

## **The Effects of 3 and 4 Year Old Children's Fast Food Brand Knowledge in their Brand Preference**

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### **Abstract**

This paper reports on the measurements, method and analysis used on n=181 three to four year old children to obtain their brand knowledge about McDonald's and two competitors. The model is 86% correct in identifying the 51% of children that preferred McDonald's. Children's knowledge about McDonald's was largely based on their having little knowledge of the imagery of the competitors to McDonald's, rather than a deeper or broader knowledge of the McDonald's brand.

Key words: preference, consumer behaviour, perception.

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### **Introduction**

Fast food marketers have been targeting children as young as three years old with their advertising and promotions (Leonhardt and Kerwin, 1997). In Australia, McDonald's has won an award for their effectiveness in getting children to pester their parents to take them to McDonald's (Advertising Federation of Australia, 2001). A Centre for Science in the Public Interest Report (2003) states that in the last two decades, obesity rates doubled in children and tripled in adolescents in the US, and that products sold by fast food restaurants are partially to blame for the increase in overweight and obese US children.

Fast food marketers are often viewed as purveyors of 'junk food' by Australians that believe fast food marketers share the blame for the level of Australian's being obese and overweight (Australian Government, Department of Health and Ageing, 2007). Although the portrayed causal nature of fast food in the health issue also has many critics of this blame (ABC, 2008; Guillatt, 2009), the way young children view the fast food marketers associated with their preference may reveal a better understanding of what may drive their preferences for this food.

### **Literature Review**

There are few empirical studies relating to measuring consumers' individual brand knowledge and any links to brand preference and brand equity. There has been no study of brand knowledge in relation to children. Findings from studies of adult consumers will be used to form measures and hypotheses appropriate for testing the impact of brand knowledge, and how that knowledge would be expected to be an effect in a young child's brand preference.

Keller (2003a, b) defines consumer brand knowledge in terms of the personal meaning about all descriptive and evaluative brand-related information possibly stored in consumer memory. He presents eight dimensions of brand knowledge, and attributes their development to the different kinds of information that can be linked to a brand. The dimensions include: awareness, attributes, benefits, images, thoughts, feelings, attitudes and experiences concerning the target brand. The majority of research has investigated the dimensions of brand knowledge, rather than looking at the relationship of these dimensions on outputs (e.g. preference and loyalty) of brand knowledge. This situation is similar to the small body of work in studying children's brand knowledge (see Reodder, 1999).

Brand knowledge can be enhanced or altered by linking the brand to other people, places, things or even other brands. For the McDonald's fast food brand, linking the brand to such things as little children, Ronald McDonald and the playground could favorably enhance the young child's brand knowledge for the McDonald's brand.

### **Hypotheses**

#### **Brand Awareness**

Both Keller (1993) and Aaker (1991) defined brand awareness to consist of both brand recognition and brand recall. Brand recognition/product recognition is expected to be positively associated with children's' brand preferences (**H1**).

## **Brand Image**

Brand image allows a child to form connections with the brand. The greater the number of favorable connections the child has with the brand, the greater the expected tendency that a child will form a preference towards that brand (Biel, 1992). Therefore, a favorable brand image is expected to be positively associated with preference for a brand (**H2**).

## **Affect**

Brands in the fast food category all offer kid's meal products, playgrounds, toys and would be expected to evoke a happy response in the child consumer. Bahn (1986) suggests that a child's preference for an item is determined by how much liking is given to the existence or non-existence of specific stimulus attributes. A child that prefers a fast food brand would be expected to have a positive affective response (liking) towards that brand. Therefore, favorable affect towards the brand, and the brand's main menu item (e.g. hamburger or chicken), will be positively associated with preference for the brand (**H3**).

## **Methods**

### **Sample**

The sample consisted of children at the youngest age most respondents are able to adequately respond to the experimental procedure. Previous research found that children can recognize brand names at an early age of as young as three and four years of age (Roedder and Achenreiner, 2003; Mizerski, 1995). A pre-test established that the earliest age it could be expected most children in the market could respond to the study's experimental procedure was three years old.

