



Contents lists available at ScienceDirect

## Journal of Retailing and Consumer Services

journal homepage: [www.elsevier.com/locate/jretconser](http://www.elsevier.com/locate/jretconser)

## Children's influences on in-store purchases

Claus Ebster\*, Udo Wagner, Deniese Neumueller

Department of Marketing, University of Vienna, Bruenner Strasse 72, A-1210 Vienna, Austria

## ARTICLE INFO

## Keywords:

Parent–child interactions  
Parental yielding  
Retail shopping

## ABSTRACT

Relatively little is known about the influence children have on their parents' purchases in a retail setting. This study investigates which factors affect children's purchase requests and their parents' subsequent purchases. It was found that factors influencing the number of children's purchase requests were the freedom of a child's movements, the product's visibility, and the child's developmental stage. The latter variable together with the suitability of the good for consumption on the premises, the linguistic form of child's request, the parent's household income, and the price of the good determine the number of purchases following a child's request.

© 2008 Elsevier Ltd. All rights reserved.

## 1. Introduction

In retail settings such as supermarkets, a considerable amount of interaction takes place between shoppers and the persons accompanying them. In the case of parents and children shopping together, particularly in a supermarket setting, many parents of younger children often have to deal with their offspring vocally and insistently requesting the purchase of a particular product.

Both retailers and consumer researchers have a great interest in understanding children and parents' consumer behavior, understandably considering the importance of children in family decision-making. While measuring the impact of children on sales is difficult, Lindstrom (2004) estimates that children aged 8–14 annually spend as well as influence approximately \$1.2 trillion worth of sales worldwide.

In academic research, there is an abundance of studies investigating the influence of advertising on children (e.g., Derbaix and Bree, 1997; Brand and Greenberg, 1994; Macklin, 1994; for a review see Adler et al., 1980), and the influence of children on consumer decision-making in the family (e.g., Labrecque and Ricard, 2001; Holdert and Antonides, 1997; Lackman and Lanasa, 1993). Although Atkin in 1978 analyzed the impact of premiums on cereal purchases through in-store observation of mother–child dialogs, relatively little is known about the role children play in their parents' purchases at the point of sale. This is surprising considering that retailers are apparently aware of the influence children have on the adults accompanying them from studies conducted in retail outlets specifically designed to attract children, such as GapKids or WaldenKids (McNeal, 1992).

The aim of this study is to shed light on the phenomenon of purchase interactions between children aged 3–14 and their parents. In particular, it aims to find out:

- which factors influence the number of requests made by children;
- which factors influence purchases made by parents following a child's request; and
- the degree to which parents are aware of their child's influence on their purchases.

Not only is literature on parent–child purchase interactions relatively sparse and spread over various disciplines (e.g., marketing and psychology), but the studies identified also only concentrate on individual factors, and frequently on somewhat different research questions. In this study, a comprehensive view is taken. The phenomenon is investigated by first developing a conceptual framework in order to identify potential relationships among factors influencing children's purchase requests as well as parents' subsequent yielding to these requests. As knowledge on the research topic is sparse, this conceptual framework draws on results from different fields.

In the extant literature, parent–child purchase interactions are primarily addressed in advertising research (e.g., Atkin, 1975). These studies focus on the effects of advertising on children and families and also provide some insight into children's product requests and parents' reactions to these requests. Robertson (1980, p. 212) referring to this literature concludes “that new studies must be initiated to describe the nature of parent–child exchanges about advertised products and children's purchase requests.” Due to the emphasis of this research stream, these studies tend to be based on survey data. Similarly, the few retailing studies that concentrate on parent–child interactions at

\* Corresponding author.

E-mail address: [claus.ebster@univie.ac.at](mailto:claus.ebster@univie.ac.at) (C. Ebster).

the point of sale are also mostly based on surveys (e.g., Ward and Wackman, 1972). However, self-report data carries the risk of distortions and should, therefore, be supplemented by data derived from unobtrusive observation (Robertson, 1980). As Mangleburg (1990) points out, “the association found between children’s influence and various factors may be due to the use of surveys rather than to any ‘true’ association.” In the current study:

- (a) new hypotheses about parent–child purchase interactions are developed that can best be investigated in an in-store empirical investigation, and
- (b) an attempt is made to replicate results derived from survey-based (advertising) studies by using in-store observational data.

In line with these goals, the next section outlines the conceptual framework of the investigation and hypotheses concerning parent–child interactions are derived. First, factors influencing children’s purchase requests are explored. Then, factors determining whether parents yield to or reject their child’s requests are focused on. Within each of these two sets of factors, hypotheses which are related to personal factors are discussed first. Subsequently, hypotheses related to environmental factors are discussed. These hypotheses were identified through reviewing literature in the fields of consumer behavior, developmental psychology, advertising research, communications theory and physiology.

## 2. Conceptual framework

In this section, both factors influencing a child’s purchase request and factors impacting a parent’s subsequent approval or denial of the request will be discussed. In accordance with Lewin’s (1951) field theory, the factors identified can be classified as *personal factors* (i.e., factors related to the personality of either the child or the parent) and *environmental factors* (i.e., forces influencing behavior which lie outside of the person). Personal factors include the developmental stage of the child, frequency of parent and child shopping together and the linguistic type of the child’s request. Environmental factors are the placement of the product, the restriction of child’s movement, the suitability of the requested product for consumption in the store, the household income and the price of the requested product.

### 2.1. Personal factor influencing a child’s purchase requests

In an overview of studies on consumer socialization, Ward (1974) points out that theories on cognitive development tend to agree that a child moves through distinct phases. As children’s logical and reasoning abilities are qualitatively different from those of adults (Strauss, 1952), it appears likely that a child’s developmental stage will influence how many purchase requests are directed at his/her parents. A comprehensive conceptual framework for consumer socialization that describes both changes in cognitive abilities and children’s social development related to consumer behavior was developed by John (1999). Based on extensive research on children’s maturation as consumers, published in marketing, psychology and communications journals between 1974 and 1998, she identified three developmental stages:

- (1) In the *perceptual stage* (ages 3–7), children’s perspectives are egocentric, i.e., they are not able to take other people’s perspectives, such as their parents’, into account. Decisions

are usually made on the basis of very limited information, e.g., the size or color of an object. Children in this stage usually do not plan ahead but seek instant gratification.

