambridge, MA: Harvard University Press.

_____, Paul L. Harris, and David R. Olson, eds. (1988), *Developing Theories of Mind*, Cambridge, UK: Cambridge University Press.

Atkin, Charles K. (1976), "Children's Social Learning From Television Advertising: Research Evidence on Observational Modeling of Product Consumption," in *Advances in Consumer Research*, Vol. 3, ed. Beverlee B. Anderson, Association for Consumer Research, 513-519.

Attneave, Fred (1954), "Some Informational Aspects of Visual Perception," *Psychological Review*, 61 (3), 183-193.

Ausubel, David P. (1952), *Ego Development and the Personality Disorders*, New York: Grune & Stratton.

Babbie, Earl (1992), *The Practice of Social Research*, Sixth Edition, Belmont, CA: Wadsworth Publishing Company.

Bachmann, Gwen Rae, Deborah Roedder John, and Akshay R. Rao (1993), "Children's Susceptibility to Peer Group Purchase Influence: An Exploratory Investigation," in *Advances in Consumer Research*, Vol. 20, ed., Leigh McAlister and Michael L. Rothschild, Association for Consumer Research, 463-468.

Bahn, Kenneth D. (1984), *Dimensions Underlying Children's Brand Discrimination and Preference Formation*, unpublished doctoral dissertation, University of Utah.

_____ (1986), "How and When Do Brand Perceptions and Preferences First Form? A Cognitive Developmental Investigation," *Journal of Consumer Research*, 13 (December), 382-393.

Baldwin, Alfred L. (1969),"A Cognitive Theory of Socialization" in *Handbook of Socialization Theory and Research*, David A. Goslin, ed., Chicago: Rand McNally and Company, 325-346.

Bandura, Albert J. (1965), "Influence on Models' Reinforcement Contignencies on the Acquisition of Imitative Responses," *Journal of Personality and Social Psychology*, 1, 589-595.

_____ (1977), *Social Learning Theory*, Englewood Cliffs, NJ: Prentice Hall.

_____, D. Ross and S. Ross (1963), "Imitation of Film-mediated Aggressive Models," *Journal of Abnormal and Social Psychology*, 66, 3-11.

Baron, Reuben M. and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-1182.

Belk, Russell W., Kenneth D. Bahn, and Robert N. Mayer (1982), "Developmental Recognition of Consumption Symbolism, " *Journal of Consumer Research*, 9 (June), 4-17.

_____, Robert Mayer, and Amy Driscoll (1984), "Children's Recognition of Consumption Symbolism in Children's Products," *Journal of Consumer Research*, 10 (March), 386-397.

Berlyne, D. E. (1957), "Uncertainty and Conflict: A Point of Contact Between Information-Theory and Behavior-Theory Concepts," *The Psychological Review*, 64 (6), 329-339.

_____ (1960), *Conflict, Arousal, and Curiosity*, New York: McGraw-Hill Book Company.

_____, Margaret A. Craw, P. H. Salapatek, and Judith L. Lewis (1963), "Novelty, Complexity, Inconguity, Extrinsic Motivation, and the GSR," *Journal of Experimental Psychology*, 66 (6), 560-567.

Beuf, Ann H. (1976), "Television Commercials as Socializing Agents," in *Advances in Consumer Research*, Vol. 3, ed. Beverlee B. Anderson, Association for Consumer Research, 528-530.

Berkeley, George (1713), *A Treatise Concerning the Principles of Human Knowledge.*

Bierley, Calvin, Frances K. McSweeney, and Renee Vannieuwkerk (1985), "Classical Conditioning of Preferences for Stimuli," *Journal of Consumer Research*, 12 (December), 316-323.

Bjorklund, Gail and Richard Bjorklund (1979), "An Exploratory Study of Toddlers' Satisfaction with their Toy Environments," in *Advances in Consumer Research*, Vol. 6, ed. William L. Wilkie, Association for Consumer Research, 400-406.

Boush, David, Shannon Shipp, Barbara Loken, Esra Gencturk, Susan Crockett, Ellen Kennedy, Bettie Minshall, Dennis Misurell, Linda Rochford, and Jon Strobel (1987), "Affect Generalization to Similar and Dissimilar Brand Extensions," *Psychology and Marketing*, 4 (Fall), 225-237.

Bower, Gordon and Ernest R. Hilgard (1981), *Theories of Learning*, 5th Ed., Englewood Cliffs, NJ: Prentice-Hall, Inc.

Brim, Orville G., Jr. (1966), "Socialization Through the Life Cycle," in *Socialization After Childhood*, Orville G. Brim, Jr. and Stanton Wheeler, eds., New York: Wiley.

Brucks, Merrie, Marvin E. Goldberg, and Gary M. Armstrong (1986), "Children's Cognitive Responses to Advertising," in *Advances in Consumer Research*, Vol. 13, ed. Richard J. Lutz, Association for Consumer Research, 650-654.

Bryant, Jennings and Daniel R. Anderson, eds. (1983), *Children's Understanding of Television: Research on Attention and Comprehension*, New York: Academic Press.

Bucher, Bradley and Robert E. Schneider (1973), "Acquisition and Generalization of Conservation by Pre-Schoolers, Using Operant Training," *Journal of Experimental Child Psychology*, 16, 187-204.

Buckingham, David (1996), *Moving Images: Understanding Children's Emotional Responses to Television*, Manchester: UK: Manchester University Press.

Burton, Dwight L. (1966), "Comic Books: A Teacher's Analysis," in *Readings About Children's Literature*, ed. Evelyn Rose Robinson, New York: David McKay Company, Inc., 46-50.

Calder, Bobby J., Lynn W. Phillips and Alice M. Tybout (1981), "Designing Research for Application," *Journal of Consumer Research*, 8 (September), 197-207.

_____, Thomas Robertson, and John Rossiter (1976), "Cognitive Response to Advertising: The Relation of Child to Adult Models," in *Advances in Consumer Research*, Vol. 3, ed. Beverlee B. Anderson, Association for Consumer Research, 536-538.

Callcott, Margaret F. and Patricia A. Alvey (1991), "Toons Sell . . . and sometimes that don't: An Advertising Spokes-Character Typology and Exploratory Study," in *Proceedings of the 1991 Conference of The American Academy of Advertising*, ed. Rebecca Homan, 43-52.

_____ and Wei-Na Lee (1994), "A Content Analysis of Animated and Animated Spokes-Characters in Television Commercials," *Journal of Advertising*, 23 (December), 1-12.

_____ and _____ (1995), "Establishing the Spokes-Character in Academic Inquiry: Historical Overview and Framework for Definition," in *Advances in Consumer Research*, Vol. 22, ed. Frank Kardes and Jim Muncy, Association for Consumer Research, 144-151.

_____ and Barbara J. Phillips (1996), "Observations: Elves Make Good Cookies," *Journal of Advertising Research*, (September/October), 73-79.

Calvert, Sandra L., Aletha C. Huston, Bruce A. Watkins, and John C. Wright (1982), "The Relation Between Selective Attention to Television Forms and Children's Comprehension of Content," *Child Development*, 53, 601-610.

Campbell, Donald T. and Julian C. Stanley (1963), *Experimental and Quasi-Experimental Designs for Research*, Chicago: Rand McNally College Publishing Company.

Capon, Noel and Deanna Kuhn (1980), "A Developmental Study of Consumer Information-Processing Strategies," *Journal of Consumer Research*, 7 (December), 225-233.

Carlson, Les and Sanford Grossbart (1988), "Parental Style and Consumer Socialization of Children," *Journal of Consumer Research*, 5 (June), 77-94.

Chaiken, Shelly (1980), "Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion," *Journal of Personality and Social Psychology*, 39 (5), 752-766.

_____ and Alice H. Eagly (1983), "Communication Modality as a Determinant of Persuasion: The Role of Communicator Salience," *Journal of Personality and Social Psychology*, 45 (2), 241-256.

Chebat, Jean-Charles, Michel Laroche, Daisy Baddoura, and Pierre Filiatrault (1992), "Effects of Source Likability on Attitude Change Through Message Repetition," in *Advances in Consumer Research*, Vol. 19, ed. John F. Sherry Jr. and Brian Sternthal, Association for Consumer Research, 353-358.

