

Using the Eyberg Child Behaviour Inventory to investigate Pester Power

Bill Page*^a, Anne Sharp ^a, Larry Lockshin ^a, Herb Sorensen ^a

^a Ehrenberg-Bass Institute for Marketing Science at the University of South Australia.

^a City West Campus, North Terrace, Adelaide 5000

*Corresponding author

Abstract

Much research focuses on the “power” side of “pester power”, with the assumption being that all requests are unwanted. Focusing on children aged under approximately 14 years old, and using recordings of 89 shopping trips, this paper uses the Eyberg Child Behaviour Inventory (new to the marketing literature) to investigate the “pester” aspect further and finds that, by and large, most trips are conducted without extreme child behaviours being exhibited. A third of children exhibit whining, and the remainder of scale items have low incidence of occurrence. These behaviours are also not found to be related to product requests. Roughly eighty percent of children made a request, and a fifth of these requests were granted. Parents do overall exercise power as gatekeepers for the food their children eat and do appear to exercise this power in-store in addition to regulating their disruptive behaviour. Future research needs to consider the wider opportunities children have to influence their parents and their influence in other retail contexts outside grocery shopping.

Keywords: Pester power; children; parents; consumer socialisation

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Introduction

“Pester power” is used to describe the influence children have in family choice behaviour. In this paper, we examine its use in the common context of grocery shopping, where two in 10 shoppers have a child with them (Page B et al., 2018).

This paper focuses on the “pester” side of the emotive term “pester power” (Lawlor and Prothero, 2011; Young et al., 1996), for children aged under approximately 14 years. The “power” side has been explored in a number of ways, with the link between advertising exposure, increased requests, and increased potential yielding to requests established (McDermott et al., 2006), but "pestering" has largely been untouched in research. The few papers examining the negative aspects of Pester Power have used high-involvement methods such as interviews (Pettersson et al., 2004) or focus groups (Wilson and Wood, 2004), both of which are known to be unreliable sources of information when researching familial relationships (Page B et al., 2018; Stratton, 1997; Young, 2003). The full extent of “pester” therefore remains unknown, yet this knowledge is needed in order to understand and influence the phenomenon, and to avoid continued confirmation bias in research on the topic.

This paper introduces to the marketing literature a scale from clinical practice, designed for examining disruptive behaviours: the Eyberg Child Behaviour Inventory (EBCI) (2000; 1980). We use the ECBI as a coding frame for recordings of in-store interactions to better measure the pester element and avoid the limitations of prior work on the topic.

Prior Research

Many opportunities to influence

Children (under 18 years of age) make up approximately a quarter of the Australian population and, while they do not directly control family spending, they have ample opportunity to influence it. Children have influence over not only items purchased for their own use, but also for the family, such as what restaurants to eat at, holidays to take, or even what car to buy (Berey and Pollay, 1968; Dotson and Hyatt, 2005; John, 1999; Lee and Beatty, 2002); the level of influence is thought to increase with the child's potential use of the product, and decrease with the overall cost of the purchase (Haselhoff et al., 2014; Jensen, 1995).

There are two potential ways in which children exert this influence over their parents' purchases. The first is passive influence, whereby parents purchase items for children based on their knowledge of the child's preferences over time, and become comfortable with allowing children to simply ask for their preferred option (Isler et al., 1987; John, 1999). The second influence method is through overt requests, referred to in the literature as "Pester Power" (Gunter and Furnham, 1998).

Children are more successful in their product requests in supermarkets than other retail contexts, and so research into the phenomena is likely to be more fruitful in this setting (Buijzen and Valkenburg, 2008). This makes it a useful context for examining Pester Power. Around 20% of supermarket shoppers are accompanied by at least one child (Page B et al., 2018; Thomas and Garland, 1993) and worldwide it is estimated children thereby influence over \$17bn of supermarket spending (IBISWorld, 2011).

A repertoire of strategies

Children build up a repertoire of strategies based on what has worked in the past, and what reasons parents give for denial of requests, which are used in formulating future request/negotiation strategies (Palan and Wilkes, 1997). These strategies have been grouped into four main categories: bargaining, persuasion (including persistent asking), straightforward requests, and emotional strategies (including anger, guilt and pouting) (Palan and Wilkes, 1997). Negative methods, which are types of persuasion or emotional strategies, such as nagging and whining or trolley loading, are the techniques used by children that are most commonly cited by parents (Gelperowic and Beharrell, 1994; Hill and Tilley, 2002; Rust, 1993a; Wilson and Wood, 2004). However, in observational research, only nineteen percent of requests result in conflict (Holden, 1983); suggesting that either negative methods can be used without conflict, or that the conflict which occurs with them enhances the likelihood of recall in the research that occurs post hoc.

Non-verbal methods of influence are additional to these verbal approaches and are of importance to children in pre-verbal developmental stages (John, 1999). Trolley loading (the practice of simply putting something in the trolley without asking) is a common practice noted by researchers (Gelperowic and Beharrell, 1994; Rust, 1993a). Younger children (i.e. under 6 years) point to things they want more than they vocalise, pick things up and explore them tactilely, including opening and eating the products (Rust, 1993a). Children of this age also use begging, kicking and screaming as more forceful methods of persuasion – though these tactics are not always restricted to children under six (McNeal, 1992).

The use of these non-verbal approaches diminishes as children reach early adolescence, and they learn to discuss and compromise with parents (Rust, 1993b),

rather than simply request (John, 1999). The change to *negotiation* strategies rather than *request* strategies comes as children learn that other people hold points of view that are different to their own, and they begin to take these into account (John, 1999). During the age when children use both verbal and non-verbal strategies (5-12 years), their influence over parents is at its peak (Hill and Tilley, 2002). This is therefore the age group that this paper focuses on, so that the maximum extent of Pester Power can be researched.