- (2) In the *analytical stage* (ages 8–10), children’s capabilities to process information increase considerably. Abstract reasoning starts developing and children generally become more knowledgeable about marketing. They take several attributes into account when evaluating brands and are able to think from the perspective of others.
- (3) In the *reflective stage* (ages 11 and above), cognitive and social skills are further developed and children in this stage have a fairly clear understanding of basic marketing concepts such as brands and pricing. In contrast to the analytical stage, they have an extensive repertoire of consumer decision-making strategies as well as social influence strategies (John, 1999).

Due to the egocentric, expedient orientation of children in the perceptual stage and their limited ability to predict their parents’ responses to their actions, it is hypothesized that younger children will make more product requests than children in higher developmental stages. Further support for this assumption comes from Robertson et al. (1989) who, in a study on children’s responses to advertising, found that the extent to which children make demands on their parents is inversely related to the age of the children. Furthermore, they found that age is negatively related to requesting behavior. Similar findings, showing an inverse relationship between age and request frequency, are also reported by Robertson et al. (1979). Galst and White (1976) suggest that the age–request frequency relationship could even be curvilinear, with very young children and teenagers making fewer requests. While this assumption is intuitively appealing, the weight of the evidence leads us to assume an inverse relationship between age and request frequency within the age range of the children observed in this study (ages 3–14). Thus, Hypothesis 1 states:

**H1.** Children in the perceptual stage will make more purchase requests than children in higher developmental stages.

### 2.2. Environmental factors influencing a child’s purchase requests

A factor related to the purchasing environment, which has been linked to an increase in adult’s purchases, is the placement of merchandise. Specifically, placing products at eye level attracts consumers’ attention (Phillips and Bradshaw, 1993), a finding that corresponds with the retailing adage “eye level is buy level” (Wilkie, 1994, p. 219). In a store study, it was found that products placed on an upper shelf received 35 percent greater attention than products on a lower shelf (Packaging Research, 1983).

While purchase behavior is also affected by other environmental factors such as background music and sales displays (Chevalier, 1975), placing a product at eye level appears to be of particular importance in the context of this study. As children and adults differ considerably in height, it is within the scope of the retailer to place products directed at children at *their* eye level. This is expressed in hypothesis H2:

**H2.** Children will request more products placed at their eye level than products not placed at their eye level.

In a study on parents’ purchasing behavior, Rust (1993) found that 31 percent of children under the age of seven sit in either a stroller or a seat in the shopping cart when accompanying their parents to the supermarket. Consequently, it is assumed that they will make fewer purchase requests as their movement and view are restricted from sitting in a buggy or a cart. In addition, they are

often distracted because they sit facing their parents. Accordingly, it is hypothesized:

**H3.** Children whose movement is restricted through sitting in a shopping cart or stroller will make fewer purchase requests than children not seated.

### 2.3. Personal factors influencing parents' reactions to their children's requests

Following a child's request, a number of factors will influence whether a parent carries out a purchase. This is explored in Hypotheses 4–9.

A factor that might influence a parent's willingness to make a purchase at a child's suggestion may depend on how often they go shopping together. Similarly to children whose sophistication as consumers increases with age, parents who frequently shop with their children may become more adept at resisting their children's influence attempts. Shopping at the supermarket can be seen as a complex problem for parents as they have to do the shopping, supervise the child who is exposed to a large number of marketing stimuli, and deal with a situation where parent and child are in public and scolding the child can lead to potential embarrassment (Holden, 1983).

Anecdotal evidence suggests that parents employ "strategies" such as bringing a toy to the supermarket, feeding their children before going shopping, or choosing to shop in stores that do not place child-related products in waiting zones at the checkout. This is supported by a survey conducted by Holden (1983), in which experienced mothers indicated that they use a variety of techniques to control their offspring in the store, such as talking to the child or providing the child with an object to play with. Prior—survey-based—research on co-shopping has demonstrated that parents who co-shop frequently with their children differ from parents who shop less frequently with their child. Frequent co-shoppers tend to be more concerned with children's consumer socialization and consequently place more importance on teaching their children consumer skills. Furthermore, they tend to counteract marketing influences by more frequently discussing purchase requests with their children (Grossbart et al., 1991). On the other hand, parents who shop with their children less frequently might be more exposed to children's purchase suggestions and perhaps even actively "spoil" their child by agreeing readily to their requests. This leads to hypothesis H4:

**H4.** The number of purchases triggered by children will be lower for parents who frequently shop with their child.

While children in the perceptual stage make more purchase requests than children in higher developmental stages (cf. H1), it appears likely that their parents will be less inclined to act upon their suggestions than parents of children in the analytical and reflective stages. Children in the higher developmental stages are able to think from their parents' perspective and are able to adapt their influence strategies to different persons and situations (John, 1999; Palan and Wilkes, 1997). With age, children learn to compromise and to bargain (Rust, 1993), their shopping skills improve (Turner and Brandt, 1978), and they become more successful at influencing their parents (Jensen, 1995; Ward et al., 1977; Ward and Wackman, 1972). Therefore, hypothesis H5 postulates:

**H5.** The number of purchases resulting from a child's requests will be higher when the child is in the analytical or reflective stage than in the perceptual stage.

Whether or not parents honor a child's product request also depends on its linguistic form. In an exploratory study on adolescent–parent interactions, parents reported that they considered whining, anger and demands the least effective influence strategies (Palan and Wilkes, 1997). Similarly, in a study on cereal decision-making, Atkin (1978) found that 65 percent of parents responded positively when the child demanded a specific brand be bought, whereas only 58 percent of parents purchased the brand when the child made "a less assertive cereal request" (p. 42). This may seem surprising considering that parents might experience reactance in the case of a demand. It appears possible, however, that two distinct types of linguistic structures, "observations" and "appeals" may have been classified under the single category of "request." According to Herrmann (1982), a speaker can express a wish in three different ways:

- (1) as an observation, e.g., "Look, there are some chocolate bars." or "There are no chocolate bars left.";
- (2) as an appeal, e.g., "Can I have a chocolate bar?" or "Can you buy me a chocolate bar, please?"; and
- (3) as a demand based on a (social) norm, e.g., "I was nice all day so I should get a chocolate." or "You must buy me a chocolate bar!".

