THE IMPACT OF SHELF LEVELS ON PRODUCT SALE

Asst. Prof. Dr. Rıfat Kamaşak
Yeditepe University
Faculty of Commerce
Department of International Trade and Business
rkamasak@yeditepe.edu.tr

ABSTRACT
In recent years, whilst the number of products to be displayed has increased and competition has become fiercer, the overall shelf space of retailers has decreased. In many product categories there are many manufacturers willing to pay significant premiums to obtain preferred retail locations, and thereby grab the best positions on the shelves, and this situation has made retail shelf-space more valuable than ever. For this reason, there is still an ongoing battle between rival companies to boost their sales by better managing existing shelf space through obtaining the most convenient and appropriate shelf locations. Available research data indicates that under normal circumstances, shelf management decisions such as product display and shelving are highly influential with regard to increasing sales. However, shelf level (eye-level, waist to shoulder-level, knee-level) effects on sales have not been widely investigated. In this study, a possible relationship between product shelf levels and sales figures has been sought in order to compare the sales figures generated from three different shelf levels. It was found that differences between the mean sales scores of the products placed in different shelf levels were significant, and they had an impact on the sales figures.
Keywords: *Shelf Management, Consumer Behaviour, Retailing.*

ÖZET
Son yıllarda rekabetin daha da yoğunlaşması ile birlikte, tüketicilere sunulan ürün sayısında büyük artış olmasına rağmen, bu ürünlerin sergileneceği perakendeci raflarındaki yer nisbi olarak azalmaktadır. Aynı ürün kategorisinde üretime sahip bir çok rakip firma, ürünlerinin perakendecilere ait rafların en fazla tercih edilen yerlerinde konumlandırılması için mağaza sahiplerine yüksek raf bedelleri ödemekte ve bu durum perakendecilere ait rafları son derece değerli ve pahalı yerler haline getirmektedir. Bu yüzden, rakip üretici firmalar arasında satışlara olumlu etkisi olacağı düşünülerek, müşteriye en rahat alışveriş olanağı sağlayan perakende raflarında yer edinme mücadelesi devam etmektedir. Mevcut araştırmalar, ürünün rafta gösterilme şekli ve konumlandırılması ile ilgili konuları içeren raf yönetimi kararlarının satışları arttırmada etkili olduğunu göstermektedir. Bununla beraber, raf yüksekliklerinin (göz hizası, bel-omuz hizası, diz hizası gibi) satışlar üzerinde etkili olup olmadığı çok az araştırmaya konu olmuştur. Bu çalışmada, üç farklı yükseklikteki raflarda ayrı zamanlarda konumlandırılan aynı ürünün ortalama satış rakamlarının varyans analizi ile mukayese edilerek raf yükseklikleri ile satışlar arasındaki ilişki araştırılmıştır. Araştırma sonunda, farklı raf yüksekliklerinde konumlandırılan ürüne ait ortalama satış miktarlarının sadece göz hizasındaki raflarda diğerlerine oranla artış sağladığı bulunmuştur.
Anahtar Kelimeler: *Raf Yönetimi, Tüketici Davranışı, Perakendecilik.*

Introduction

Until the second half of 1970s, most manufacturers and retailers relied heavily upon promotional efforts outside the retailer's store. These promotional efforts were also identified as "external" promotional techniques, and included advertising, intensified marketing research, improved packaging and direct marketing, which were all widely used to stimulate consumer buying behaviour (Hubbard, 1969-1970, p.36). However, after the emergence of the term "atmospherics" by Kotler (1973-1974), the area of interest shifted to the "internal" techniques used to entice consumers to shop and purchase. In marketing literature, the term atmospherics was widely used to describe the "*conscious designing of space to create certain effects in buyers*" (Kotler, 1973, p.50). Kotler (1973-1974) asserted that environmental cues within a retail setting could have a potential effect on consumer perceptions and behaviour. Later, Markin *et.al.* (1976, p.43) suggested that such environmental cues pervade a retail store by stating that "*the retail store is a bundle of cues, messages and suggestions which communicate to consumers*". The results of a growing body of research including many applications such as how to use colour (Bellizzi, Crowley and Hasty, 1983), music (Smith and Curnow, 1966; Milliman, 1982; 1986; Areni and Kim, 1993; Yalch and Spangenber, 1993; Herrington and Capella, 1996), fragrance (Fiore and Kim, 1997; Fiore, Yah and Yoh, 2000), lighting (Baker, Levy and Grewal, 1992; Areni and Kim, 1994), category management (Harris and McPartland, 1993; Ratner, Kahn and Kahneman, 1999; Gruen and Shah, 2000; Kahn and Wasink, 2004; Campo and Gijsbrechts, 2005; Larson, 2005), aisle management (Bitner and Barnes, 1992; Smith and Burns, 1996; Underhill, 1999; Tarnowski, 2004; Larson, 2006), and shelf management (Cox, 1964; 1970; Hubbard, 1969; Curhan, 1972; 1973; Wilkinson, Paksoy and Mason, 1981; Borin and Farris, 1990; Dréze, Hoch and Purk, 1994; Larson, 2006) to create certain effects on consumers supported the idea. Although all the elements of atmospherics were considered as important tools to influence buyer behaviour, shelf management decisions took on a more important role inasmuch as shelf space was the only element in *scarcity*.