Parents also take steps to mitigate the potential for pestering. Parents try to spend as little time in the supermarket as possible to reduce the chance of having a request made, and can reduce the number of requests by half, simply by distracting their children through talking to them, or by providing food or toys (Holden, 1983). Turning down requests can also reduce future requests. Children who attempted to convince parents to buy products after being told “no” were less likely to be invited to select more products by their parents (Buijzen and Valkenburg, 2008).

Limitations of Prior Research and Conflicting Findings

Much of the research regarding the influence of children in these key influence stages comes from the family decision making literature (see Bronner and de Hoog, 2008), and this research, related to children and adolescents, primarily concerns perceptions of the level of influence each member of the family holds over various decisions. Generally, research indicates that parents and children perceive that they have different levels of influence: parents say that children have less influence than they think they do, but more influence than they think in the purchase of products that concern them, such as clothing, food, and holidays (Beatty and Talpade, 1994; Belch et al., 1985; Flurry and Burns, 2005; Foxman et al., 1989a, b; Hsieh et al., 2006; Jenkins, 1979; Lee and Beatty, 2002). Some researchers attempt to improve the

validity of their research by conducting the work in situ, such as Labrecque (1999). However, the results of these types of studies, and the varying types of inter-familial disagreement, reveal more about the internal structure of each family, than of actual patterns of influence, as they are focused on perceptions (Foxman et al., 1989b). Researchers of children and social interactions have long recognised the need for reliable research methods that reveal actual behaviour, rather than methods which are ‘filtered’ through recall or social biases (Arrington, 1943; Bronfenbrenner, 1974; Gram, 2010; Peters and Stewart, 1981; Wells and Lo Sciuto, 1966).

Self-report measures encounter problems when used in contexts where social norms may influence the acceptability of the behaviours in question (Dillman, 2000; Flurry and Burns, 2005; Gardner, 2000). This can occur especially in the context of describing familial interactions (Gram, 2010). When investigating children’s influence on product purchases, there are discrepancies between self-report data (e.g. Moore-Shay and Wilkie, 1988) and observational studies (Rust, 1993b). For instance, parents typically report that children have low levels of influence on their purchases (Beatty and Talpade, 1994; Turner Media Innovations, 2009; Wang et al., 2007). Hogg et al (1998) found that parents think that children frequently over-estimate their influence, even though between one third (Gelperowic and Beharrell, 1994) and almost two thirds (Hite and Eck, 1987) of parents indicated that they said “yes” to product requests for advertised products – the lower figure being obtained when parents were already primed about purchasing healthy foods.

Parents do not often acknowledge the influence children have over them in any shopping context (Bergler, 1999), and so projective techniques are sometimes used to have parents even admit to yielding to child requests (Flurry, 2007). However, when researchers consider revealed/observed behaviour, children are often found to have

more influence (Berey and Pollay, 1968; Ebster et al., 2009; Lee and Beatty, 2002). Indeed, Ebster (2006) found that parents underestimated the number of requests they granted to their children by about half, when compared with the actual number observed by researchers.

An obvious reason for this disparity in findings across methods is parents' unwillingness to admit that their children might have coercive or manipulative powers over them as this casts them as lacking in parenting skills (Flurry and Burns, 2005). Research needs to factor this into the research design; observation of actual behaviour (as in this study) avoids many of the pitfalls of prior research.

Measuring conflict

While we know that children and parents do engage in conflict in stores (Holden, 1983; Rust, 1993b), little is known about the frequency or severity of such events. Prior studies have considered the interactions between parents and children from the perspectives of parental control and child compliance (Atkin, 1978), or of "power relation bouts" (Holden, 1983), research tends to assume that all requests are unwelcome or problematic (McDermott et al., 2006). Even the act of advertising to children is seen as inciting children to "nag their parents into buying something that is not good for them, they do not need or the parent cannot afford" (Spungin, 2004). Any request, it is claimed, leads to "gratuitous tension" at best, and unhealthy, exasperated purchases at worst (McDermott et al., 2006).

Parents are keen to talk about their struggles; and keen to point at advertising and peer pressure as the source of pestering (Ireland, 2003), and indeed, the link between viewing of advertising and an increase in both purchase requests, and purchase made by parents, is well-established (John, 1999). But, to believe that children obey the

wishes of practitioners in making “intense” and repetitious requests (e.g. McDermott et al., 2006) is also unrealistic. Parents invite their children’s input into food choices (Atkin, 1978) to avoid boredom and to ensure that children will actually eat what is provided (Stratton, 1997; Young, 2003). In fact, advertising only accounts for 5% of the emphasis placed on influences of food choices, and of far greater importance are the mechanics of planning and organising meals (Stratton, 1997). Simultaneously, parents do not necessarily see their role as a defender against unhealthy foods, but rather as being responsible for ensuring a variety of food is offered to their children (Stratton, 1997).

While children do request advertised products, it is difficult to equate a request with “pestering” (Stratton, 1994). One way to quantify pestering is simply as a disruptive behaviour. The Eyberg Child Behaviour Inventory (ECBI) is used by child psychologists to determine the presence of conduct disorders (Collett et al., 2003; Eyberg and Robinson, 1983). Normally, parents or teachers rate how often each of the behaviours occur and if they cause a problem, which allows clinicians to diagnose issues with both the child and the parent. It is widely used by clinicians, and is frequently validated and re-validated (Hukkelberg et al., 2016). However, for this paper’s research purpose, the ECBI provides a validated list of behaviours (see Table 2 for details) which, rather than relying entirely on coder judgement, gives some ability to determine which behaviours may be indicative of potential for conflict within the supermarket. However, due to the dyadic nature of conflict (in that a behaviour itself may not cause a problem for a parent, depending on their parental style and personal temperament), the mere existence of a behaviour cannot be taken to be indicative of conflict, or of a child intending to initiate conflict with a parent. This is operationalised below.