In the case of an observation, the least direct of the three linguistic forms, parents may interpret the child's utterance as merely a statement of fact instead of a call for action on the part of the parent. In the case of a demand, however, they may feel under pressure or manipulated and reject it, as predicted by reactance theory (Brehm and Brehm, 1981; Brehm, 1966). The negative effects on compliance predicted by reactance theory have been shown to extend to consumer behavior (Rummel et al., 2000; Wicklund et al., 1970) and may surface in parents' responses to their children's requests. As Clee and Wicklund (1980) point out, many social influence attempts are bidirectional, i.e., communication will lead to two opposing forces. When the influencer is well-liked, such as a consumer's child, the influence does not necessarily result in reactance. In fact, it often has a positive effect on compliance. However, the reactance-inducing qualities of the communication will prevail when the communicator forcefully insists on compliance, i.e., he makes a demand (Worchel and Arnold, 1973; Sensenig and Brehm, 1968). Consequently, hypothesis H6 states:

**H6.** Parents will yield more frequently to a child's purchase requests when expressed as appeals rather than observations or demands.

### 2.4. Environmental factors influencing parents' reactions to their children's requests

The results of focus group interviews with parents, conducted by the authors, indicate that children's purchase suggestions are frequently accepted if the requested product can be consumed in the store. This finding was also substantiated by the results of a consumer survey (IMAS, 1991) conducted by a commercial market research company in Austria. Further support comes from Holden's (1983) parental survey, in which mothers indicated that the preventive techniques they used in the stores to control their children included giving them something to hold, eat or play with while shopping. In another study, mothers were asked which products their children requested and in which cases they yielded to their requests. The highest level of reported yielding occurred when children requested cereals, snack foods, games and toys, and sweets (Atkin, 1978; Ward and Wackman, 1972). What all these products seem to have in common is that they can be used or

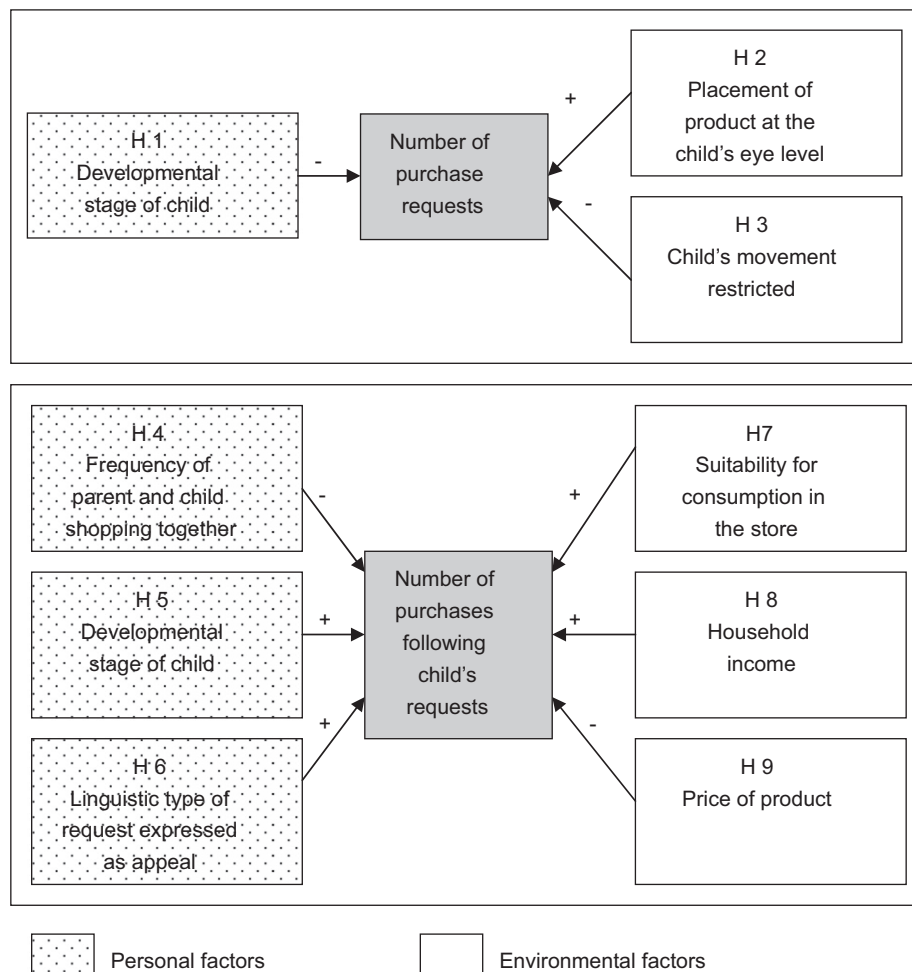


Fig. 1. Factors influencing number of purchase requests and number of purchases following child's requests.

consumed in the supermarket. Therefore, we hypothesized that parents are more likely to purchase in-store consumable products to put a stop to the insistent requests of their children and to occupy them. As a result, hypothesis H7 states:

**H7.** Parents will yield more frequently to a child's purchase requests for products which can be consumed in the store than for products which cannot be consumed in the store.

In addition to these factors, two aspects related to financial risk might also play a role in parents' decisions to purchase products following a child's request, namely the parent's income and the price of the product requested by the child.

It has been shown that a child's influence on purchase decisions is greater with increased family income (Jenkins, 1979) and among higher socio-economic status families (Moschis and Mitchell, 1986). This might be due to the lower financial risk incurred by higher income consumers, and it appears plausible that these consumers might also yield more readily to product suggestions from their child than lower income parents. Furthermore, mothers were shown to become more reluctant to yielding to a child's request, the more the monetary outlay increased (Poper, 1978). This leads to hypotheses H8 and H9:

**H8.** The higher the parent's household income, the more purchases, following a child's requests, they will make.

**H9.** Lower-priced products requested by a child will be bought more frequently than more highly-priced products.

Hypotheses 1–9 are summarized in Fig. 1, which distinguishes between personal and environmental factors influencing children's purchase requests and parents' subsequent purchase decisions.