Clarke, Alex M., Linda L. Viney, Ian K. Waterhouse, and Janice Lord (1974), "Instrumental Learning in Preschool Children as a Function of Type of Task, Type of Reward, and Some Organismic Variables," *Journal of Experimental Child Psychology*, 17, 1-17.

Clifford, Brian R., Barie Gunter, and Jill McAleer (1995), *Television and Children: Program Evaluation, Comprehension, and Impact*, Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Collins, W. Andrew (1982), "Cognitive Processing in Television Viewing," in *Television and Behavior: Ten Years of Scientific Progress and Implications for the Eighties*, eds., David Pearl, Lorraine Bouthilet, and Joyce Lazar, Rockville, MD: National Institute of Mental Health, U. S. Department of Health and Human Services.

Cook, Thomas D. and Donald T. Campbell (1979), *Quasi-Experimentation: Design and Analysis Issues for Field Settings*, Chicago: Rand McNally College Publishing Company.

Crain, William (1992), *Theories of Development, Concepts and Applications*, 3rd Ed., Englewood Cliffs, NJ: Prentice Hall.

Cronbach, Lee J. and Paul E. Meehl (1955), "Construct Validity in Psychological Tests," *Psychological Bulletin*, 52 (July), 281-302.

Cullingford, Cedric (1984), *Children and Television*, Hampshire, UK: Gower Publshing Company Limited.

Damon, William (1983), *Social and Personality Development*, New York: W. W. Norton & Co.

Diamond, Steven Leonard (1977), *The Development of Brand-Related Attitudes, Skills, and Knowledge in Children*, unpublished doctoral dissertation, Harvard University.

DiFranza, Joseph R., John W. Richards, Jr., Paul M. Paulman, Nancy Wolf-Gillespie, Christopher Fletcher, Robert D. Jaffe, and David Murray (1991), "RJR Nabisco's Cartoon Camel Promotes Camel Cigarettes to Children," *Journal of the American Medical Association*, 266 (December 11), 3149-3153.

Donohue, Thomas R., Lucy L. Henke, and William A. Donohue (1980), "Do Kids Know What TV Commercials Intend?" *Journal of Advertising Research*, 20 (5), 51-56.

Dotz, Warren and Jim Morton (1996), *What a Character! 20th Century American Advertising Icons*, San Francisco: Chronicle Books.

Eagly, Alice H. and Shelly Chaiken (1993), *The Psychology of Attitudes*, Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.

Estes, William K. (1970), *Learning Theory and Mental Development*, New York: Academic Press.

_____, Henry M. Wellman, and Jacqueline D. Woolley (1989), "Children's Understanding of Mental Phenomena," in *Advances in Child Development and Behavior*, Vol. 22, ed., Hayne W. Reese, New York: Academic Press.

Evertson, Carolyn M. and Frank W. Wicker (1974), "Pictorial Concreteness and Mode of Elaboration in Children's Learning," *Journal of Experimental Child Psychology*, 17, 264-270.

Federal Communications Commission Fact Sheet (1995), "Children's Television Programming," [WWW document], URL http://www.fcc.gov/Bureaus/Mass_Media/Factsheets/kidstv.tx.

Feldman, Carol, Jerome Bruner, David Kalmar, and Bobbi Renderer (1994), "Plot, Plight, and Dramatism: Interpretation at Three Ages," in *The Nature and Ontogenesis of Meaning*, ed. Willis F. Overton and David S. Palermo, Hillsdale, NJ: Lawrence Erlbaum Associates Publishers, 255-277.

Fischer, Paul M., Meyer P. Schwartz, John W. Richards, Jr., Adam O. Goldstein, and Tina H. Rojas (1991), "Brand Logo Recognition by Children Aged 3 to 6 Years: Mickey Mouse and Old Joe the Camel," *Journal of the American Medical Association*, 266 (December 11), 3145-3148.

Flavell, John H. (1965), *The Developmental Psychology of Jean Piaget*, Princton, NJ: D. Van Nostrand Company, Inc.

_____ (1977), *Cognitive Development*, Englewood Cliffs, NJ: Prentice Hall.

Fogarty, Beth G. (1995), "See Hi-C; See Hi-C Repackaged; Run, Hi-C, Run; Run up the Sales," *Beverage World*, (March 31), 8.

Fowles, Barbara R. (1976a), "Teaching Children to Read: An Argument for Television," *Urban Review*, 9 (Summer), 114-120.

_____ (1976b), "Moppets in the Market Place: Evaluating Children's Response to Television Advertising," in *Advances in Consumer Research*, Vol. 3, ed. Beverlee B. Anderson, Association for Consumer Research, 520-522.

Garbarino, James, Frances M. Stott, and faculty of the Erickson Institute (1992), *What Children Can Tell Us: Eliciting, Interpreting, and Evaluating Critical Information from Children*, San Francisco: Jossey-Bass Publishers.

Gardner, B. B. and Sidney J. Levy (1955), "The Product and the Brand," *Harvard Business Review*, 33 (March-Spril), 33-39.

Gardner, Howard (1983), *Frames of Mind: The Theory of Multiple Intelligences*, New York, Basic Books.

Goldberg, Marvin E. and Gerald J. Gorn (1974), "Children's Reactions to Television Advertising: An Experimental Approach," *Journal of Consumer Research*, 1 (September), 69-75.

_____ and _____ (1978), "Some Unintended Consequences of TV Advertising to Children," *Journal of Consumer Research*, 5 (June), 22-29.

_____, _____, and Wendy Gibson (1978a), "The Effects of TV Messages for High and Low Nutritional Foods on Children's Snack and Breakfast Food Choices," in *Advances in Consumer Research*, Vol. 5, ed. H. Keith Hunt, Association for Consumer Research, 540-545.

_____, _____, _____ (1978b), "TV Messages for Snack and Breakfast Foods: Do They Influence Children's Preferences?" *Journal of Consumer Research*, 5 (September), 73-81.

Gorn, Gerald J. (1982), "The Effects of Music in Advertising on Choice Behavior: A Classical Conditioning Approach," *Journal of Marketing*, 46 (Winter), 94-101.

_____ and Renee Florsheim (1985), "The Effects of Commercials for Adult Products on Children," *Journal of Consumer Research*, 11 (March), 962-967.

_____ and Marvin E. Goldberg (1977), "The Impact of Television Advertising on Children from Low Income Families," *Journal of Consumer Research*, 4 (September), 86-88.

_____ and _____ (1980), "Children's Responses to Repetitive Television Commercials," *Journal of Consumer Research*, 6 (March), 421-424.

_____ and _____ (1982), "Behavioral Evidence of the Effects of Televised Food Messages on Children," *Journal of Consumer Research*, 9 (September), 200-205.

Goslin, David A., ed. (1969), *Handbook of Socialization Theory and Research*, Chicago: Rand McNally and Company.

Greenfield, Patricia Marks (1984), *Mind and Media: The Effects of Television, Video Games, and Computers*, Cambridge, MA: Harvard University Press.

Gresham, Larry G. and Terence A. Shimp (1985), "Attitude Toward the Advertisement and Brand Attitudes: A Classical Conditioning Perspective," *Journal of Advertising*, 14 (1), 10-17, 49.

Grubb, Edward L. and Harrison L. Grathwohl (1967), "Consumer Self-Concept, Symbolism and Market Behavior: A Theoretical Approach," *Journal of Marketing*, 31 (October), 22-27.

Guber, Selina S. and Jon Berry (1993), *Marketing To and Through Kids*, New York: McGraw-Hill, Inc. - book

Halpern, Werner I. (1975), "Turned-on Toddlers," *Journal of Communication*, 25 (Autumn), 66-70.

Hamlyn, D. W. (1987), *The Penguin History of Western Philosophy*, London: Penguin Books.

Harris, Judith R. and Robert M. Liebert (1984), *The Child*, Englewood Cliffs, NJ: Prentice Hall.

Hayes, Donald S. and Dana W. Birnbaum (1980), "Preschoolers' Retention of Televised Events: Is a Picture Worth a Thousand Words?" *Developmental Psychology*, 16 (5), 410-416.