Existing knowledge about shopping as context

Prior research has excluded [an unknown number of] shoppers on short trips (e.g. Thomas and Garland, 1993), or been designed to ensure shoppers are on planned weekly trips (e.g. Holden, 1983). Given that we know the short trip for only a few items is the most common type of grocery store trip (Sorensen, 2009; Sorensen et al.), this delivers an unrepresentative sample of shopping trips. Children are, overall, no more or less likely to be on a shopping trip for only a few items, and the presence of a child makes a parent shop faster (Page B et al., 2018).

Few prior studies look at the presence of, and response to, requests on an across-category basis (notable exceptions are Isler (1987), with a diary study and O'Dougherty (2006) who spot-sampled categories). Other research focuses on the cereal category only (e.g. Atkin, 1978; Gaumer and Arnone, 2010), or does not consider that parental responses to requests might vary depending on the product requested (beyond “suitability for consumption within the store”) (Ebster et al., 2009). Research in this field needs to take into account the heterogeneity of shopping trips (that is, heavily weighted to smaller basket sizes), and consider the entire shopping trip, rather than examining shopping trips without their greater context.

This research investigates the link between potential conflict and product requests. In order to avoid social desirability bias, two key steps have been taken. The first is to use the ECBI as a framework to determine the potential for disruptiveness of a given behaviour, rather than relying on parental self-report, and the second is to record shopping trips, rather than accompany, again to avoid social desirability bias.

First, the assumption that recording trips does not influence behaviour is tested by comparing the two methods used. Then, we describe the overall incidence of requests

and yielding in the sample to better situate the findings. Finally, we apply the ECBI as a coding frame to better understand the potential for, and occurrence of, conflict between parents and children in supermarkets.

Method

The research was conducted across four stores in two urban capital cities in Australia. Due to the relatively low incidence of shoppers with children under 18 years of age (14 percent observed which compares with expected levels found in Thomas and Garland's 1993 work), all shoppers with children present were approached at the entrance to the store and asked to wear either a head-mounted camera, or an audio recorder on a lanyard around their neck, and met at the end of their journey with a short exit survey to record demographic information. This method has been found to capture more requests than in-person observation for food and beverage purchase interactions (Calloway et al., 2014).

Shoppers were told that the research was focusing on "how you use shelves and move through the store". They were only informed after the shopping trip that we were researching parent-child interactions, and again asked for consent to use the recording in analysis. This was done to maximise the likelihood of "normal" interaction behaviour being observed, while remaining consistent with ethical and professional code of conduct guidelines. No participants denied the follow-up request to use their data.

A pilot study was used to trial two alternative recording devices. The commercially available ear-mounted cameras ("Looxcie") were often adjusted for comfort by participants, and inadvertently deactivated, resulting in a number of partially recorded trips, which needed to be discarded. Unbranded "spy" camera devices, designed to

look like sunglasses, were the most effective recording device, but due to the ambiguous, single-blinking-light-based interface, were sometimes not set to record. Despite improvements to training, a small number of trips were lost through this issue.

In the pilot phase, shoppers were asked directly if “wearing the Eye-Cam changed your shopping behaviour today”. It was overwhelmingly reported that it did “not at all”, with 63 percent of respondents giving a 0 out of 10 mean score (mean was 1.5, $sd=2.7$). In support of this, a number of intimate conversations were recorded. For example, parents were willing to discipline children verbally while wearing the devices, and a shopper was heard to mutter obscenities about each shopper she passed while in store.

The sample of parents matched that of the normal shopper population for each store, and the acceptance rate for the research was 77%. Using Bluetooth logging (as described and validated by Phua et al (2015)) and entry/exit interviews of every fifth shopper, we see that those engaged in trips lasting under ten minutes were slightly underrepresented by 7 percentage points, and those shopping for between 11-25 items overrepresented by 8 percentage points (expressed as a percentage of the total shopping trips).

In total, 1839 interactions were coded. 918 (50%) were about a specific product (e.g. “a Mars bar”), and 296 (16%) which were category-level requests (e.g. “a chocolate bar”), in 89 shopping trips, totalling 30 hours of recording.

Coding

The shopping trips were coded by interaction, following Atkin’s (1978) approach, rather than by time (Holden’s 1983 choice), as the interaction is the unit of interest,

and variables about the length of trip were recorded separately. Atkin's conversation tree was used for benchmark comparability. Suggestions by clinical researchers, from observations in other contexts, to disregard the first ten minutes of observations to increase habituation (Kier, 1996), had to be discarded, due to the short duration of shopping trips. It is not possible to determine how this may have affected the results.

Coders were instructed to record the occurrence of behaviours on the ECBI in a coding grid, as an interaction of interest in the same fashion as product influence attempts. The time and duration of each interaction in the recordings was also logged in order to make returning to the interaction for easy verification possible. The age groups of the children present were estimated by coders, and categorised as under 3 years, 3-5, 6-8, 9-12, and teen. These groups were chosen with regards to the verbal ability of the various age groups and their likely development in terms of John's (1999) stages of consumer socialisation. In shopping parties where more than one child was present (n=36) it was sometimes difficult to determine which child was speaking, and so these trips were excluded when investigating differences between age groups.

The key researcher for this project trained two coders, who watched examples of the interactions of interest together. Coders operated in the same office and, where questions of interpretation were encountered, would consult each other to build agreement. In the few cases where agreement could not be reached, the primary researcher was consulted as an arbitrator.