## 2.5. Observed and reported purchases influenced by children

In addition to the hypotheses above, the extent to which parents are aware of the influence their children have on their purchases is also of particular interest. As studies on consumer decision-making in the family have frequently relied on survey data (e.g., Jensen, 1995; Foxman et al., 1989), it is expected that the number of purchases influenced by children, as reported by parents, will be considerably lower than the actual number due to social desirability bias in their responses. This response bias can, firstly, be directed at others in the form of impression management. For example, parents do not want to admit to an interviewer how much their children can influence their consumer behavior. Secondly, it can be directed at themselves as a form of self-deception. For instance, they do not want to admit to themselves the degree of influence their children have over them. This idea was conceptualized in Zerbe and Paulhus' (1987) two-component model of socially desirable response. Further support for the social desirability explanation is provided by Rossiter and Robertson (1975), who compared self-report data of parents and children on children's television viewing and found that parents exaggerated their control over their children's television viewing. Exaggeration increased in the higher social classes, indicating that

it may be due to social desirability bias. Thus, the final hypothesis states:

**H10.** Parents will state a lower number of purchases influenced by their children than the number of child-influenced purchases actually observed.

### 3. Method

In order to analyze the postulated hypotheses empirically, primary research was conducted in a field study. The research design combines both observational and survey data. A multiple method approach was chosen to minimize measurement problems as the phenomenon investigated might be considered sensitive by consumers and, therefore, could lead to distorted results should survey data alone be used.

#### 3.1. Participants

A total of 178 dyads of supermarket shoppers, i.e., one parent accompanied by one child, participated in the study. Seventy-six percent of the parents and 54 percent of the children were female. The mean ages of the parents and the children were 35.5 and 5.7 years, respectively. Of the initial convenience sample of the 200 pairs observed while shopping, 22 pairs were excluded from the analysis because in interviews subsequent to their observation, the pair was found not to consist of a parent with a child but of a child with another accompanying person.

#### 3.2. Procedure and materials

Prior to data collection, six female research assistants were trained in the tasks of observing and interviewing consumers in a supermarket setting and in completing the observational form. At the same time the questionnaire was pre-tested.

The observation of the parent–child dyads took place in two Austrian supermarkets located in Vienna and was conducted on 8 days between 10 a.m. and 6:30 p.m. Each team of research assistants consisted of one observer and one interviewer. At each research location, teams were systematically varied.

In both supermarkets, observers stood at the entrance to the store. When a group consisting of one adult and one child who appeared to be between 3 and 14 years of age, entered the store, they were followed by a disguised observer, and their verbal and nonverbal behavior was recorded until they passed through the checkout. After this, the parent was approached by the interviewer and his or her participation in a short survey was requested. In order to avoid distortions of the data, only dyads were observed, i.e., groups of more than one adult or of more than one child were excluded.

##### 3.2.1. Observational form

The observational form consisted of two parts: In part one, demographic information, such as the gender of the parent and child, as well as the time, date and place of the observation, was recorded. The second part of the data collection form contained the variables needed to test the hypotheses; in several cases issues of measurement arose:

- *Request to purchase a product:* The child's verbal requests for specific products in the store were recorded as product requests.
- *Purchase following child's request:* A child-triggered purchase was recorded when a parent, at the child's request, put a product in their shopping cart or handed it to the child for

consumption. If the parent at a later time (usually unbeknown to the child) put the product back on the shelf, it was not counted as a purchase.

- *Product placed at the child's eye level:* This variable was operationalized in accordance with Sanders' (1963) findings that peripheral vision extends 30° from central focusing in all directions. He calls this area, in which objects can be focused on without moving the eyes or head, the "stationary" field. He further distinguishes between "eye field" (eye movement necessary) and "head field" (head movement necessary). Subsequently, if a child was up to 5 ft away from the shelf when requesting a product, all the products from the child's shoulder to 8 in above his or her head were recorded as being at eye level. Since the aisles in the two supermarkets were between 5 and 7 ft in width, most of the observed instances when a child requested a product were at this distance. If the child was located between 5 and 10 ft away from the shelf, products ranging from the child's hips up to 20 in above the child's head were considered to be at eye level. If the child was more than 10 ft away from the shelf, all products were considered to be at eye level.
- *In the pretest prior to the study, the research assistants had to independently classify 30 situations as being either at eye level or not. As they reached agreement in 29 situations, the reliability of this classification scheme was considered acceptable.*
- *Child's movement restricted when seated in shopping cart or stroller:* The child was classified as seated when he or she sat in a cart or stroller for the entire time, i.e., from entering the store until passing through checkout.
- *Suitability of product for consumption in the store:* The observers recorded the products requested by the children. Before the analysis, the list of 95 products identified at the two stores was presented to 10 parents who were asked to assess each product's suitability for in-store consumption. Of these products, 31 were classified consistently by the majority as being appropriate for in-store consumption. Typical examples are: beverages, bread, cereals, cheese, chocolate, fruits, ice-cream, magazines, sausages, snacks, tissues and toys.
- *Linguistic type of request:* Prior to the study, the observers received extensive training in how to classify children's product requests as "observations," "appeals" or "demands" according to the scheme proposed by Herrmann (1982). At the end of the training session, the observers had to independently classify 10 product requests. All the research assistants agreed in the classification of these.
- *Price of product:* The price of the product purchased was recorded on the basis of its shelf price tag.

##### 3.2.2. Questionnaire

The interviews with parents after checkout were recorded on a standardized questionnaire which was kept short in order to maximize participation in the survey. The *age of the parent* and the *age of the child* were asked as open questions. The age of the child was used to approximate the *developmental stage of the child*. While it would have been preferable to measure the child's developmental stage directly, this was not feasible given the time constraints of the interviews. Furthermore, a short test to measure John's (1999) developmental stages does not exist. The *number of times the parent goes shopping with the child in an average week* was measured using a scale consisting of the categories "never", "1 to 2 times", and "at least 3 times." The *family's net income per month* was recorded in an ordinal scale with four categories ranging from "less than \$1450" to "more than \$2150." The *perceived number of child-triggered purchases* was measured by recording the parent's

**Table 1**  
Summary of variables used for statistical analysis and their measurements.

Type of data collection	Variable	Measurement	Scales
Observation	Request to purchase a product	Verbal product request made by the child	{0,1}
	Purchase following parent–child interaction	Product placed in shopping cart or handed to child upon request of child	{0,1}
	Product placed at child's eye level	Product in child's stationary vision field (Sanders, 1963)	Yes/No
	Child's movement restricted	Child seated in cart or stroller during the time in the store	Yes/No
	Suitability of product for consumption in the store	Classification scheme developed a priori by parents	Yes/No
Interview	Linguistic type of request	Classification scheme by Hermann (1982)	Observation, appeal, demand
	Price of the product	Price tag on shelf	Metric
	Age of parent	Open-ended question	Metric
	Developmental stage of child	Age group of child (John, 1999)	Stage
	Frequency of parent and child shopping together	Ordinal rating scale	Perceptual (ages 3–7), Analytical (ages 8–10), Reflective (ages 11–14)
Net household income per month		Ordinal rating scale	Never, 1–2 times, At least 3 times
			Less than \$1450 \$1451–1800 \$1801–2150 More than \$2150
Perceived number of child-triggered purchases	Open-ended question	Metric	

response to the question “How many products do you think you bought at your child's request?” Nonresponse to this question occurred in only 13 cases.