_____, Bruce E. Chemelski, and Dana W. Birnbaum (1981), "Young Children's Incidental Retention of Televised Events," *Developmental Psychology*, 17 (2), 230-232.

Henke, Lucy L. (1995), "Young Children's Perceptions of Cigarette Brand Advertising Symbols: Awareness, Affect, and Target Market Identification," *Journal of Advertising*, 24 (Winter), 13-28.

Heslop, Louise A. and Adrian B. Ryans (1980), "A Second Look at Children and the Advertising of Premiums," *Journal of Consumer Research*, 6 (March), 414-420.

Hoy, Mariea Gubbs, Clifford E. Young, and John C. Mowen (1986), "Animated Host-Selling Advertisements: Their Impact on Young Children's Recognition, Attitudes, and Behavior," *Journal of Public Policy and Marketing*, 5, 171-184.

Hudson, Judith A., Lauren R. Shapiro, and Brandi B. Sosa (1995), "Planning in the Real World: Preschool Children's Scripts and Plans for Familiar Events," *Child Development*, 66, 984-998.

Hume, David (1739), *Treatise of Human Nature.*

Hume, Scott (1986), "Creating Toys to Put Under Wraps," *Advertising Age*, (May 5), S-4-S-5.

Huston-Stein, Aletha and John C. Wright (1979), "Children and Television: Effects of the Medium, Its Content, and Its Form," *Journal of Research and Development in Education*, 13 (Fall), 20-31.

Huston, Aletha C., John C. Wright, Ellen Wartella, Mabel L. Rice, Bruce A. Watkins, Toni Campbell, and Richard Potts (1981), "Communicating More the Content: Formal Features of Children's Television Programs," *Journal of Communication*, (Summer), 32-48.

Jenkins, Roger L. (1979), "The Influence of Children in Family Decision-Making: Parents' Perceptions," in *Advances in Consumer Research*, Vol. 6, Ed. William L. Wilkie, Association for Consumer Research, 413-418.

John, Deborah Roedder (1985), "The Development of Knowledge Structures in Children," in *Advances in Consumer Research*, Vol. 12, ed. Elizabeth C. Hirschman and Morris B. Holbrook, Association for Consumer Research, 329-333.

_____ and Catherine A. Cole (1986), "Age Differences in Information Processing: Understanding Deficits in Young and Elderly Consumers," *Journal of Consumer Research*, 13 (December), 297-315.

_____ and Mita Sujan (1990), "Age Differences in Product Categorization," *Journal of Consumer Research*, 16 (March), 452-460.

_____ and John C. Whitney, Jr. (1986), "The Development of Consumer Knowledge in Children: A Cognitive Structure Approach," *Journal of Consumer Research*, 12 (March), 406-417.

Keller, Kevin Lane (1993), "Conceptualizing, Measuring, and Managing Customer-Based Brand Equity," *Journal of Marketing*, 57 (January), 1-22.

Kerlinger, Fred N. (1992), *Foundations of Behavioral Research*, Third Edition, New York: Harcourt Brace College Publishers.

Klees, Donna M., Jerry Olson, and R. Dale Wilson (1988), "An Analysis of the Content and Organization of Children's Knowledge Structures," in *Advances in Consumer Research*, Vol. 15, ed. Michael J. Houston, Association for Consumer Research, 153-157.

Klein, Laurie (1997), "Kids Today: A Real Charity Case," *Brandweek*, 38 (April 21), 23, 26-27.

Land, T. [a.k.a. Beads] (1997, August 14), Web Extension to American Psychological Association Style (WEAPAS) (Rev. 1.4.2) [WWW document], URL http://www. beadsland.com/weapas/.

Larson, Melissa (1991), "Keep Your Eye on the Little Shoppers," *Packaging*, (November), 30-33.

Larzelere, Robert E. and Stanley A. Mulaik (1977), "Single-Sample Tests for Many Correlations," *Psychological Bulletin*, 84 (3), 557-569.

Lavidge, Robert J. and Gary A. Steiner (1961), "A Model for Predictive Measurements of Advertising Effectiveness," *Journal of Marketing*, 25 (October), 59-62.

Leonhardt, David and Kathleen Kerwin (1997), "Hey Kid, Buy This!," *BusinessWeek*, (June 30), 62-67.

Lesser, Gerald S. (1974), *Children and Television: Lessons from Sesame Street*, New York: Random House.

Levin, Joel R., Ann E. McCabe, and Bruce G. Bender (1975), "A Note on Imagery-Inducing Motor Activity in Young Children," *Child Development*, 46, 263-266.

LeVine, Robert A. (1969),"Culture, Personality, and Socialization: An Evolutionary View" in *Handbook of Socialization Theory and Research*, David A. Goslin, ed., Chicago: Rand McNally and Company, 503-542.

Liebeck, Laura (1993), "Noisy, Try-Me Toys Lead Parade at Toy Fair," *Discount Store News*, 32 (March1), 2, 42.

Lindquist, Jay D. (1974-75), "Meaning of Image: A Survey of Empirical and Hypothetical Evidence," *Journal of Retailing*, 50 (Winter), 29-38.

Looft, William R. and Wayne H. Bartz (1969), "Animism Revived," *Psychological Bulletin*, 71, 1-19.

Lyle, Jack and Heidi R. Hoffman (1972), "Children's Use of Television and Other Media," in *Television and Social Behavior, Reports and Papers, Volume IV: Television in Day-to-Day Life: Patterns of Use*, Eli A. Rubenstein, George A. Comstock, and John P. Murray, eds., Rockville, MD: National Institutes of Mental Health, 257-273.

Lynch, John G., Jr. (1982), "On the External Validity of Experiments in Consumer Research," *Journal of Consumer Research*, 9 (December), 225-239.

Maccoby, Eleanor E. (1992), "The Role of Parents in the Socialization of Children: An Historical Overview," *Developmental Psychology*, 28 (November), 1006-1017.

Macklin, M. Carole (1983), "The Influence of Task Demands on Outcomes: Preliminary Findings and Theoretical Implications to Advertising Research Involving Children," in *Advances in Consumer Research*, Vol. 10, ed. Richard P. Bagozzi and Alice M. Tybout, Association for Consumer Research, 277-282.

_____ (1984), "Verbal Labeling Effects in Short-Term Memory for Character/ Product Pairings," in *Advances in Consumer Research*, Vol. 11, ed. Thomas C. Kinnear, Association for Consumer Research, 343-347.

_____ (1985a), "Do Young Children Understand the Selling Intent of Commercials?" *The Journal of Consumer Affairs*, 19 (Winter), 293-304.

_____ (1985b), "Imagery and Paired-Associate Learning in Preschoolers," in *Advances in Consumer Research*, Vol. 12, ed. Elizabeth C. Hirschman and Morris B. Holbrook, Association for Consumer Research, 37-41.

_____ (1986a), "The Impact of Task Conditions on Young Children's Performance," in *Advances in Consumer Research*, Vol. 13, ed. Richard Lutz, Association for Consumer Research, 649.

_____ (1986b), "Classical Conditioning Effects in Product/Character Pairings Presented to Children," in *Advances in Consumer Research*, Vol. 13, ed. Richard Lutz, Association for Consumer Research, 198-203.

_____ (1987a), "The Effects of Question Form and Format on Children's Responses to Television Advertising," in *Advances in Consumer Research*, Vol. 14, ed. Melanie Wallendorf and Paul Anderson, Association for Consumer Research, 293-297.

_____ (1987b), "Preschoolers' Understanding of the Informational Function of Television Advertising," *Journal of Consumer Research*, 14 (September), 229-239.

_____ (1996), "Preschoolers' Learning of Brand Names from Visual Cues," *Journal of Consumer Research*, 23 (December), 251-261.

Marshall, Margaret R. (1982), *An Introduction to the World of Children's Books*, Hants, UK: Gower Publishing Company, Ltd.

Martin, Carol Lynn, Lisa Eisenbud, and Hilary Rose (1995), "Children's Gender-Based Reasoning about Toys," *Child Development*, 66, 1453-1471.