Both coders coded three recordings independently, to check for inter-coder reliability, which was 85%. Cohen's kappa (Cohen, 1960; Lombard et al., 2002) across the recordings is 0.79, an acceptable level of agreement (Lombard et al., 2004) and slightly higher than the .7 achieved by Buijzen & Valkenburg (2008).

Comparison of methods

Participant-mounted cameras have been validated against a researcher following shoppers with a clipboard, and have been found to be more accurate than the manual method in that they allow researchers to observe more interactions (Calloway et al., 2014). However, the effect of a researcher trailing on the natural behaviour of parents and children has not been determined, though it may introduce social desirability effects into both child and parent behaviour. For this reason, we used only mechanical methods of recording trips through audio and video capture. Consumers overwhelmingly reported that the recording devices did not influence their behaviour but, given the issues with self-report in this area, it is prudent to check. Thirty-five percent (n=31) of recordings were audio-only.

On a per-interaction basis, parents with audio recorders were found to grant product requests on fewer occasions compared to if they had a video recorder (34% success rate for video c.f. 15% audio, Chi-square significant at $\chi^2(1, n=271) = 11.5, p = .001, \phi = .22$). On a per-trip basis, parents with audio recorders were again seen to grant fewer product requests (69% of video trips saw at least one request granted compared with only 38% of audio trips, Chi-square significant at $\chi^2(1, n=89) = 6.1, p = .01, \phi = .29$).

Interactions where a video recorder was used were less likely to be coded as a behaviour on the ECBI (9% of interactions for audio c.f. 3% for video, Chi-square significant $\chi^2(1, n = 1854) = 15.6, p = .000, \phi = .094$). These findings suggest that video recording may in itself modify behaviour, most probably due to its more conspicuous nature and hence greater social pressure on the adult-child to avoid potential conflict behaviours.

It appears that wearing the more intrusive head-mounted recorders leads to parents yielding more readily and children being better behaved. It might be that these findings are the result of parents and children being more aware of the video recording device. These differences indicate that the observation technique used may have an effect on the outcomes of such observation. This has implications for comparison of studies and is requires further research. It also makes a valuable methods contribution finding.

Results

The proportion of conversations with children about products was normally distributed through the population, ranging from no conversations about products, through to all conversations being about products ($M=48\%$, $SD=22$). This suggests that the research captured a good cross section of shoppers with children accompanying them. Some shoppers were more talkative than others, but most shoppers spent about 40 percent of the trip talking ($M=42\%$, $SD= 22$), with shoppers having up to 2.2 interactions per minute, and a mean of 1.1 interactions per minute ($SD=.4$). Nineteen percent of children made no requests at all, and there was an average of 3.3 requests per trip ($SD=3.4$) observed across all trips, and 4.1 ($SD=3.3$) average requests per trip among only those trips where a request was made. In this section, other than where made explicit, “requests” encompasses both requests and demands.

Requests

As we know that shopping trips are not all the same length, discussing the sheer number of requests on a trip is not an insightful metric. The rate at which requests are made, however, allows comparisons to be made, regardless of trip length. In our

study, 19 percent of children years made no requests; the remaining children made an average of 0.16 requests per minute (S.D. = 0.13) (or one request every 6.25 minutes), controlling for the number of children present.

A weak relationship was found between the length of a trip and the rate at which requests are made. Children made the most requests per minute on trips under ten minutes in duration (0.57 requests per min, or one request every 1.75 minutes) and were unable to sustain high rates of request on trips longer than 30 minutes, with the average number of requests dropping to 0.24 requests per minute (or one request every 4.2 minutes). This leads to the reasonable inference that in studies which exclude short trips, the rate of requests should be lower than in studies that include the full spectrum of trip types.

We found no difference in the rate of requests as a child ages (means compared with two-tailed t-tests). The literature suggests that a *decrease* in requests as the age of the child increases is the norm (e.g. Ebster et al., 2009; Isler et al., 1987; Jensen, 1995). It may simply be that the effect size is too small to find in these samples.

Fourteen percent of requests were judged by the coding team to be in the form of a demand, rather than a request. Demands were considered to be instructions to a parent, while requests were posed as questions. A demand resulted in a 63 percent increased chance of the child being granted the asked-for item (19% of requests

By category

Of all 1839 interactions coded (which includes incidental conversations not related to products), 260 (14%) were requests for products. Of these, 51% had possible multiple product category classifications: for instance, a breakfast drink in the cereal aisle could be classified under a dairy, a grain, or a cereal. The next most common requests

were for confectionary (14%). Non-food requests were as varied as handwash, a cheese grater, shoe inserts, and vinegar.

For comparison, the products parents offer to children in store are also provided in Table 1. Miscellaneous food items are again the most common category, composed of a wide variety of items (though not as wide-ranging as the requests from children), and included pesto, olive oil, ginger and Nutella. To enable comparison by the reader, we have used O’Dougherty’s (2006) categorisation scheme.

Table 1: Child requests and parent suggestions by category

Category	Child Requests		Parent Suggestions		Parent grants	
	n	%	n	%	n	% of requests
Misc. food	96	39	61	36	21	22
Confectionary	34	14	9	5	6	18
Misc. non food	30	12	7	4	2	7
Dairy	23	9	15	9	12	52
Fruit & veg	23	9	28	16	10	43
Toys	13	5	-	-	0	0
Juice & fizzy drink	12	5	10	6	1	8
Meat	7	3	9	5	2	29
Salty snacks	6	2	9	5	4	67
Grain	4	2	11	7	1	25
Cereal	1	0	10	6	0	0
Total	249	100	169	100	59	-

Sorted by requests made. Salty snacks and dairy are most likely to be granted.

Yielding

The narrative surrounding Pester Power asserts that adults are relatively powerless in the face of continued nagging by children (Marshall et al., 2007), and in some studies, they appear to be (Gaumer and Arnone, 2010). However, prior research has established that adults do refuse product requests and demands by children (Atkin, 1978; Calloway et al., 2014; O’Dougherty et al., 2006).