Table 1 summarizes the variables and measures used in this study.

## 4. Results

### 4.1. General characteristics of the sample

As previously mentioned, a convenience sampling procedure was employed essentially; however, care was taken with respect to varying place, time of observation and team of interviewers. Table 2 displays descriptive statistics about the sample. In total, 178 dyads consisting of one parent and one child were observed and interviewed. As grocery shopping is dominated by female consumers, there were about three times as many female parents as male; however, the gender of the children was almost equally distributed. Additionally, the typical age of adults with young children dominated the distribution of the parent's age, with 53 percent between 31 and 40 years of age. Of the children accompanying their parents shopping, 64 percent were between 3 and 6 years of age. As a result of the small number of children found in the oldest age group (11–14), a combined category for the older children (7–14 years of age) was defined and employed for subsequent analyses.

In total, 424 purchase requests were observed (about 2.4 per dyad) and 219 products requested were purchased (about 1.2 per dyad), which results in a success rate of about 50 percent. This result is consistent with the findings of Robertson and Rossiter (1976) who reported a denial rate of 57 percent in the context of Christmas gift shopping.

The median of total expenditure amounted to \$18.35, but this variable was quite dispersed (min. \$0.55 and max. \$126.66). Furthermore, it was found that about 60 percent of the parents spent between \$0.01 and \$2 yielding to their children's request (cf. Table 2).

Female shoppers tend to yield less frequently to requests. Despite requests from their accompanying child, 21 percent of the female parents never agree to purchase products and 11 percent spend between \$2.01 and \$3. By contrast, nine percent of male parents never agree to a purchase and 24 percent spend between \$2.01 and \$3.

### 4.2. Results concerning Hypotheses 1–3

Hypotheses 1–3 concentrate on factors influencing purchase requests and are analyzed by means of multivariate linear regression with the number of requests made by the child as the dependent variable. As independent variables, the developmental stage of the child (a binary variable distinguishing between perceptual and higher developmental stage—H1), the number of requested products placed at the child's eye level (H2), and the movement restriction (a dummy variable equal to one in case the child was seated in a cart or a stroller—H3) are used. The results are shown in Table 3 and are in line with the postulated relationships. Moreover, standardized regression coefficients permit direct comparison and therefore the placement of the product at the child's eye level was found to be the most important predictor. The restriction on the child's movement and his or her developmental stage seem to be almost equally important. The coefficient of determination ( $R^2$ ) is satisfactory as are the results in general. Since the predictor variables employed are not independent of each other in a strict sense, e.g., the older the child, the higher his or her developmental stage and the less likely he or she will sit in a stroller, diagnostic checks of the condition of the correlation matrix have been carried out but no concerns with multicollinearity occurred (e.g., all variance inflation factors are between 1.05 and 1.16). In addition, no interaction effects among independent variables have been found.

### 4.3. Results concerning Hypotheses 4–9

Hypotheses 4–9 refer to the factors influencing a parent's decision to purchase or not to purchase a product requested by

**Table 2**  
Descriptive statistics of the sample.

Descriptive statistics of the sample			
Number of dyads who were observed and interviewed		178	
Gender of adults		76% female	
Gender of children		54% female	
Age categories			
Adults		Children	
21–30	22%	3–6	64%
31–40	53%	7–10	28%
≥41	25%	11–14	8%
Number of products requested		424	
Number of purchases following child's request		219	
Average duration of shopping trips		13 min	
Median of total amount spent on shopping trips		\$18.35	
Median of amount spent on purchases following the child's request		\$1.00	
Purchases following parent–child interaction			
Amount spent	Size of the segment (%)	Size of segment with respect to gender of adult	
		Male (%)	Female (%)
\$0	18	9	21
\$0.01–1	32	30	32
\$1.01–2	27	28	27
\$2.01–3	14	24	11
> \$3	9	9	9

**Table 3**  
Results concerning hypotheses H1–H3: factors influencing children's purchase requests.

Regression analysis		
Dependent variable: number of purchase requests		
Independent variables	Standardized regression coefficients	Level of significance
H1: developmental stage of child (0—perceptual stage, 1—higher stage)	−0.18	<0.01
H2: number of products placed at child's eye level	0.72	<0.01
H3: child's movement restricted (0—no, 1—yes)	−0.11	0.05
<i>n</i> = 178 (number of dyads)	<i>R</i> <sup>2</sup> = 0.55	<0.01

the child. To facilitate presentation, H4–H9 were formulated at an aggregate level (i.e., “the number of purchases triggered by children will be ...”). Several of the factors assumed to be influential (e.g., price) are, however, product specific. Therefore, the likelihood of such purchases rather than their number has to be considered, which results in a binary-dependent variable. The observational unit is the product requested. This resulted in a sample size of 424 product requests. In accordance with H4–H9, the frequency of parent and child shopping together (ordinal scale—H4), the developmental stage of the child (nominal scale—H5), the linguistic type of the child's inquiry (ordinal scale—H6), the suitability of the requested product for consumption in the store (nominal scale—H7), the net household income per month (ordinal scale—H8) and the retail price of the requested product (ratio scale—H9) are taken as independent variables.

Once again, not all of the identified predictor variables are independent of each other (e.g., household income and price). In addition, some of the predictor variables are constant for a given dyad (e.g., the developmental stage of the child). This might result in multicollinearity problems and in violations of the assumption concerning independent errors per observation. The multicollinearity issue was addressed by checking the data with conventional tools (e.g., analysis of the correlation matrix, variance inflation factors) which did not detect such problems. The issue concerning the error structure might be more pronounced since there might be some serial correlation for a single dyad, e.g., parental yielding might diminish with an increasing number of requests; this could be due to parents experiencing reactance because of the child's repeated influence attempts. Sample sizes are much too small to make this kind of dependence measurable at the individual level (i.e., less than four requests were made by 83 percent of the dyads). Nevertheless, this problem will be taken care of in part by investigating H4–9 for three different data sets:

- (1) observations corresponding to all purchase requests (*n* = 424);
- (2) observations corresponding to the first and second (if available) purchase requests from all dyads (*n* = 306);
- (3) observations corresponding to all but the first and second purchase requests from all dyads (*n* = 118).