Martin, Claude R., Jr. (1994), "Consumer Research Standards & Public Policy Formulation: The Case of Mickey Mouse and Old Joe," in *Advances in Consumer Research*, Vol. 21, ed. Chris T. Allen and Deborah Roedder John, Association for Consumer Research, 380-386.

McCandless, Boyd R. (1969), "Childhood Socialization," in *Handbook of Socialization Theory and Research*, David A. Goslin, ed., Chicago: Rand McNally and Company.

McCormick, Kari Scherz (1988), *The Incidence of Demand for Brand Name Clothing Among a Selected Group of Children*, unpublished master's thesis, Lamar University.

McNeal, James U. (1964), *Children as Consumers*, Marketing Study Series, No. 9, Austin, TX: Bureau of Business Research, The University of Texas.

_____ (1987), *Children as Consumers: Insights and Implications*, Lexington, MA: Lexington Books.

_____ (1998), "Tapping the Three Kids' Markets," *American Demographics*, (April), 37-41.

McSweeney, Frances K. and Calvin Bierley (1984), "Recent Developments in Classical Conditioning," *Journal of Consumer Research*, 11 (September), 619-631.

Mead, George H. (1934), *Mind, Self, and Society*, Chicago: University of Chicago Press.

Meadowcroft, Jeanne M. and Byron Reeves (1989), "Influence of Story Schema Development on Children's Attention to Television," *Communication Research*, 16 (3), 352-374.

Meadows, Sara (1993), *The Child as Thinker: The Development and Acquisition of Cognition in Childhood*, London: Routledge.

Mizerski, Richard (1995), "The Relationship Between Cartoon Trade Character Recognition and Attitude Toward Product Category in Young Children," *Journal of Marketing*, 59 (October), 58-70.

Moschis, George P. (1985), "The Role of Family Communication in Consumer Socialization of Children and Adolescents," *Journal of Consumer Research*, 11 (March), 898-913.

_____ (1987), *Consumer Socialization: A Life-Cycle Perspective*, Lexington, MA: Lexington Books.

Murphy, Martin D. and Ann L. Brown (1975), "Incidental Learning in Preschool Children as a Function of Level of Cognitive Analysis," *Journal of Experimental Child Psychology*, 19, 509-523.

Nash, J. Madeleine (1997), "Fertile Minds," *Time*, 149 (February 3), 48-57.

Neeley, Sabrina M. (1997), "An Examination of Character Awareness, Brand Awareness, and Consumer Choice Behavior in Preschool Age Children," working paper, University of Tennessee.

_____ and Melinda J. Jones (1998), "Toon-ing In: Psychological Considerations When Using Spokes-Characters in Child-Targeted Advertising," in *1998 Winter Conference Proceedings of the Society for Consumer Psychology*, ed. Margaret C. Campbell and Karen A. Machleit, 44-50.

Nelson, James E. (1979), "Children as Information Sources in the Family Decision to Eat Out," in *Advances in Consumer Research*, Vol. 6, ed. William L. Wilkie, Association for Consumer Research, 419-423.

Newsweek (1997), "Special Edition: Your Child From Birth to Three," (Spring/Summer).

Nord, Walter R. and J. Paul Peter (1980), "A Behavior Modification Perspective on Marketing, " *Journal of Marketing*, 44 (Spring), 36-47.

Ogilvy, David (1983), *Ogilvy on Advertising*, New York: Vintage Books.

O'Guinn, Thomas C. and Ronald J. Faber (1987), "Mass Mediated Consumer Socialization: Non-Utilitarian and Dysfunctional Outcomes," in *Advances in Consumer Research*, Vol. 14, ed. Melanie Wallendorf and Paul Anderson, Association for Consumer Research, 473-477.

Pavlov, Ivan P. (1960/1927), *Conditioned Reflexes: An Investigation of the Psychological Activity of the Cerebral Cortex*, New York: Dover Publications, Inc.

Pearl, David, Lorraine Bouthilet, and Joyce Lazar, eds. (1982), *Television and Behavior: Ten Years of Scientific Progress and Implications for the Eighties*, Rockville, MD: National Institute of Mental Health, U. S. Department of Health and Human Services.

Peracchio, Laura A. (1992), "How Do Young Children Learn to be Consumers? A Script-Processing Approach," *Journal of Consumer Research*, 18 (March), 425-440.

_____ (1993), "Young Children's Processing of a Televised Narrative: Is a Picture Really Worth a Thousand Words?" *Journal of Consumer Research*, 20 (September), 281-293.

Peter, J. Paul (1979), "Reliability: A Review of Psychometric Basics and Recent Marketing Practices," *Journal of Marketing Research*, 16 (February), 6-17.

_____ (1981), "Construct Validity: A Review of Basic Issues and Marketing Practices," *Journal of Marketing Research*, 18 (May), 133-145.

Petty, Richard E. and John T. Cacioppo (1986), *Communication and Persuasion: Central and Peripheral Routes to Attitude Change*, New York: Springer-Verlag.

Pezdek, Kathy and Eileen F. Hartman (1983), "Children's Television Viewing: Attention and Comprehension of Auditory Versus Visual Information," *Child Development*, 54, 1015-1023.

Piaget, Jean (1951/1929), *The Child's Conception of the World*, London: Routledge and Kegan Paul, Ltd.

_____ and Barbel Inhelder (1969), *The Psychology of the Child*, (Helen Weaver, Trans.) Basic Books, (Original work published 1951).

Pollay, Richard W., S. Siddarth, Michael Siegel, Anne Haddiz, Robert K. Merritt, Gary A. Giovino, and Michael P. Eriksen (1996), "The Last Straw? Cigarette Advertising and Realized Market Shares Among Youths and Adults, 1979-1993," *Journal of Marketing*, 60 (April), 1-16.

Price, Gloria Huberman (1976), *The Effect of Premium Offers in Television Commercials on Children's Consumer Behavior*, unpublished doctoral dissertation, State University of New York at Stony Brook.

Quarfoth, Joanne M. (1979), "Children's Understanding of the Nature of Television Characters," *Journal of Communication*, 29 (Summer), 210-218.

Raju, P. S. and Subhash C. Lonial (1990), "Advertising to Children: Findings and Implications," in *Current Issues and Research in Advertising*, Vol. 12, ed. James Leigh and Claude Martin, Ann Arbor, MI: University of Michigan, 231-274.

Reece, Bonnie Brucks (1982), *Children's Shopping Skills and Store Knowledge*, unpublished doctoral dissertation, University of Michigan.

_____ (1984), "Children's Ability to Identify Retail Stores From Advertising Slogans," in *Advances in Consumer Research*, Vol. 11, ed. Thomas C. Kinnear, Association for Consumer Research, 320-323.

Reeves, Byron and Bradley S. Greenberg (1977), "Children's Perceptions of Television Characters," *Human Communication Research*, 3 (Winter), 113-127.

Rice, Mabel L., Aletha C. Huston, and John C. Wright (1982), "The Forms of Television: Effects on Children's Attention, Comprehension, and Social Behavior," in *Television and Behavior: Ten Years of Scientific Progress and Implications for the Eighties*, eds., David Pearl, Lorraine Bouthilet, and Joyce Lazar, Rockville, MD: National Institute of Mental Health, U. S. Department of Health and Human Services.

Robertson, Thomas S. (1980), "Television Advertising and Parent-Child Relations," in *The Effects of Television Advertising on Children: Review and Recommendations*, Richard P. Adler, Gerald S. Lesser, Laurene Krasny Meringoff, Thomas S. Robertson, John R. Rossiter, and Scott Ward, eds., Lexington, MA: Lexington Books, 195-212.

_____ and John R. Rossiter (1974), "Children and Commercial Persuasion: An Attribution Theory Analysis," *Journal of Consumer Research*, 1(June), 13-20.

_____, _____ , and Terry C. Gleason (1979), "Children's Receptivity to Proprietary Medicine Advertising," *Journal of Consumer Research*, 6 (December), 247-255.