Day care and pre-school centers were chosen to provide a diverse sample in terms of geographic location, demographic background, and a close proximity (within 5 km) to fast food outlets. Permission to hold the interviews at each center was sought and a response rate of 100% participation was achieved from the nine centers contacted. Each interview took approximately 45 min, and a sample of n=181 children was ultimately collected. University ethics and parental approval was obtained before data collection.

### **Experimental Procedure**

The procedure was presented as a game to the child, and involved the child pointing or placing picture cards on pictures place on a 'game board' (Mizerski, 1995). The size and material used for each game board was kept consistent for each respondent and the entire procedure. The layout of pictures on each board and the order of presenting the full color picture cards were randomized for each respondent. Game boards tested the same element for each brand across three different boards (a board for each of the three brands), and the pictures on each consecutive board for that question were randomized.

A pre-test using personal interview with 20 young children was conducted to establish the top three brands with the highest recognition and preference levels amongst three and four year old children. The most popular seven brands were reduced to three top brands of McDonald's, Hungry Jacks and Red Rooster. Chicken Treat, Pizza Hut, Dominos and KFC brands were significantly less recognized and were deleted from further study.

Individual interviews reduce some of the potential bias with group survey interviews and allow the interviewer to gauge the veracity of the child's response (Zikmund, 1997). Four female interviewers, who had prior experience with interviewing young children, were trained to conduct the interviews. The interviewers had no knowledge of the hypotheses or the overall purpose of the study. Each interview was conducted in a quiet corner of a supervised room at each of the nine centers.

A warm-up board was used at the start of the interview to introduce the child to the recognition task and the concept of matching pictures to pictures on the board. The interviewer put the warm-up board away and brought out the main game boards. The interviewer would then point and name the pictures on the board and then ask the respondent to point to the picture when named. This determined whether the child comprehended what the pictures were and some of the reliability of the respondent's answers. For every procedure that the child was asked to perform, the interviewer's response to each answer provided by the child was "okay". Under no circumstances did the interviewer acknowledge whether an answer was correct or incorrect. The children were asked to rank (first and second) their preference for a fast food meal from the three brands as an incentive for providing the interview before responding to the brand knowledge questions. Reviewers can see the appendix for the questions asked.

## Results

### Descriptive Analyses

An analysis of the 181 children in the final sample indicated that boys and girls were not significantly different in their distribution across the two age groups, ( $\chi^2=0.76$ ,  $df=1$ ,  $p>0.39$ ). The two age groups ( $n=86$  three, and  $n=95$  four year olds) responded similarly to their affect and preference toward the product categories and brands. Although chicken and chips were liked by more children (86%) than hamburgers and chips (78%), McDonald's received the highest proportion of children that liked a brand (94%). There are differences in the responses by group proportion of response, but these differences were not statistically significant by age of the respondent after a Bonferroni adjustment for multiple comparisons. Similar findings were evident for the other responses. Because age was not a significant overall effect in the responses, the two age groups were combined for further analyses.

### Explaining Fast Food Preference

Because this is exploratory research, the independent variables representing brand knowledge were initially treated as potentially equal in developing a model that would explain the preferences of the children in the sample. Given the binary nature of the independent and of the dependent (e.g., prefer McDonald's/prefer 'another brand') variables, the binary logistic regression statistic was chosen. A binary logistic regression analysis was conducted for only the McDonald's' brand because the sample for analyses for Hungry Jacks and Red Rooster were too small (25% and 20% of the sample) for further analyses.

Eight variables were ultimately chosen in order into the model via a sequential process. When assessing overall model fit several measures were used. The -2LL statistic (189.51), Hosmer and Lemeshow  $\chi^2$  (4.892, 8df), Cox and Snell  $R^2$  (0.276) and the Nagelkerke  $R^2$  (0.37) all indicate a better model fit than the base model. The base model that reflects actual choices indicated a share/hit ratio of 56.4% (the percent that preferred McDonald's when asked which of the three they would prefer for an incentive for giving the interview) for the sample. After

entry of the eight variables into the model, the hit ratio for correctly identifying those that chose McDonald's or the other brands increased to 76.2%; over the 25% threshold (Hair et al., 2010) often used for gauging statistically significant improvement. More specifically, the model correctly explains a child that prefers the McDonald's brand first 85.3% of the time (vs. 56.6% actual), and a child that did not prefer the McDonald's brand 64.6% of the time (total explanation of 76.2%).