In order to test Hypotheses H4–H9 a logistic regression analysis is carried out and the results (for the whole data set) are shown in Table 4. The results support all postulated hypotheses with the exception of H4 (i.e., the frequency of parent and child shopping together did not significantly influence purchase behavior in the present case). Separate analyses were also performed for the other two data sets mentioned above. Due to space limitations, results

**Table 4**  
Results concerning hypotheses H4–H9: factors influencing purchases following a parent–child interaction.

Logistic regression analysis		
Dependent variable: purchase of a product following parent–child interaction (reference category: non-purchase)		
Independent variables	Regression coefficients	Level of significance
Constant	–2.04	<0.01
H4: frequency of parent and child shopping together (reference category: at least 3 times)		
Never	0.07	0.84
1–2 times	–0.07	0.79
H5: developmental stage of child (reference category: perceptual stage)	0.98	<0.01
H6: linguistic type of child's request (reference category: demand)		
Appeal	2.30	<0.01
Observation	0.90	0.05
H7: suitability for consumption in the store (reference category: not consumable).	0.60	0.01
H8: net household income per month (reference category ≤€1450)		
\$1451–1800	0.32	0.40
\$1801–2150	0.67	0.08
>\$2150	0.86	0.03
H9: price of the product	–0.31	<0.01
$n = 424$ (number of products requested)	$\rho^2 = 0.33$ (Nagelkerke)	Pearson $\chi^2 < 0.01$
Hit-rate = 0.69		
$C_{\max} = 0.52$	$C_{\text{pro}} = 0.50$	
$C_{\max}$ : maximum chance criterion	$C_{\text{pro}}$ : proportional chance criterion	

are not shown in this paper but are available upon request from the authors. They are consistent with the results reported in Table 4 with two exceptions (H5 and H8 are not significant for data set 3). Violations of the independence assumption of the error terms therefore seem to be negligible.

Furthermore, parameter estimates  $\hat{\beta}$  of the logistic regression model are significant and have the expected signs. Since they describe the linear effects of the predictors on the log of the odds ratio of the dependent variable (purchase versus non-purchase), interpretation is more intuitive in terms of the coefficients' odds ratio, i.e.,  $\exp \hat{\beta}$ . For example, there is a ten times higher chance of a child receiving a product ( $= \exp 2.30$ ) if the request is uttered as an “appeal” rather than as a “demand.” When making an “observation” rather than a “demand”, there is a 2.5 ( $= \exp 0.90$ ) times higher chance of triggering a purchase by a parent. The odds of high income household parents yielding to purchase requests are 2.4 ( $= \exp 0.86$ ) times higher than lower income families. Furthermore, older children boost the odds of triggering purchases by a factor of 2.7 ( $= \exp 0.98$ ) in comparison to younger children, and products which can be consumed in the store are 1.8 ( $= \exp 0.60$ ) times more likely to be purchased than products which cannot.

Logistic regression analysis was performed in order to analyze the postulated hypotheses and not to predict the number of products purchased subsequent to a request. Therefore, interaction effects have not been accounted for. The relationships included certainly do not fully explain parental yielding since other variables (e.g., family interaction style) are undoubtedly involved. Nevertheless, when judged using pseudo  $R^2$  and hit rate, goodness-of-fit of the model is satisfactory. Due to the limited data, it was not possible to divide it into an estimation and a hold-out sample to provide a more stringent calculation of the hit rate.

#### 4.4. Results concerning Hypothesis 10

A straightforward way to investigate H10 is a simple comparison of the average number of observed child-triggered purchases per dyad, i.e., 1.2, with the average number stated by the parents in the interviews, i.e., 0.7. This difference is highly significant (significance level  $< 0.01$ ) as shown by a (one-sided)  $t$ -test for related samples.

Besides this difference with respect to the means, a more systematic analysis is in order: Does the magnitude of this difference depend on the number of purchases? A simple regression model also supports Hypothesis 10 by confirming a significant linear relationship between the number of observed child-triggered purchases and the number of purchases stated by the parents when interviewed. Again, according to the slope coefficient of the regression model, the parents understate the number of purchases influenced by their child by about 50 percent. Moreover, the discrepancy between the average number of purchases due to parental yielding and the average number stated by the parents when interviewed as well as the slope coefficient of the regression do not change substantially when controlling for the frequency of parent and child shopping together. The same applies when controlling for household income. Robertson (1980) states that there might be a positive relationship between parental yielding and social class, which in turn is related to household income.

These considerable discrepancies could be due to the social desirability response behavior discussed previously. Recall loss or limited cooperation of the respondents might also have intensified this phenomenon. Another explanation might be that in some cases parents intended to buy a certain product anyway but the child's request preceded the actual purchase. Therefore, they would not perceive it as triggered by their accompanying child.

## 5. Discussion

Earlier studies on children's influence on consumer decision-making focused primarily on purchase decisions made prior to entering a store. In this study, a child's influence on their parents' purchase decisions at the point of sale was investigated. A substantial proportion of all purchases occur after parent–child interactions, thus purchases triggered by children are likely to be an area of considerable interest to both parents and retailers alike. This phenomenon has nevertheless received little attention in the literature before.

Using a hybrid methodic design combining observational data with personal interviews, it was found that children's immediate influence on their parents' purchases is considerably more pervasive than would have been found if relying only on the parent's self-report data obtained through interviews. This finding might also have methodological implications for reinforcing the usefulness of a combination of interviews and observation when researching consumer behavior in a retail setting.

In line with the hypotheses derived from the consumer behavior and psychology literature, it was found that children make more purchase requests: (1) when they are at an early developmental stage; (2) when products are placed at children's eye level; and (3) when their movement and view are not restricted through being seated in a shopping cart or stroller.