_____, _____ , and Scott Ward (1985), "Consumer Satisfaction Among Children," in *Advances in Consumer Research*, Vol. 12, ed. Elizabeth C. Hirschman and Morris B. Holbrook, Association for Consumer Research, 279-284.

Roedder, Deborah L. (1980), *The Role of Inference in Children's Consumer Information Processing* , unpublished doctoral dissertation, Department of Marketing, Northwestern University.

_____ (1981), "Age Differences in Children's Responses to Television Advertising: An Information-Processing Approach," *Journal of Consumer Research*, 8 (September), 144-153.

Rossiter, John R. (1976), "Visual and Verbal memory in Children's Product Information Utilization," in *Advances in Consumer Research*, Vol. 3, ed. Beverlee B. Anderson, Association for Consumer Research, 523-527.

_____ (1980), "The Effects of Volume and Repetition of Television Commercials," in *The Effects of Television Advertising on Children: Review and Recommendations*, Richard P. Adler, Gerald S. Lesser, Laurene Krasny Meringoff, Thomas S. Robertson, John R. Rossiter, and Scott Ward, eds., Lexington, MA: Lexington Books, 153-183.

Rubenstein, Eli A., George A. Comstock, and John P. Murray (1972), *Television and Social Behavior, Reports and Papers, Volume IV: Television in Day-to-Day Life: Patterns of Use*, Rockville, MD: National Institutes of Mental Health, U. S. Department of Health, Education, and Welfare.

Rust, Langbourne (1993), "Observations: Parents and Children Shopping Together: A New Approach to the Qualitative Analysis of Observational Data," *Journal of Advertising Research*, (July/August), 65-70.

_____ and Carole Hyatt (1991), "Qualitative and Quantitative Approaches to Child Research," in *Advances in Consumer Research*, Vol. 18, ed. Rebecca H. Holman and Michael R. Solomon, Association for Consumer Research, 18-22.

Scammon, Debra L. and Carole L. Christopher (1981), "Nutrition Education with Children Via Television: A Review," *Journal of Advertising*, 10(2), 26-36.

Schneider, Cy (1989), *Children's Television: The Art, The Business, and How it Works*, Lincolnwood, IL: NTC Business Books. -book

Schumann, David W., Richard E. Petty, and D. Scott Clemons (1990), "Predicting the Effectiveness of Different Strategies of Advertising Variation: A Test of the Repetition-Variation Hypotheses," *Journal of Consumer Research*, 17 (September), 192-202.

Seiter, Ellen (1993), *Sold Separately: Children and Parents in Consumer Culture*, New Brunswick, NJ: Rutgers University Press.

Shamir, Jacob (1979), *Children's Consumer Information Processing: The Development and Training of Product Choice Strategies and Information Use*, unpublished doctoral dissertation, University of Minnesota.

Shimp, Terence A. (1981), "Attitude Toward the Ad as a Mediator of Consumer Brand Choice," *Journal of Advertising*, 10, 9-15, 48.

_____, Robert F. Dyer, and Salvatore F. Divita (1976), "An Experimental Test of the Harmful Effects of Premium-Oriented Commercials on Children," *Journal of Consumer Research*, 3 (June), 1-11.

Singer, Dorothy G. and Tracey A. Revenson (1996), *A Piaget Primer: How a Child Thinks, Revised Edition*, New York: Plume Books.

Skinner, B. F. (1938), *The Behavior of Organisms: An Experimental Analysis*, New York: Appleton-Century-Crofts, Inc.

_____ (1953), *Science and Human Behavior*, New York: Macmillan.

_____ (1971), *Beyond Freedom and Dignity*, New York: Bantam.

Smith, T. V. and Marjorie Grene, eds. (1957), *Philosophers Speak for Themselves: Berkeley, Hume, and Kant*, Chicago: The University of Chicago Press.

Snyder, James, Lisa West, Vanessa Stockemer, Shannon Gibbons, and Laura Almquist-Parks (1996), A Social Learning Model of Peer Choice in the Natural Environment," *Journal of Applied Developmental Psychology*, 17 (April-June), 215-237.

Soldow, Gary F. (1985), "The Ability of Children to Understand the Product Package: A Study of Limitations Imposed by Cognitive Developmental Stage," *Journal of Public Policy and Marketing*, 4, 55-68.

Solomon, Michael R. (1983), "The Role of Products as Social Stimuli: A Symbolic Interactionism Perspective," *Journal of Consumer Research*, 10 (December), 319-329.

Stevenson, Harold W. (1972), *Children's Learning*, New York: Appleton-Century-Crofts.

Streiner, Norman (1986), *PDQ Statistics*, Toronto: B. C. Decker, Inc.

Stutts, Mary Ann and Garland G. Hunnicutt (1987), "Can Young Children Understand Disclaimers in Television Commercials?" *Journal of Advertising*, 16(1), 41-46.

Swanson, Kathi Jordan (1987), *The Effect(s) of Familiarity on Children's Product Choices: An Information Processing Perspective*, unpublished doctoral dissertation, Texas A&M University.

Thorson, Esther (1990), "Consumer Processing of Advertising," in *Current Issues and Research in Advertising*, Vol. 12, ed. James Leigh and Claude Martin, Ann Arbor, MI: University of Michigan, 197-230.

_____, Byron Reeves, and Joan Schleuder (1985), "Message Complexity and Attention to Television," *Communication Research*, 12 (October), 427-454.

Toerpe, Kathleen Diane (1994), *Small Fry, Big Spender: McDonald's and the Rise of a Children's Consumer Culture, 1955-1985*, unpublished doctoral dissertation, Department of History, Loyola University of Chicago.

U. S. Bureau of the Census (1997), "Resident Population of the United States: Middle Series Projections, 1996-2000, by Age and Sex," [WWW document] URL http://www.census. gov/population/projections/nation/nas/npas9600.tx.

Van Auken, Stuart and Subhash C. Lonial (1985), "Children's Perceptions of Characters: Human Versus Animate, Assessing Implications for Children's Advertising," *Journal of Advertising*, 14 (2), 13-22, 61.

Vygotsky, Lev Semenovich (1978), *Mind in Society: The Development of Higher Psychological Processes*, ed. Michael Cole, Vera John-Steiner, Sylvia Scribner, and Ellen Souberman, Cambridge, MA: Harvard University Press.

Wackman, Daniel B. and Scott Ward (1976), "The Development of Consumer Information-Processing Skills: Contributions from Cognitive Development Theory," in *Advances in Consumer Research*, Vol. 3, ed. Beverlee B. Anderson, Association for Consumer Research, 531-535.

Ward, Scott (1980), "The Effects of Television Advertising on Consumer Socialization," in *The Effects of Television Advertising on Children: Review and Recommendations*, Richard P. Adler, Gerald S. Lesser, Laurene Krasny Meringoff, Thomas S. Robertson, John R. Rossiter, and Scott Ward, eds., Lexington, MA: Lexington Books, 185-194.

_____, Thomas S. Robertson, and Daniel Wackman (1971), "Children's Attention to Television Advertising," in Advances in Consumer Research, ed. David M. Gardner, *Association for Consumer Research*, 143-156.

_____ , and Daniel Wackman (1973), "Consumer Socialization: Initial Study Results," in *Advances in Consumer Research*, ed. Scott Ward and Peter Wright, Association for Consumer Research, 120-125.

_____, _____ , and Ellen Wartella (1977a), *How Children Learn to Buy: The Development of Consumer Information-Processing Skills*, Beverly Hills: Sage Publications.

_____ , _____, _____ (1977b), "The Development of Consumer Information-Processing Skills: Integrating Cognitive Development and Family Interaction Theories," in *Advances in Consumer Research*, Vol. 4, ed. William O. Perreault, Association for Consumer Research, 166-171.

Wartella, Ellen, ed. (1979), *Children Communicating: Media and Development of Thought, Speech, Understanding*, Beverly Hills: Sage Publications.

_____ and James S. Ettema (1974), "A Cognitive Developmental Study of Children's Attention to Television Commercials," *Communication Research*, 1 (January), 69-88.

_____, Daniel B. Wackman, and Scott Ward (1978), "Children's Consumer Information Processing: Representation of Information From Television Advertisements," in *Advances in Consumer Research*, Vol. 5, ed. H. Keith Hunt, Association for Consumer Research, 535-539.