### Knowledge Item Contribution to Preference

**Table 1 Model results**

	B	S.E.	Wald	Sig.	Exp(B)
Recognised McDonald's Logo	-1.360	.444	9.391	.002	3.89
Placed Red Rooster on happy face	-1.142	.476	5.764	.016	3.13
Placed toys on Red Rooster Logo	1.655	.610	7.351	.007	.19
Placed playground on Hungry Jacks Logo	1.037	.486	4.543	.033	.35
Placed Red Rooster character on Red Rooster Logo	-0.798	.381	4.395	.036	5.41
Placed Hungry Jacks Happy Meal on Hungry Jacks Logo	1.198	.432	7.697	.006	.42
Placed Hungry Jacks crew person on Hungry Jacks Logo	0.855	.389	4.826	.028	2.22
Placed grandparents on Red Rooster Logo	-1.689	.496	11.598	.001	.30
Constant	1.273	.574	4.912	.027	.28

To establish the contribution of each of the eight independent variables to the model and their relationship with the dependent variable, the parameter estimates (B - logistic coefficients) were used (Table 1). These estimates explain the amount of increase (or decrease, if the sign of the coefficient is negative) in the predicted log odds of correctly classifying the dependent variable that would be predicted by a 1 unit increase (or decrease) in the predictor, holding all other predictors constant.

The 85% hit rate for explaining a child's preference for McDonald's is a combination of factors related directly to McDonald's brand and "competitors". Respondents that knew McDonald's' logo were 3.896 more likely to choose McDonald's as their preferred brand. Selecting McDonald's is associated with 81% greater likelihood of not placing toys on the Red Rooster logo, a 65% greater likelihood of not placing playground or a 58% greater likelihood of not placing happy meal on Hungry Jacks logo, and a 222% greater likelihood they did not recognize the Hungry Jacks crew person. On the other hand, those children that chose another brand tended to match elements of the competitors' imagery to the relevant competitive brands.

## Conclusions

The findings should be reviewed with some caution. The sample may not be representative of the population of Australian or any other group of three and four year old children. The present study did not consider how the child reached the level of knowledge they reported for the fast food brands. That insight would be helpful in understanding how a very young child initially forms brand awareness, affect toward and brand image about a brand; and the effects of such external factors in children's brand knowledge. In other words, is it the advertising, visits or other socialisation agents that prompt children's brand knowledge?

The study found that a lack of competitors' brand images in the young children were the best predictors in explaining why a child preferred McDonald's. This finding is contrary to the expectation that imagery of the target brand (McDonald's) would decisively influence preference towards the brand. The inexperience of three and four year old children in the fast food product category may mean that these young children's cognitive development is still in its early stages and this gives a strong advantage to the large share brand. To effectively target these children, a marketer would need to develop brand attributes young children will strongly connect with, and readily form associations with the brand. It is important to further investigate how young children create brand imagery, and then public policy could better fashion any remedies that may be needed.

## References

Aaker, D.A., 1991. *Managing Brand Equity: Capitalizing on the Value of a Brand Name*, New York: The Free Press.

ABC, 2008. *Research casts doubt on 'Obesity Epidemic'*, 4 October 2008, <http://www.abc.net.au/news/stories/2008/10/04/2382147.htm>.

Advertising Federation of Australia, 2001. *Why Happy Meals Advertising Makes McDonald's Smile, Effective Advertising: Casebook of the AFA Advertising Effectiveness Awards 2000*, Hardie Grant Books, Vic., Australia.

Australian Government, Department of Health and Aging, 2007. *Obesity: Trimming the Nation*, Canberra.

Bahn, K.D., 1986. How and When Do Brand Perceptions and Preferences First Form? A Cognitive Developmental Investigation, *Journal of Consumer Research*, 13, 382-393.