Whether or not the parent honors a child's purchase request for a product is influenced by several factors. According to the findings of this study, a child's influence attempt will be more successful if the desired product can be used or consumed in the store (such as a food item or a small toy). Children phrasing their purchase requests as polite appeals, rather than weak

observations or reactance-inducing demands, also tend to be more successful in convincing their parents to buy them products. Moreover, parental yielding positively correlates with children's developmental stage because older children have a larger repertoire of influence tactics. Finally, parents are also more likely to react favorably to their child's purchase request, the higher their income and the lower the price of the product. While it was hypothesized that parents who shop less frequently with their child will yield more often to their child's request, this proposition was not supported by the data. Perhaps this is due to the sample size, as only 21 percent of parents interviewed go shopping with their child less than once or twice per week.

### 5.1. Managerial implications of the results

The results of this study may also be relevant for marketing managers. It was found that children have a considerable influence on their parents' purchase decision-making in the store. A child's role in his or her parents' purchases appears to be more pervasive than the survey-based methods, often used in marketing practice, would indicate. Specifically, the following advice could be given to retailers and manufacturers:

- Products placed at *children's* eye level were found to be the best predictor of purchase requests. Therefore, the practice of many retailers of placing products aimed at children on lower shelves can be seen as validated by the empirical research and this practice should be maintained or enhanced.
- As parents are more likely to yield to a child's request when the product is consumable in the store, care should be given to placing such products on shelves at children's eye level. While this was not investigated in the present study, the consumable products might be more acceptable to parents if they are considered "healthy."
- It is conceivable that children in the higher developmental groups could be provided with examples of how to phrase their requests for specific products in "slice of life" commercials. Care has to be given, however, not to trigger reactance in parents, perhaps by pointing out the (health) benefits of the product to the parent in addition to the benefits relevant for the children.

### 5.2. Ethical considerations

Targeting specific groups (such as children) sometimes generates controversy. The general public is concerned with marketers taking unfair advantage of vulnerable or deprived segments of customers. People who have close relationships with children (e.g., parents) are even more concerned about issues they perceive to be influential on their loved ones. Indeed, when presenting this paper to peers, the topic frequently generated affect on (parts of) the audience. Therefore, it needs to be pointed out that this study constitutes *basic research* and has not been commissioned by a client. In particular, it tries to close the gap between what has been observed in the marketplace and what has been published in the literature on this issue. It aims to provide information for both sides, i.e., retailers as well as parents. The research design employed was observation in a natural setting, which turned out to be of great importance in this case because of the social desirability bias present when interviewing. Observing people in public places is a well-established technique in marketing research. Therefore, the recommendations given and the methods used are compatible with marketing ethics.

### 5.3. Limitations and suggestions for further research

The use of a convenience sample, the sample size and the restriction of including only dyads in the sample can be considered limitations of this study. Yet the design employed in this study is justified for pragmatic reasons. It would be interesting, though, to extend the current analysis to other outlets and other types of retail stores (e.g., sportswear, clothes).

This study was carried out in Austria; therefore, a caveat is in order when trying to transfer the measurement procedure to another cultural context. In particular, the suitability of the product for consumption in the store, the linguistic type of the request, and forms of nonverbal communication (if considered) might require cultural adjustments.

While researching the literature and carrying out the empirical research, a lack of knowledge on other potential factors influencing parent-child interactions was identified. Two issues seem to be of major relevance: nonverbal communication of the child and dynamic aspects.

- Nonverbal communication of the child  
The linguistic type of the child's request was found to impact parental yielding to a great extent. However, there are nonverbal means of communication which might be of relevance here. On the one hand, verbal requests are often accompanied by nonverbal gestures, and on the other hand, nonverbal forms of communication (e.g., child's pointing to certain products) may suffice as a request. Both potential types of influence were not considered.
- Dynamic aspects  
While observing shopping behavior, it became apparent that requests made earlier in the shopping trip had a greater chance of being positively responded to than those delivered towards the end of the visit to the store. This might be a relevant managerial issue to consider when designing stores and considering where to place products.

Another dynamic aspect is the individual stage of the child's consumer socialization process. Hypothesis 4 was designed to take this aspect into account but at a non-sophisticated level. Neither past experiences on joint shopping trips, nor the parent's behavior after refusing to purchase the products requested (e.g., justification for doing so, expressing possible purchase on a subsequent visit or of another product) were considered. Mere frequencies of joint shopping trips were probably too imprecise a measure to account for such complex situations. Ward et al. (1977) provide some insight into how mother-child interactions impact on a child's consumer socialization but further research at a theoretical level is needed in this area to provide guidelines for empirical investigations.

From a conceptual point of view it would be desirable to build a model that includes all the variables considered. However, data requirements (i.e., different subjects of investigation for the different hypotheses, single dyad versus product requested) and sample size render this option unfeasible.

Finally, the differences in the number of purchases reported by the parents and recorded by the observers provide an area for future research on its own. As mentioned, the effects of social desirable response behavior might appear intensified due to recall loss or respondent fatigue.

In addition to contributing to the body of knowledge on parent-child purchase interactions, the authors hope that their work will also stimulate further research on an issue relevant to both retailers and parents.