Overwhelmingly (72% of cases), parents denied requests, which includes seven percent of cases in which parents simply ignored requests. Of the 260 requests /demands observed, a fifth were granted directly. In an additional 6% of cases, a negotiated selection was made. The low number of requests for salty snacks might indicate that children are more strategic about when these types of requests are made; confectionary is frequently requested but is more often refused than other categories.

Over half of all requests for salty snacks and dairy goods were granted, followed by requests for fruit and vegetables (see Table 1). Unsurprisingly, juice and fizzy drink, non-food items, cereal, and toys, were the least granted items.

Granting and denial of requests is not uniformly distributed throughout the population. The proportion of requests granted was highly negatively skewed, with most (four in 10) parents granting no requests at all. An average of 31 percent (S.D. = 35) of requests were granted. A linear regression found a weak positive relationship between the number of requests made and granted ($\text{granted} = .17 * \text{requests} + 0.37$, $R^2 = 0.2$). This could be due to either children who are used to having requests granted making more requests, or that parents, when faced with more requests, finally yield.

Potentially challenging behaviours

To investigate the “pester” in pester power, we use the Eyberg Child Behaviour Inventory which is an inventory (see Table 2) for a range of disruptive behaviours (Burns and Patterson, 2000; Robinson et al., 1980, Boggs, 1990 #24963). In 53 percent of trips (n=47), no behaviours on this checklist were observed at all. Of the 1839 separate interactions observed only 140 (8%) warranted a descriptor from the ECBI. Eleven percent (n=29) of product requests were accompanied by a behaviour from the EBCI, and the success rate of these requests was identical to the success rate

of requests not accompanied by a disruptive behaviour (28% success). In trips where a potentially challenging behaviour was observed, it occurred at a rate of 0.18 (S.D. = 0.23) behaviours per minute (or one behaviour every 5.5 minutes), per child, or 11% of the trip time (S.D. = 17%, median = 5%) and 23% of the conversation time (S.D. = 24%, median = 13%). Of the total 1956 product-based interactions coded, 48% were a request, and 52% were general discussion. Among the requests, 6% involved a behaviour on the checklist, whereas among the non-requests, 8% involved behaviour on the checklist. A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between behaviours on the ECBI and request, $\chi^2(1, n=1965) = 2.7, p = .01, \phi = -.04$. Table 2 shows that of the ECBI behaviours observed, whining was by far the most common behaviour. More extreme behaviours of fighting, tantrums and arguing were relatively rare in the data, suggesting that children are generally well behaved in this context.

Only six trips had rates of potentially disruptive behaviours higher than 0.5 per minute, and these had durations of below 40 minutes in total length. No trips with higher than 0.1 potentially disruptive behaviours per minute lasted more than 40 minutes; all trips longer than 40 minutes had rates of potentially challenging behaviour below 0.08 behaviours per minute. We see a higher rate of requests in trips where a behaviour on the ECBI occurs ($M = .22, SD = .14$, one request every 4.5 minutes) compared with trips where no such behaviour occurs ($M = .13, SD = .15$ or one request every 7.7 minutes; $t(87) = 2.87, p = .005$, two tailed), tested with an independent-samples t-test. The difference between the two rates (mean difference = .09, 95% CI: .03 to .15) was moderate (eta squared = .086). Potentially challenging behaviours were evenly, though not normally, distributed through the duration of trips. Coded as the proportion of trip complete (that is, 0-100%), behaviours on the ECBI occurred at a mean of 57% through the trip (S.D. = 31%). 21% of events

occurred in the first quarter of a trip, 22% in the second quarter, 24% in the third quarter, and 32% in the final quarter. When a potentially challenging behaviour co-occurred with a request, children were no more or less likely to be granted their request (27% success when paired with a behaviour on the ECBI cf 22%). A Chi-square test for independence (with Yates Continuity Correction) indicated no significant association between the success of product requests co-occurring with a behaviour on the ECBI (27%) and requests not paired with a behaviour on the ECBI (22%), $X^2(1, n=297) = .19, p = .66, \phi = -.04$.

Table 2: Observed behaviours from Eyberg CBI

Behaviour	n	% of children exhibiting behaviour	% of all behaviour on ECBI
Whines	88	35	44
Yells or screams	31	11	15
Is overactive or restless	9	8	4
Cries easily	20	7	10
Act defiant	35	6	17
Constantly seeks attention	3	3	1
Sasses adult	2	2	1
Argues about rules	2	2	1
Temper tantrum	4	1	2
Is careless with toys and other objects	2	1	1
Verbally fights	2	1	1
Teases	1	1	.5
Is easily distracted	1	1	.5
Has short attention span	1	1	.5
Total	201	100	100

No children were observed exhibiting the following behaviour on the ECBI: gets angry when doesn't get own way, destroys toys or other objects, hits parents, steals, lies, physically fights, interrupts, has difficulty entertaining self, has difficulty concentrating on one thing

Summary

A fifth of children made no requests and, of children who did make requests, they did so at an average rate of 0.16 requests per minute (or one request every 6.25 minutes S.D. = 0.13). We find some support for an increasing number of requests as the age of the child increases. Aside from individual food items which were difficult to categorise, children in the sample were seen to request confectionary most often.

Of all requests made, a fifth were granted, and only six percent resulted in a negotiated selection. The rate at which requests are granted depends on the product category, with salty snacks being one of the least-requested, but most likely to be granted categories, along with dairy, fruits and vegetables. When considering the rate at which individual parents grant requests, forty percent of parents denied all requests regardless of category; an average of 31 percent of requests per trip were granted.