Watson, John B. (1924), *Behaviorism*, New York: W. W. Norton & Company.

Watson, John S., Louise A. Hayes, and Peter Vietze (1979), "Bidimensional Sorting in Preschoolers with an Instrumental Learning Task," *Child Development*, 50, 1178-1183.

Watt, James H., Jr. and Robert Krull (1974), "An Information Theory Measure for Television Programming," *Communication Research*, 1 (January), 44-68.

_____, _____ (1977), *Form Complexity and Children's Physiological Responses, Attention, and Recall*, unpublished research report, New York: Children's Television Workshop.

_____ and Alicia J. Welch (1983), "Effects of Static and Dynamic Complexity on Children's Attention and Recall of Televised Instruction," in *Children's Understanding of Television: Research on Attention and Comprehension*, ed. Jennings Bryant and Daniel R. Anderson, New York: Academic Press, 69-102.

Welch, Alicia J. and James H. Watt, Jr. (1982), "Visual Complexity and Young Children's Learning From Television," *Human Communication Research*, 8 (Winter), 133-145.

Wellman, Henry M. (1990), *The Child's Theory of Mind*, Cambridge, MA: The MIT Press.

_____ and K. Bartsch (1988), "Young Children's Reasoning About Beliefs," *Cognition*, 30, 239-277.

Wells, William D. (1965), "Communicating With Children," *Journal of Advertising Research*, 5(2), 2-14.

_____ and David Prensky (1996), *Consumer Behavior*, New York: John Wiley & Sons, Inc.

Werner, Heinz, and B. Kaplan (1956), "The Developmental Approach to Cognition: Its Relevance to the Psychological Interpretation of Anthropological and Ethnolinguistic Data," *American Anthropologist*, 58, 866-880.

Weybright, Loren D. (1976), "The Development of Play and Logical Thinking," *Urban Review*, 9 (Summer), 133-140.

Wright, John C. and Aletha C. Huston (1983), "A Matter of Form: Potentials of Television for Young Viewers," *American Psychologist*, (July), 835-843.

_____, _____, Rhonda P. Ross, Sandra L. Calvert, David Rolandelli, Lee Ann Weeks, Pouran Raeissi, and Richard Potts (1984), "Pace and Continuity of Television Programs: Effects on Children's Attention and Comprehension," *Developmental Psychology*, 20 (4), 653-666.

Young, Brian (1990), *Television Advertising and Children*, Oxford, UK: Clarendon Press.

Yuille, John C. and Michael J. Catchpole (1973), "Associative Learning and Imagery Training in Children," *Journal of Experimental Child Psychology*, 16, 403-412.

Zimmerman, Barry J. and Jeannine Rocha (1984), "Influence of a Model's Verbal Descriptions of Toy Interactions on Kindergarten Children's Associative Learning," *Journal of Applied Developmental Psychology*, 5, 281-291.

_____ and _____ (1987), "Mode and Type of Toy Elaboration Training on Kindergartners' Retention and Transfer Learning," *Journal of Applied Developmental Psychology*, 8, 67-78.

APPENDICES

APPENDIX A

THEORETICAL PROPOSITIONS

P1: Preschoolers process information perceptually and exhibit perceptual boundedness. In order to "break-through" this boundedness, marketers must present advertising messages that are perceptually salient.

P2: Preschoolers exhibit less developed levels of cognitive structures and abilities than older children, which causes them to easily lose attention to information presentations.

P3: Preschoolers comprehend their environment by forming simplistic structures relating beliefs about and desires toward humans or inanimate objects. Often these structures are comprised of holistic conceptions of persons or objects.

P4: Preschool children's belief structures form as a system of primary and secondary representations.

P5: Children's beliefs and desires can be moderated by simplistic affective states.

P6: Preschool children can be conditioned, through structured exposure, to exhibit affective responses to stimuli.

P7: Positive reinforcements may modify preschoolers' future attitudes and behaviors by strengthening the association built between a stimulus and behavior.

P8: Preschoolers use schema, or scripts, to organize information and aid in interpretation of new environmental stimuli. These schema cue the child to pay attention, sort out, and process relevant information.

P9: The younger the child, the more likely he or she is to process and retrieve incidental information from a consumer information message and not understand the persuasive role of the advertising.

P10: Preschool children process, store, and retrieve visual information more easily than aural information. However, aural cues are used to cue the child to the important visual information.

P11: Preschool children form associative networks of consumer information. Exposure to a single element in that network will evoke recall and/or recognition of other elements within the structure.

P12: Children model the consumer behavior of significant others such as family members, and this behavior is reinforced through social rewards distributed by those significant others.

P13: Children model the behavior of actors and characters they see on television and in promotional messages. This behavior can be reinforced by the actor or character's verbal and non-verbal messages.

APPENDIX B

Dependent Variable	Conceptual Definition	Operational Definition	Type of Data	Statistical Analysis
Character Awareness	Child's consciousness of the existence of the character	*Recognition* -- Child's ability to point to correct character out of set when questioned by researcher (Henke 1995; Macklin 1985; Mizerski 1995)	*Recognition* -- Nominal (0=No, 1=Yes)	Frequencies Proportions Chi-Square
Product Awareness	Child's consciousness of the existence of the product	*Recognition* -- Child's ability to point to correct product out of set when questioned by researcher (Henke 1995; Macklin 1985; Mizerski 1995)	*Recognition* -- Nominal (0=No, 1=Yes)	Frequencies Proportions Chi-Square
Character Knowledge	Child's simplistic structures of perceptual beliefs and desires about the character	*Recall* -- Child's ability to verbally name and describe character seen in commercial (Macklin 1996)	*Recall* -- Ratio (child's score as determined by number of attributes given) Open-ended responses	Mean Median Mode t-tests ANOVA
Product Knowledge	Child's simplistic structures of perceptual beliefs and desires about the product	*Recall* -- Child's ability to verbally name and describe product seen in commercial (Macklin 1996)	*Recall* -- Ratio (child's score as determined by number of attributes given) Open-ended responses	Mean Median Mode t-tests ANOVA
Character/ Product Association	Child's ability to pair character with associated product	Child's ability to point to correct product when shown picture of character when given multiple options (Henke 1995; Macklin 1985)	Nominal (0=No, 1=Yes)	Frequencies Proportions Chi-Square

Character Liking	Child's affective response toward the character	Child's pointing to card on a 4-point pictorial scale (Really Like, Sort-of Like, Sort-of-Dislike, Really Dislike) (Macklin 1986b; Mizerski 1995; Shimp, Dyer and Divita 1976)	Interval (1, 2, 3, 4)	Mean Median Mode t-test ANOVA
Product Liking	Child's affective response toward the product	Child's pointing to card on a 4-point pictorial scale (Really Like, Sort-of Like, Sort-of-Dislike, Really Dislike) (Macklin 1986b; Mizerski 1995; Shimp, Dyer and Divita 1976)	Interval (1, 2, 3, 4)	Mean Median Mode t-test ANOVA
Product Preference	Child's ranking of one product over all others in the choice set	Score calculated as number of times child points to picture of product when given scenario of ability to choose (Goldberg, Gorn and Gibson 1978a, 1978b; Gorn and Florsheim 1985; Macklin 1986)	Interval (0, 1, 2, 3)	Mean Median Mode t-test ANOVA
Product Intention	Child's designation of product as one wanted for a particular situation	Child's indication of product desired when told to select snack for party	Nominal (0=No, 1=Yes)	Frequencies Proportions Chi-Square
Product Acquisition/ Choice	Child's choice of product upon invitation, or child's request for product	Child's physical choice of advertised product from choice set, at party	Nominal (0=No, 1=Yes)	Frequencies Proportions Chi-Square
Hierarchical Relationship	Dependence of child's product choice on attendance at each step	Statistical significance of each hierarchical step in predicting child's final choice		Correlations Logistic Regression

APPENDIX C

INTERVIEW SCRIPT

Introduction --(briefly talk to the child and ask the child questions in order to build rapport)

Hi, I'm _____. What's your name? Well, _____, how are you doing today? What have you been doing at school today? (talk until you perceive child is comfortable).