Biel, A.L., 1992. How Brand Image Drives Brand Equity, *Journal of Advertising Research*, 32, RC-6-12.

Centre for Science in the Public Interest (CSPI), 2003. *Pestering Parents: How Food Companies Market Obesity to Children*, November, Washington DC.

Hair, J., Black, W, Babin, B. and Anderson, R., 2010. *Multivariate Data Analysis: A global Perspective* (7<sup>th</sup> edition), Pearson Education, Inc., Saddle River, NJ.

Guilliatt, R., 2009. *Big Fat Myth*, Weekend Australian Magazine, 9-10 March.

Keller, K.L., 1993. Conceptualising, Measuring, and Managing Customer-Based Brand Equity, *Journal of Marketing*, 57, 1-22.

Keller, K.L., 2003a. Brand Synthesis: The Multidimensionality of Brand Knowledge, *Journal of Consumer Research*, 29, 4 (March), 595 – 600.

Keller, K.L., 2003b. *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*, 2nd ed., New Jersey: Prentice Hall Pearson Education International.

Leonhardt, D., and Kerwin, K., 1997. Is Madison Avenue Taking 'Get'em While They're Young too Far?', *Business Week*, March, Issue 3533.

Mizerski, R., 1995. The Relationship between Cartoon Trade Character Recognition and Attitude toward Product Category in Young Children, *Journal of Marketing*, 59, 58-70.

Reodder, J. 1999. Consumer Socialisation of Children: A Retrospective Look at Twenty-Five Years of Research, *Journal of Consumer Research*, 26, (December), 183-212.

Reodder, J. and Achenreiner, G.B., 2003. The Meaning of Brand Names to Children: A Developmental Investigation, *Journal of Consumer Psychology*, 13, 3, 205-219.

Zikmund, W.G., 1997. *Exploring Marketing Research*, 6<sup>th</sup> Edition, Orlando: The Dryden Press.

## Appendix

<b>Independent Variables</b>
<b>Brand Awareness – Brand Recognition</b>
Recognised McDonald's
Recognised Hungry Jacks logo
Recognised Red Rooster logo
<b>Brand Awareness - Product recognition</b>
Recognised hamburger as the main menu item for McDonald's
Recognised hamburger as the main menu item for Hungry Jacks
Recognised chicken and chips as the main menu item for Red Rooster
<b>Affect – Product Affect</b>
Placed hamburger on happy face
Placed Chicken & Chips on happy face
<b>Affect – Brand Affect</b>
Placed McDonald's on happy face
Placed Hungry Jacks on happy face
Placed Red Rooster on happy face
<b>Brand Image – Brand Associations</b>
Placed toys on McDonald's
Placed toys on Red Rooster
Placed toys on Hungry Jacks
Placed Playground on McDonald's
Placed Playground on Red Rooster
Placed Playground on Hungry Jacks
Placed Happy Meal on McDonald's
Placed Ronald on McDonald's
Placed McDonald's Crew Person on McDonald's
Placed Big Mac Meal on McDonald's
Placed Red Rooster Character on Red Rooster
Placed Family Feast on Red Rooster
Placed Red Rooster Kids Meal on Red Rooster
Placed Red Rooster Crew Person on Red Rooster
Placed Hungry Jacks Kids Meal on Hungry Jacks
Placed Whopper Meal on Hungry Jacks
Placed Hungry Jacks Characters on Hungry Jacks
Placed Hungry Jacks Crew Person on Hungry Jacks
<b>Brand Image - Brand users</b>
Placed Little kids on McDonald's

Placed Big Kids on McDonald's  
Placed Family on McDonald's  
Placed Grandparents on McDonald's  
Placed Little kids on Red Rooster  
Placed Big kids on Red Rooster  
Placed Family on Red Rooster  
Placed Grandparents on Red Rooster  
Placed Little kids on Hungry Jacks  
Placed Big kids on Hungry Jacks  
Placed Family on Hungry Jacks  
Placed Grandparents on Hungry Jacks