Most trips (53%) saw no disruptive behaviour from children; for trips where disruptive behaviour was present, this occurred at an average rate of 0.18 behaviours per minute per child (S.D. = .23). Higher rates of potentially disruptive behaviour were associated with shorter trip durations: no trip with a rate of potentially disruptive behaviour higher than 0.1 behaviours per child per minute (or one request every 10 minutes) lasted longer than 40 minutes. An explanation for this may be that parents terminate the shopping trip if their children are disruptive. In general, the behaviours seen from children were on the less problematic end of the spectrum of disruptive behaviours: only two tantrums were observed in the entire 30 hours of video.

However, this may have been a selection effect: parents with particularly difficult children may be more inclined to leave them at home, and less inclined to agree to participate in further complications at the supermarket. Using head mounted video cameras appear to make parents more willing to yield, and children better behaved:

this requires further research. We attempted to investigate a relationship between rate of requests and age of child, but due to the difficulty in capturing the required data, did not have large enough cell sizes.

Limitations

The sample underrepresents shoppers in-store for less than ten minutes by 7 percentage points. Because most shopping trips are for only a few items, and are of short duration (Sorensen, 2009; Sorensen et al.), this has potential implications for the generalisability of our results, as a higher rate of requests was found in trips of shorter duration (0.53 requests per minute for trips under 10 minutes c.f. 0.38 average requests per minute). However, 45% of the trips under 10 minutes had no requests at all (27% of all trips under 20 minutes), but trips longer than 10 minutes had only 12% of trips with no requests. These longer trips have more opportunity for requests to occur. Given that children are most likely to accompany parents on small trips (Page B et al., 2018), we would expect that the “true” rate at which requests occur across all trips to be lower than that found in this study.

The age of the child was not able to be fully investigated in this research, due to the decision to use observed rather than interview data. Future research could be structured to purposefully screen and sample shopping parties with children of specific ages.

It is acknowledged that the antecedents to product requests and yielding, notably exposure to advertising, have not been examined in this research. The relationship has been relatively well-established by a number of studies (Buijzen and Valkenburg, 2000; Buijzen and Valkenburg, 2003; Galst and White, 1976; Rossiter, 1979), but further work to determine the nature of the current relationship could be beneficial.

Conclusion & future research

This paper makes both methodological and descriptive benchmark contributions. It illustrates the benefit of observation research through the use of video and audio recording of shopping trips. It also identifies the potential for method to influence the very behaviours being observed. The paper also contributes through bringing in a known and accepted psychology inventory to map child behaviours that can lead to conflict. The paper successfully applies the ECBI in the supermarket context to deliver measured benchmarks for potentially disruptive behaviours. Such benchmarks were lacking in the shopper literature.

The other significant contribution is the key finding that parents are not as powerless in the face of in-store requests from children as much prior literature asserts. The “pester” part of Pester Power is not as powerful as often asserted by literature, at least in the grocery store setting, a context where it is likely to be at its strongest. This paper makes a significant contribution to knowledge through mapping the ECBI behaviours that occur in-store with children. It provides a valuable descriptive baseline from which to expand our understanding of Pester Power and the resultant effect on product choices. It is a base from which the dyadic nature of conflict can be explored more fully.

Investigating more fully the nature of the instances of “whining” that were found to be prevalent in this research may offer fruitful future research: simply because a behaviour is not disruptive, does not mean it is not coercive. Given the assertion that half of all requests are made in the home (Isler et al., 1987), future research also needs to develop a more holistic understanding of the persuasive environments parents find themselves in across all contexts. Perhaps, rather than understanding intergenerational influence as an adversarial process, where children coerce parents into making

purchases against their better judgement, building a better understanding of the collaborative nature of food decisions is better recasting for this field of research (see Marshall, 2014, Lawlor, 2011 #21374). Well-designed ethnographic work (e.g. Gram, 2010) with a view to focused, structured observational studies of in-home request and discussion behaviour will likely reveal a more complete picture of the influence of children on the purchases of parents.

Reference List

- Arrington, R.E., 1943. Time sampling in studies of social behavior: a critical review of techniques and results with research suggestions. *Psychological Bulletin* 40 (2), 81-124.
- Atkin, C., 1978. Observation of parent-child interaction in supermarket decision-making. *The Journal of Marketing* 42 (4), 41-45.
- Beatty, S.E., Talpade, S., 1994. Adolescent influence in family decision making: a replication with extension. *Journal of Consumer Research* 21 (2), 332-341.
- Belch, G.E., Belch, M.A., Ceresino, G., 1985. Parental and teenage child influences in family decision making. *Journal of Business Research* 13 (2), 163-176.
- Berey, L., Pollay, R., 1968. The Influencing Role of the Child in Family Decision Making. *Journal of Marketing Research* 5 (1), 70-72.
- Bergler, R., 1999. The effects of commercial advertising on children. *International Journal of Advertising*, 41-48.
- Bronfenbrenner, U., 1974. Developmental research, public policy, and the ecology of childhood. *Child development* 45 (1), 1-5.
- Bronner, F., de Hoog, R., 2008. Agreement and disagreement in family vacation decision-making. *Tourism Management* 29 (5), 967-979.
- Buijzen, M., Valkenburg, P.M., 2000. The Impact of Television Advertising on Children's Christmas Wishes. *Journal of Broadcasting and Electronic Media* 44 (3), 456-470.
- Buijzen, M., Valkenburg, P.M., 2003. The unintended effects of television advertising: A parent-child study. *Communication Research* 30 (5), 483-503.
- Buijzen, M., Valkenburg, P.M., 2008. Observing Purchase - Related Parent-Child Communication in Retail Environments: A Developmental and Socialization Perspective. *Human Communication Research* 34 (1), 50-69.