Well, I want to talk to you about what you just watched on TV. Is that okay? I've got this tape recorder and I'm going to turn it on so I can remember later what we talked about. Is that okay? Good.

1. First, can you tell me about any of the animals that were in commercials you just saw on TV?

   (If no) Cue: Do you remember seeing a commercial with a mouse(S1)/dog or bear (S2)?

   Can you tell me about the mouse/dog/bear?

2. Next, I'm going to show you some cards that have pictures on them. (Lay character cards in front of child). Can you point to animals you just saw on TV?

3. Okay, can you tell me about any of the foods you just saw in commercials on TV?

(If no) Cue: Do you remember seeing some cheese crackers (S1)/fruit snacks (S2) on TV?

Can you tell me about the cheese crackers/fruit snacks?

4. Now I'm going to show you some cards again. (Lay product cards in front of child). Can you point to the food you just saw on TV?

(If no) Cue: These are pictures of (point to and name each product) potato chips, peanut butter cookies, cheese crackers, and fruit snacks. Can you point to the food you just saw on TV?

5. Now we're going to play a game with these cards. I'm going to put these cards down (lay down product cards). Can you point to the picture here (point to

product cards) that goes with this picture (show first character card)? Okay, now can you point to the picture (product cards) that goes with this picture (second character card)? (Proceed through all character cards).

Okay, now I'm going to show you some different cards. These cards have pictures on them that help me know how much you like or don't like something. (Show cards). This card (point to biggest smile) means you like something a *whole lot* (emphasis). This card (point to biggest frown) means you *really don't like* (emphasis) something. What do you think the little smiley face means? What do you think the little frowney face means? (Repeat the meaning of the end points if necessary)

First, we're going to practice. I'm going to ask you how much you like some things and I want you to point to the face that tells me how much you like or don't like it. It's okay if you don't like something, just tell me. Okay?

Ask the child to name something he or she likes. Then ask the child, "Can you show me how much you like (object child just mentioned)?" Repeat for something the child does not like.

(When you feel comfortable that the child understands) Okay, now we're going to really play this game.

6. How much do you like this animal? (Repeat through entire set of character cards)

7. How much do you like this food? (Repeat through entire set of product cards)

8a. Next, we're going to play pretend. (Lay out product cards). Let's pretend that your Mommy or Daddy might have to go somewhere for a little while and you're going to have a baby-sitter. The babysitter wants to give you a snack, but doesn't know what kind of food you like. Can you point to the picture of the food you would want to eat for a snack?

b. Okay, now, let's pretend you might have a baby-sitter again another day. What food would you want to eat for a snack then?

c. Okay, now, what if you have a baby-sitter a third time. What food would you want to eat for a snack then?

9. That's all the questions I have for you. Thanks for talking to me today. It's time for you to go back with your class. In several days, after we talk to all the kids, we're going to have a party (or come back and pick a snack to take home). Since you were so helpful when you talked to me, you get to choose a snack to have at the party (or take home), so can you point to the picture of the snack you will want. Okay? Bye!

APPENDIX D

RESPONSE SHEET - STUDY 1

Child _____Interviewer _____Treatment _____

1. Child's behavior during viewing:

2. Character Recall: (place check beside each characteristic given)

_____ Mouse _____ Blue

_____ Squeeker (name) _____ Action (eats/jumps/none)

_____ Other relevant _____

Total characteristics _____

2. Character Recognition: (circle) Y N

3. Product Recall: (place check beside each characteristic given)

_____ Cheese crackers _____ Red box

_____ Cheezies (brand) _____ Gives you lots of energy

_____ From the bakery _____ Squeeker likes them

_____ Great when you feel like snacking

_____ Other relevant _____

Total characteristics _____

4. Product Recognition: (circle) Y N

5. Character/Product Association: (circle) Y N

6. Character Liking: (circle)

	Like			Dislike
Mouse	1	2	3	4
Dog	1	2	3	4
Bear	1	2	3	4
Squirrel	1	2	3	4

7. Product Liking: (circle)

	Like			Dislike
Cheese crackers	1	2	3	4
PB cookies	1	2	3	4
Potato chips	1	2	3	4
Fruit snacks	1	2	3	4

8. Product Preference: (circle)

Trial 1:	Cheese crackers	Fruit Snacks	Chips	Cookies
Trial 2:	Cheese crackers	Fruit Snacks	Chips	Cookies
Trial 3:	Cheese crackers	Fruit Snacks	Chips	Cookies

9. Product Intention: (circle) Crackers F. Snacks Chips Cookies

10. Product Choice: (circle) Crackers F. Snacks Chips Cookies

RESPONSE SHEET - STUDY 2

Child _____ Interviewer _____ Treatment _____

1. Child's behavior during viewing:

2. Character Recall: (place check beside each characteristic given)

_____ Bear (i/a) _____ Brown (i/a)
_____ Dog (i/a) _____ Blue (i/a)

_____ Boingo (bear name - i/a)
_____ Oingo (dog name - i/a)

_____ Bear eats fruit snack _____ Bear talks

_____ Dog eats fruit snack _____ Dog talks

Other relevant _____

Total characteristics _____

3. Character Recognition: (circle) Y N Bear

Y N Dog

4. Product Recall: (place check beside each characteristic given)

_____ Fruit snacks _____ Different colors

_____ Silly Willy (brand) _____ Cherry, grape, lemon, and lime

_____ Take 'em anywhere _____ Fun to eat

_____ Taste good _____ Good for you

_____ Other relevant _____

Total characteristics _____

4. Product Recognition: (circle) Y N

5. Character/Product Association: (circle) Y N

6. Character Liking: (circle)	Like			Dislike
Mouse	1	2	3	4
Dog	1	2	3	4
Bear	1	2	3	4
Squirrel	1	2	3	4

7.	Product Liking: (circle)	Like			Dislike
	Cheese crackers	1	2	3	4
	Peanut butter cookies	1	2	3	4
	Potato chips	1	2	3	4
	Fruit snacks	1	2	3	4

8. Product Preference: (circle)

Trial 1:	Cheese crackers	Fruit Snacks	Chips	Cookies
Trial 2:	Cheese crackers	Fruit Snacks	Chips	Cookies
Trial 3:	Cheese crackers	Fruit Snacks	Chips	Cookies