## References

- Adler, R.P., Lesser, G.S., Meringoff, L.K., Robertson, T.S., Rossiter, J.R., Ward, S., 1980. The Effects of Television Advertising on Children: Review and Recommendations. Lexington Books, Lexington, MA.
- Atkin, C.K., 1975. Children's social learning from television: research evidence on observational modeling of product consumption. Presented at Conference of Association for Consumer Research, Cincinnati.
- Atkin, C.K., 1978. Observation of parent-child interaction in supermarket decision-making. *Journal of Marketing* 42, 41–45.
- Brand, J.E., Greenberg, B.S., 1994. Commercials in the classroom: the impact of channel one advertising. *Journal of Advertising Research* 34, 18–27.
- Brehm, J.W., 1966. A Theory of Psychological Reactance. Academic Press, New York, NY.
- Brehm, S.S., Brehm, J.W., 1981. Psychological Reactance. Academic Press, New York, NY.
- Chevalier, M., 1975. Increase in sales due to in-store display. *Journal of Marketing Research* 12, 426–431.
- Clee, M.E., Wicklund, R.A., 1980. Consumer behavior and psychological reactance. *Journal of Consumer Research* 6, 389–405.
- Derbaix, C., Bree, J., 1997. The impact of children's affective reactions elicited by commercials on attitudes toward the advertisement and the brand. *International Journal of Research in Marketing* 14, 207–229.
- Foxman, E.R., Tansuhaj, P.S., Ekstrom, K.M., 1989. Family members' perceptions of adolescents' influence in family decision making. *Journal of Consumer Research* 15, 482–490.
- Galst, J.P., White, M.A., 1976. The unhealthy persuader: the reinforcing value of television and children's purchase influence attempts at the supermarket. *Child Development* 47, 1089–1096.
- Grossbart, S., Carlson, L., Walsh, A., 1991. Consumer socialization and frequency of shopping with children. *Journal of the Academy of Marketing Science* 19, 155–163.
- Herrmann, T., 1982. Sprechen und Situation. Springer, Heidelberg, Germany.
- Holden, G.W., 1983. Avoiding conflict: mothers as tacticians in the supermarket. *Child Development* 54, 233–240.
- Holdert, F., Antonides, G., 1997. Family type effects on household members' decision making. *Advances in Consumer Research* 24, 48–54.
- IMAS, 1991. Kinder ÖVA 1991: Kommentarbericht einer repräsentativen Verbraucheranalyse von 2000 österreichischen Kindern im Alter von 7 – 15 Jahren. IMAS-Austria, Linz.
- Jenkins, R.L., 1979. The influence of children in family decision making: parents' perceptions. *Advances in Consumer Research* 6, 413–418.
- Jensen, J., 1995. Children's purchase requests and parental responses: results from an exploratory study in Denmark. *European Advances in Consumer Research* 2, 54–60.
- John, D.R., 1999. Consumer socialization of children. *Journal of Consumer Research* 26, 183–213.
- Labrecque, J., Ricard, L., 2001. Children's influence on family decision making: a restaurant study. *Journal of Business Research* 54, 173–176.
- Lackman, C., Lanasa, J.M., 1993. Family decision-making theory: an overview and assessment. *Psychology & Marketing* 10, 81–93.
- Lewin, K., 1951. Field Theory in Social Science: Selected Theoretical Papers. Harper, New York.
- Lindstrom, M., 2004. Branding is no longer child's play!. *Journal of Consumer Marketing* 21, 175–182.
- Macklin, M.C., 1994. The effects of an advertising retrieval cue on young children's memory and brand evaluations. *Psychology & Marketing* 11, 291–311.
- Mangleburg, T.F., 1990. Children's influence on purchase decisions: a review and critique. *Advances in Consumer Research* 17, 813–825.
- McNeal, J., 1992. Kids As Customers: A Handbook of Marketing to Children. Lexington Books, New York, NY.
- Moschis, G.P., Mitchell, L.G., 1986. Television advertising and interpersonal influence on teenagers' participation in family consumer decisions. In: Lutz, R.J. (Ed.), *Advances in Consumer Research* 13. Association for Consumer Research, Ann Arbor, MI, pp. 181–186.
- Packaging Research, 1983. Packaging research probes stopping power, label reading, and consumer attitudes among the targeted audience. *Marketing News*, July 22, 8.
- Palan, K.M., Wilkes, R.E., 1997. Adolescent-parent interaction in family decision making. *Journal of Consumer Research* 24, 159–169.
- Phillips, H., Bradshaw, R., 1993. How customers actually shop: customer interaction with the point of sale. *Journal of the Market Research Society* 35, 51–62.
- Poper, E.T., 1978. Structural and situational effects on mothers' responses to children's purchase requests. DBA Thesis, Harvard Business School.
- Robertson, T.S., 1980. Television advertising and parent-child relations. In: Adler, R.P., Lesser, G.S., Meringoff, L.K., Robertson, T.S., Rossiter, J.R., Ward, S. (Eds.), *The Effects of Television Advertising on Children: Review and Recommendations*. Lexington Books, Lexington, MA.
- Robertson, T.S., Rossiter, J.R., 1976. Short-run advertising effects on children: a field study. *Journal of Marketing Research* 13, 68–70.
- Robertson, T.S., Rossiter, J.R., Gleason, T.C., 1979. *Televised Medicine Advertising and Children*. Praeger Publishers, New York, NY.
- Robertson, T.S., Ward, S., Gatignon, H., Klees, D.M., 1989. Advertising and children: a cross-cultural study. *Communication Research* 16, 459–485.
- Rossiter, J.R., Robertson, T.S., 1975. Children's television viewing: an examination of parent-child consensus. *Sociometry* 38, 308–326.
- Rummel, A., Howard, J., Swinton, J., Seymour, D.B., 2000. You can't have that! A study of reactance effects & children's consumer behavior. *Journal of Marketing Theory & Practice* 8, 38–45.
- Rust, L.W., 1993. Observations: parents and children shopping together. *Journal of Advertising* 33, 65–72.
- Sanders, A.F., 1963. *The Selective Process in the Functional Field*. The Institute of Perception, Soesterberg, The Netherlands.
- Sensenig, J., Brehm, J.W., 1968. Attitude change from an implied threat of attitudinal freedom. *Journal of Personality and Social Psychology* 8, 320–324.
- Strauss, A.L., 1952. The development and transformation of monetary meanings in the child. *American Sociological Review* 17, 275–286.
- Turner, J., Brandt, J., 1978. Development and validation of a simulated market to test children for selected consumer skills. *Journal of Consumer Affairs* 12, 266–276.
- Ward, S., 1974. Consumer socialization. *Journal of Consumer Research* 1, 1–14.
- Ward, S., Wackman, D.B., 1972. Children's purchase influence attempts and parental yielding. *Journal of Marketing Research* 9, 316–319.
- Ward, S., Wackman, D.B., Wartella, E., 1977. *How Children Learn to Buy: The Development of Consumer Information-Processing Skills*. Sage Publications, Beverly Hills, CA.
- Wicklund, R.A., Slattum, V., Solomon, E., 1970. Effects of implied pressure toward commitment on ratings of choice alternatives. *Journal of Experimental Social Psychology* 6, 449–457.
- Wilkie, W., 1994. *Consumer Behavior*, third ed. Wiley, New York, NY.
- Worchel, S., Arnold, S.E., 1973. The effects of censorship and attractiveness of the censor on attitude change. *Journal of Experimental Social Psychology* 9, 365–377.
- Zerbe, W.J., Paulhus, D.L., 1987. Socially desirable responding in organizational behavior: a reconception. *The Academy of Management Review* 12, 250–264.