Background to the study

The allocation of shelf space to the multitude of products is still a challenge that retailers and manufacturers face. In fact this problem is more important if it is viewed from the perspective of manufacturers, since retailers want to maximize category sales and profits, regardless of brand identity (Dréze, Hoch and Purk, 1994, p.302). Retailers allocate a fixed amount of shelf space to maximise advantage, but in many product categories there are too many manufacturers, and the capacity of a typical chain may only serve to display one-third of new items each year (Dréze *et.al.*, 1994, p.302). Dréze *et. al.* (1994, p.302) explains this position as "*each new product adoption is accompanied with uncertainty regarding the most appropriate location for its display and the optimal amount of shelf space to allocate*". In retail stores products should be easily accessible to the customer; there is a frequently quoted saying, "merchandise handled is merchandising half sold". Namely, "customers buy what they see more visible, convenient to reach and attractive". Obviously, the increasing frequency of consumers engaging in impulse purchasing has a positive effect on this situation. Recent

figures in retailing shows that the share of the impulse purchased goods in total purchases still tends to increase (Davies and Tilley; 2004, p.10). The fear of "*an improper location or an under-allocation of space might kill a product before it achieves full sales potential*" (Dréze *et.al.*, 1994, p.302) also triggered an ongoing shelf place battle between the manufacturers. These conditions increased the number of manufacturers willing to pay significant premiums and expend considerable resources to grab the best positions on the shelves, and made retailer's shelves much more valuable than ever before.

During the 1960s and 1970s, several researchers looked for shelf management principles. But each study focused upon different dimensions of shelf management, and findings on the effects of shelf space, shelf positions and product facings were mixed (Larson, 2006, p.101). The first known study about shelf management effects on sales was conducted by Cox in 1964. Cox (1964) studied the sales effects of increased number of the facings of different product categories. He added facing to four categories but found significant sales increases for only one category (Larson, 2006, p.101). His other study (Cox, 1970) did not give different results. Having reallocated shelf space in two categories he found examples where the additional product facings had little sales impact. The number of studies concerned with the shelving and sales relationship had increased, starting from the end of the 1960s. Hubbard's study (Hubbard, 1969) found a direct relationship between shelf allocation and sales. Eye-level shelf positions provided a 5 to 7 per cent sales increase in private brand teas, with other variables being held as constant as possible. When the place of national brand teas moved from eye-level to lower positions, their sales fell 11 per cent. Additionally, sales variations accompanied differing shelf arrangements of merchandise (Hubbard, 1969). These findings supported the suggestion that improved shelving had a favourable impact on sales. But some researchers (Curhan, 1972; 1973) conducted several studies about shelf arrangements and sales and concluded that important payoffs from this type of research were unlikely (Larson, 2006, p.101). Curhan (1972) found that there was only a small, positive relationship between shelf space and unit sales. However, this relationship was not proved for every store or product line. Wilkinson, Paksoy and Mason (1981) noted in their study that an expanded shelf presence resulted in crossed demand curves instead of increased sales. Perhaps the firmest evidence about the shelf arrangement and sales relationship came from Dréze, Hoch and Purk's (1994) research against these discouraging findings. Dréze *et.al.* (1994) found that 4 to 6 per cent sales gains could be achieved with better product placement and space allocation. Their research also revealed that position was far more important than the number of facings; two facings at eye level generated more sales for a product than five facings on the bottom shelf (Dréze *et.al.*, 1994, p.324). Another finding was that if a store moved an item from the worst shelf location to the best one, sales would increase by an average of nearly 60 per cent (Larson, 2006, p.101).

Although some research produced exceptions in the results, available research data mostly indicated that under normal circumstances, product displaying and shelving were highly influential in increasing sales. The supporters of this idea (*e.g.*, Hubbard, 1969; Cox, 1970; Dréze *et.al.*, 1994) suggested that products placed on the prime location

shelves could gain more sales. In retailing literature, the prime location shelf was defined as the shelf with the height about 51 to 53 inches from the floor (Larson, 2005, p.104) which corresponds to the eye-level of customers. The shelves with heights out of these ranges were also defined as below the prime location shelves. Although the prime location and below location shelf levels were defined in the literature, only a limited amount of research has been conducted about their effects on sales. In this study, new findings for the academic literature will be sought.