- Burns, G.L., Patterson, D.R., 2000. Factor structure of the Eyberg Child Behavior Inventory: A parent rating scale of oppositional defiant behavior toward adults, inattentive behavior, and conduct problem behavior. *Journal of Clinical Child Psychology* 29 (4), 569-577.
- Calloway, E.E., Roberts-Gray, C., Ranjit, N., Sweitzer, S.J., McInnis, K.A., Romo-Palafox, M.J., Briley, M.E., 2014. Method of assessing parent-child grocery store purchasing interactions using a micro-camcorder. *Appetite* 83, 1-9.
- Cohen, J., 1960. A Coefficient of Agreement for Nominal Scales. *Educational and Psychological Measurement* 20 (1), 37-46.
- Collett, B.R., Ohan, J.L., Myers, K.M., 2003. Ten-year review of rating scales. VI: Scales assessing externalizing behaviors. *Journal of the American Academy of Child & Adolescent Psychiatry* 42 (10), 1143-1170.
- Dillman, D.A., 2000. *Mail and internet surveys: the tailored design method*, 2nd ed. J. Wiley, New York.
- Dotson, M.J., Hyatt, E.M., 2005. Major Influence Factors in Children's Consumer Socialization. *Journal of Consumer Marketing* 22 (1), 35-42.
- Ebster, C., Wagner, U., Neumueller, D., 2006. "Mommy, I want that!"—Spontaneous purchases triggered by children, International Congress "Marketing Trends". ESCP Europe, Venice.
- Ebster, C., Wagner, U., Neumueller, D., 2009. Children's influences on in-store purchases. *Journal of Retailing and Consumer Services* 16 (2), 145-154.
- Eyberg, S.M., Robinson, E.A., 1983. Conduct problem behavior: Standardization of a behavioral rating scale with adolescents. *Journal of Clinical Child & Adolescent Psychology* 12 (3), 347-354.
- Flurry, L.A., 2007. Children's influence in family decision-making: Examining the impact of the changing American family. *Journal of Business Research* 60 (4), 322-330.
- Flurry, L.A., Burns, A.C., 2005. Children's influence in purchase decisions: a social power theory approach. *Journal of Business Research* 58 (5), 593-601.
- Foxman, E.R., Tansuhaj, P.S., Ekstrom, K.M., 1989a. Adolescents' influence in family purchase decisions: a socialization perspective. *Journal of Business Research* 18 (2), 159-172.
- Foxman, E.R., Tansuhaj, P.S., Ekstrom, K.M., 1989b. Family members' perceptions of adolescents' influence in family decision making. *Journal of Consumer Research* 15 (4), 482-491.
- Galst, J., White, M., 1976. The Unhealthy Persuader: The Reinforcing Value of Television and Children's Purchase- Influencing Attempts at the Supermarket. *Child Development* 47 (4), 1089-1096.

- Gardner, F., 2000. Methodological issues in the direct observation of parent–child interaction: Do observational findings reflect the natural behavior of participants? *Clinical child and family psychology review* 3 (3), 185-198.
- Gaumer, C., Arnone, C., 2010. Grocery Store Observation: Parent-Child Interaction in Family Purchases. *Journal of Food Products Marketing* 16 (1), 1-18.
- Gelperowic, R., Beharrell, B., 1994. Healthy Food Products for Children: Packaging and Mothers' Purchase Decisions. *British Food Journal* 96 (11), 4-8.
- Gram, M., 2010. Self - reporting vs. observation: some cautionary examples from parent/child food shopping behaviour. *International Journal of Consumer Studies* 34 (4), 394-399.
- Gunter, B., Furnham, A., 1998. *Children as consumers: a psychological analysis of the young people's market*. Routledge, New York and London.
- Haselhoff, V., Faupel, U., Holz Müller, H., 2014. Strategies of children and parents during shopping for groceries. *Young Consumers* 15 (1), 17-36.
- Hill, H., Tilley, J., 2002. Packaging of children's breakfast cereal: manufacturers versus children. *British Food Journal* 104 (9), 766-777.
- Hite, R., Eck, R., 1987. Advertising to Children: Attitudes of Business vs. Consumers. *Journal of Advertising Research*, 40-53.
- Hogg, M.K., Bruce, M., Hill, A., 1998. Fashion brand preferences among young consumers. *International Journal of Retail & Distribution Management* 26 (8), 293-300.
- Holden, G., 1983. Avoiding Conflict: Mothers as Tacticians in the Supermarket. *Child Development* 54 (1), 233-240.
- Hsieh, Y.-C., Chiu, H.-C., Lin, C.-C., 2006. Family communication and parental influence on children's brand attitudes. *Journal of Business Research* 59 (10), 1079-1086.
- Hukkelberg, S.S., Reedtz, C., Kjøbli, J., 2016. Construct validity of the eyberg child behavior inventory (ECBI). *European Journal of Psychological Assessment* 34 (1), 14-21.
- IBISWorld, 2011. *Supermarkets in Australia: Market Research Report*, IBISWorld industry report. IBISWorld, Melbourne.
- Ireland, B.C.o., 2003. Summary of the Responses Received from Children and Young People to the Phase Two Consultation. 1-24.
- Isler, L., Popper, E., Ward, S., 1987. Children's Purchase Requests and Parental Responses: Results from a Diary Study. *Journal of Advertising Research* 27 (5), 28-39.
- Jenkins, R.L., 1979. The influence of children in family decision-making: parents' perceptions. *Advances in Consumer Research* 6 (1), 413-418.