9.	Product Intention: (circle)	Crackers	F. Snacks	Chips	Cookies

10.	Product Choice: (circle)	Crackers	F. Snacks	Chips	Cookies

APPENDIX E

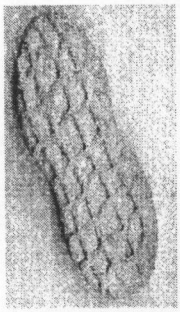
EXPERIMENTAL SPOKES-CHARACTERS



APPENDIX F

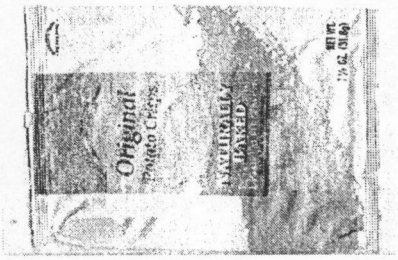
EXPERIMENTAL PRODUCTS



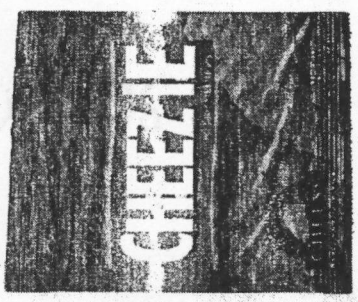










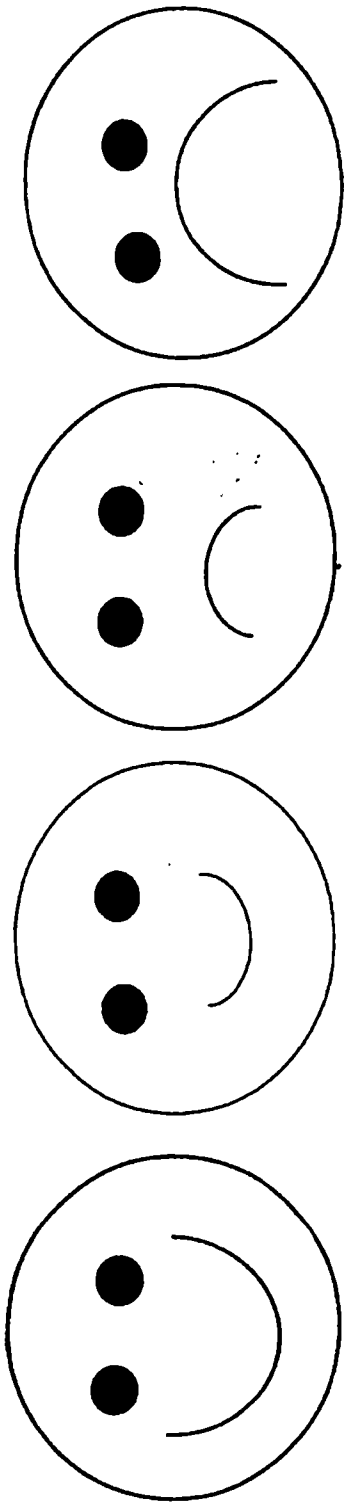




GILBERT
ICATION

APPENDIX G

CHARACTER/PRODUCT LIKING SCALE



APPENDIX H

(on university letterhead)

Date

Dear Parent:

Recently, many child experts and government officials have become concerned about the influence that cartoon advertising characters, such as Tony the Tiger and Joe Camel, have on children. We know that young children like cartoon characters, but we really do not know why these cartoon characters are so effective in advertising, or even what children think about these characters. It is hard to know how to protect children, if we do not know how these characters affect children. My doctoral dissertation research examines cartoon advertising characters and how they influence preschool aged children's knowledge of and preferences for certain food products.

Your child has been selected as one of a few children in the (city) area to participate in my study. I have already received permission from (child development center) to use their facilities and conduct the research during school hours. Neither you nor your child will receive any financial compensation for his or her participation; however, since this is a study of food products, your child will receive a small food snack of his or her choice. The child will be allowed to choose from fruit snacks, cheese crackers, potato chips, or peanut butter cookies which will be consumed at a party after the study is completed. If you are concerned that your child may have a food allergy to any of these products, please feel free to call me and I will provide you with a list of ingredients for all products used in this study.

As part of the study, your child will watch a videotape approximately 15 minutes in length that includes a children's television program (*The Wubbulous World of Dr. Seuss*) and commercials. Then your child will meet for about 10 - 15 minutes with an interviewer, who will ask your child a few questions about what he or she watched.

All your child's answers will be kept in complete confidentiality. The interview will be audiotaped, but those tapes will be transcribed and the tapes erased. All the children's responses will be entered into a computer program for analysis.

If you approve of your child's participation in this study, please complete the enclosed consent form and either mail it back to me in the enclosed envelope, or return it to your child's teacher. If you have any additional questions about this study, please do not hesitate to call me at 742-3392.

Thank you for considering your child for this research study.

Sincerely,

Sabrina M. Neeley
Assistant Professor, Advertising and Public Relations
School of Mass Communications

APPENDIX I

Parental Consent for Child's Participation in Research Study
"Animated Spokes-Character Influence on Preschool Children's Product Knowledge and Preferences"

I, _____, agree to allow my son or daughter, _____, to participate in the research study under the direction of Sabrina M. Neeley of the University of Tennessee, to be used for her doctoral dissertation requirements.

I understand that the purpose of the research is to study how a preschool child's awareness and liking of an advertising spokes-character influences his or her knowledge and choice of products.

I understand that my child is only one of a few children participating in this study, and that my child will only participate once. I understand that this study will take place while my child is at school and that the study will take about thirty minutes. I also understand that neither myself, nor my child, will receive any financial incentive for his or her participation. I understand that my child will receive a small food snack as part of the study, which will be consumed at a school party after the study is completed. The food snack items used in this study have been listed in the cover letter and I have been given the opportunity to call Ms. Neeley and receive lists of ingredients for all products to ensure my child is not allergic to any of the foods used. I am not aware of any allergies my child may have to these products.

I understand that what my child says will be audiotaped. I understand this creates a risk of participating in the study if persons other than the researcher have access to the tapes. I understand, however, that what my child says will only be identified by an identification number, and that the tapes will be destroyed as soon as the responses are recorded on paper.

I understand that my child's participation in this study is voluntary and that my son or daughter is free to stop at any time, or refuse to answer any question without penalty. I also understand that if, at any time, my child becomes uncomfortable during the study, the researcher will stop.

I understand that if I have any questions about this research, or about my child's rights as a research participant, I should contact either of the following persons at the Department of Marketing, Logistics, and Transportation, University of Tennessee, Knoxville.

Sabrina M. Neeley 310 Stokely Mgmt. Ctr. 974-5311	OR	David W. Schumann 722 Stokely Mgmt Ctr. 974-5061

I will receive a copy of this consent form. Another copy will be held in a locked cabinet for three years in 309 Stokely Management Center.

_____
Printed Name

_____ _____
Parent's Signature Date

I have explained and defined in detail the research procedure for which the parent has given consent.

_____ _____
Principal Investigator Date

APPENDIX J

Child Background Information
"Animated Spokes-Character Influence on Preschool Children's Product Knowledge and Preferences"

The following information is being gathered so that all the children's answers can be compared. All information contained on this form will be kept in strictest confidentiality. Your child's name will only be used to identify him or her for consent and participation and will not be associated with his or her responses to the research questions.

Child's Name _____

Child's Birthday _____
(mm/dd/yy)

Child's Sex F M (please circle)

Child has: _____ brothers and _____ sisters living in the home.

Child's Race or Ethnic Origin:
(please check appropriate boxes)
_____ Caucasian
_____ African-American
_____ Asian
_____ Hispanic
_____ Native-American
_____ Other

Parent or Guardian's Occupation: _____

Approximately how many hours of television (not including videos) does your child watch in a week's time?_____

Approximately how many hours of videos does your child watch in a week's time? _____

How often does your child eat the following foods:

	Very Often				Never	My child is not allowed to eat this
Cheese crackers	1	2	3	4	5	9
Fruit (roll-up) snacks	1	2	3	4	5	9
Potato chips	1	2	3	4	5	9
Peanut butter cookies	1	2	3	4	5	9

Please return this information form and one signed copy of the informed consent form to your child's teacher, or mail it to Ms. Neeley in the enclosed return envelope.

APPENDIX K

STIMULUS COMPLEXITY (AUDITORY)

Auditory complexity is a measure of the number or frequencies of sounds heard on the auditory channel. Auditory complexity increases as the number of different sounds (or character voices) increases. Voiceovers are the least complex stimulus.

Please indicate for each commercial seen, how many different voices are heard.

Commercial A: _____

Commercial B: _____

Commercial C: _____

Commercial D: _____

Next, please rank the commercials in order of increasing auditory complexity.

Least Complex _____

_____

_____

Most Complex _____

VITA

Sabrina Moreland Neeley was born in Canyon, Texas on April 11, 1968. She attended public schools in the Canyon Independent School District and graduated from Canyon High School in 1986. She entered Texas A&M University in the Fall of 1986, and subsequently graduated in December, 1990 with a Bachelor of Business Administration degree in Marketing. She worked briefly in the Austin, Texas area and moved to Knoxville, Tennessee, in January 1992 where she began work at the University of Tennessee in the College of Arts and Sciences Undergraduate Advising office. She began work towards her Master of Arts degree at the University of Tennessee in the Fall of 1992, which she thereafter received in August, 1994. During the pursuit of her Master's degree, she worked as a research assistant for the Social Science Research Institute at the University of Tennessee, as well as for private marketing and public opinion research companies. In August, 1995, she began pursuit of her Ph.D. in marketing at the University of Tennessee. Her doctoral degree was awarded in August, 1999.

Sabrina is currently an Assistant Professor of Advertising and Public Relations and the Director of the Institute for Communications Research at Texas Tech University in Lubbock, Texas.