- Jensen, J.M., 1995. Children's purchase requests and parental responses: results from an exploratory study in Denmark. *European Advances in Consumer Research* 2 (1), 54-60.
- John, D.R., 1999. Consumer Socialization of Children: A Retrospective Look at Twenty-Five Years of Research. *Journal of Consumer Research* 26 (3 (December)), 183-213.
- Kier, C., 1996. How natural is “naturalistic” home observation? Observer reactivity in infant-sibling interaction, *Proceedings of the British Psychological Society*, p. 79.
- Labrecque, J., Ricard, L., 1999. Children’s influence on family decision-making: a restaurant study. *Journal of Business Research* 54, 173-176.
- Lawlor, M., Prothero, A., 2011. Pester power – A battle of wills between children and their parents. *Journal of Marketing Management* 27 (5/6), 561-581.
- Lee, C.K.C., Beatty, S.E., 2002. Family structure and influence in family decision making. *Journal of Consumer Marketing* 19 (1), 24-41.
- Lombard, M., Snyder-Duch, J., Bracken, C.C., 2002. Content analysis in mass communication: Assessment and reporting of intercoder reliability. *Human Communication Research* 28 (4), 587-604.
- Lombard, M., Snyder-Duch, J., Bracken, C.C., 2004. Interrater Reliability: Practical resources for assessing and reporting intercoder reliability in content analysis research projects. *Journal of Consumer Psychology* 10 (1-2), 71-73.
- Marshall, D., 2014. Co-operation in the supermarket aisle: Young children’s accounts of family food shopping. *International Journal of Retail & Distribution Management* 42 (11/12), 990-1003.
- Marshall, D., O'Donohoe, S., Kline, S., 2007. Families, food, and pester power: beyond the blame game? *Journal of Consumer Behaviour* 6 (4), 164-181.
- McDermott, L., O'Sullivan, T., Stead, M., Hastings, G., 2006. International food advertising, pester power and its effects. *International Journal of Advertising* 25 (4), 513-539.
- McNeal, J.U., 1992. *Kids as Customers: A Handbook of Marketing to Children*. Lexington books, New York.
- Moore-Shay, E., Wilkie, W., 1988. Recent Developments in Research on Family Decisions. *Advances in Consumer Research* 15, 454-460.
- O'Dougherty, M., Story, M., Stang, J., 2006. Observations of parent-child co-shoppers in supermarkets: children’s involvement in food selections, parental yielding, and refusal strategies. *Journal of Nutrition Education and Behavior* 38 (3), 183-188.
- Page B, Sharp A, Lockshin L, H, S., 2018. Parents and Children in Supermarkets: Incidence and Influence. *Journal of Retailing and Consumer Services* 40, 1-312.

- Palan, K., Wilkes, R., 1997. Adolescent-Parent Interaction in Family Decision Making. *Journal of consumer Research* 24 (2), 159-169.
- Peters, D.L., Stewart, R.B.J., 1981. Father-Child Interactions in a Shopping Mall: A Naturalistic Study of Father Role Behavior. *The Journal of Genetic Psychology* 138, 269-278.
- Pettersson, A., Olsson, U., Fjellstrom, C., 2004. Family life in grocery stores - a study of interaction between adults and children. *International Journal of Consumer Studies* 28 (4), 317-328.
- Phua, P., Page, B., Bogomolova, S., 2015. Validating Bluetooth logging as metric for shopper behaviour studies. *Journal of Retailing and Consumer Services* 22, 158-163.
- Robinson, E.A., Eyberg, S.M., Ross, A.W., 1980. The standardization of an inventory of child conduct problem behaviors. *Journal of Clinical Child & Adolescent Psychology* 9 (1), 22-28.
- Rossiter, J.R., 1979. Does TV advertising affect children? *Journal of Advertising Research* 17 (1), 49-53.
- Rust, L., 1993a. Observations: How to reach children in stores: marketing tactics grounded in observational research. *Journal of Advertising Research* 33 (6), 67-72.
- Rust, L., 1993b. Observations: Parents and Children Shopping Together: A New Approach to the Qualitative. *Journal of Advertising Research* 33 (4), 65-70.
- Sorensen, H., 2009. *Inside the mind of the shopper*. Pearson Education Inc., Upper Saddle River, New Jersey.
- Sorensen, H., Bogomolova, S., Anderson, K., Trinh, G., Sharp, A., Kennedy, R., Page, B., Wright, M., 2017. Fundamental patterns of in-store shopper behavior. *Journal of Retailing and Consumer Services* 37, 182-194.
- Spungin, P., 2004. Parent power, not pester power. *Young Consumers: Insight and Ideas for Responsible Marketers* 5 (3), 37-40.
- Stratton, P., 1994. The myths about children's dietary choices. *ADMAP*, 1-15.
- Stratton, P., 1997. Influences on food choice within the family, *Children's Food: Marketing and Innovation*. Blackie Academic & Professional, London, pp. 1-19.
- Thomas, A., Garland, R., 1993. Supermarket Shopping Lists: Their Effect on Consumer Expenditure. *International Journal of Retail and Distribution Management* 21 (2), 8-14.
- Turner Media Innovations, 2009. *Kids, Mums and Purchasing*. Turner Broadcasting System.
- Wang, S., Holloway, B.B., Beatty, S.E., Hill, W.W., 2007. Adolescent influence in family purchase decisions: An update and cross-national extension. *Journal of Business Research* 60 (11), 1117-1124.

Wells, W., Lo Sciuto, L., 1966. Direct observation of purchasing behavior. *Journal of Marketing Research* 3 (3), 227-233.

Wilson, G., Wood, K., 2004. The influence of children on parental purchases during supermarket shopping. *International Journal of Consumer Studies* 28 (4), 329-336.

Young, B., 2003. Does food advertising influence children's food choices? A critical review of some of the recent literature. *International Journal of Advertising* 22 (4), 441-459.

Young, B., Webley, P., Hetherington, M., Zeedyk, S., 1996. The role of television advertising in children's food choice, Report to the Ministry of Agriculture, Fisheries and Food