Research design and methodology

The research was designed to investigate the effects of shelf positions (height levels) on sales figures. Experimental design of the study involved shelf level positions as the independent variable, manipulated in order to observe whether they had an effect on the average sales or not. Due to the vast number of product categories found on retailers' shelves, this study was limited to only one product category, biscuits. This product was selected because it is subject to impulse purchase, and food manufacturers' shelf battles are more fierce and costly than for any other industry. Biscuit is also a popular and widely consumed product that appeals to the taste of a high number of consumers. Another reason for product choice was that price is not the first consideration in the purchasing decisions of consumers, while location and availability are very important. More significant, however, is the fact that this product category does not have a high brand loyalty level which can affect the reliability of the study. 10 small-sized and medium-sized (shopping area below 400 square meters and between 400-1000 square meters) retailers were chosen as the sample. In sampling process, contact was made with 22 retailers, but only 10 were willing to co-operate. Some of the sample stores were branches of national supermarket chains but some of them were the ones operating independently. Small-sized and medium-sized retailers were chosen because most of the managers of the hypermarkets and the large-size stores (shopping area more than 1000 square meters) did not show a positive approach to the study, in the belief that changing the shelf positions of products would confuse large number of customers. A primary data collection method was used to obtain the necessary data for the analysis. The data collection process involved interaction with retail managers and other store staff, so good personal relations were maintained. In order to record the data accurately and to minimise data collection error, a survey record sheet illustrated below (Figure 1) was prepared and distributed to the stores for record-keeping purposes.

Figure 1: Survey Record Sheet Used to Collect Data

STORE	
LOCATION	DATE
SHELF POSITION	**SALES (in YTL)**
EYE LEVEL ———————————————	
WAIST TO SHOULDER LEVEL ————————————	
KNEE LEVEL —————————————————	

In each retail store, a research responsible staff member was appointed and he/she kept a record of weekly sales of the given product for twelve weeks. The weekly sales figures from the stores were collected and recorded during store visits. In order to search the impact of shelf levels on sales, the product (biscuits) was placed in different shelf levels, and their sales figures were observed for a certain period of time. The product was, firstly, displayed on knee-level shelves, then on the waist to shoulder level shelves, and lastly, on the eye-level shelves of ten chosen retailers for a period of three months.

The product remained one month in each different shelf level position (e.g., it was displayed for one month on the knee-level shelf, one month on the waist to shoulder level shelf and one month on the eye-level shelf), and at the end of each 30 days it was moved from the lower shelf to the upper one. During this time, the weekly sales figures of the product were recorded and monthly average sales figures were also calculated. It should be noted that each item's retail price is fixed for all levels of shelves in the retail stores. In previous research efforts in measuring the impact of shelf levels upon sales, promotion activities of the manufacturers affected the reliability of the studies since promotions had a short to medium term impact on sales (Larson, 2005, p.103). In order to overcome this problem the summer season was deliberately chosen for the study since the promotion campaigns of the food manufacturers were at a minimum level in the summer time except for soft drinks and ice cream. So the study was started in the first week of the June and ended in the last week of August. During twelve weeks, the sales numbers of the biscuits generated from three different shelf levels were regularly recorded, and having collected the necessary data, analysis by the statistical tolls was begun. Biscuits shelf levels (heights) which were used in the sample stores are shown below (see Figure 2);

Figure 2: Shelf Levels (heights) Used in Sample Stores
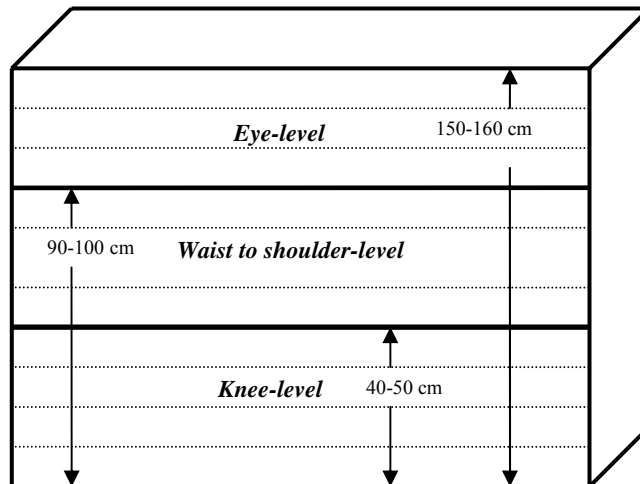
Data analysis and research findings

Data collected from the retailers in survey record sheets was tabulated and analysed by using statistical analysis software SPSS version 15.0. Data was analysed using the following methods:

- The mean score differences within each group of shelf level sales and between groups were checked by using ANOVA (Analysis of Variance).
- The mean score difference of each component (shelf level) was measured against components from different groups by using the Fisher's least significant difference test (LSD) with pair-wise multi-comparison which is equivalent to the multiple individual t tests between each component of different groups.

The mean score differences of the sales figures of the product placed in different shelves were compared with one-way ANOVA in order to diagnose whether there was a significant difference between the means. One-way ANOVA is normally used to test for differences among three or more independent groups and independent groups in this research were defined as (1) "knee level shelf's sales' mean", (2) "waist to shoulder level shelf's sales' mean" and (3) "eye level shelf's sales' mean". Their mean scores were denoted as;

$\mu_{1=}$ Knee level shelf's sales mean
$\mu_{2=}$ Waist to shoulder level shelf's sales mean
$\mu_{3=}$ Eye level shelf's sales mean

And the hypothesis to be tested was formulated as;

H_1: There is a significant difference between the means of the sales figures of the product when placed in different shelves. So, product shelf levels do have an impact on the means of the sales figures. (H_1: $\mu_{1\neq}\mu_{2\neq}\mu_3$)

The hypothesis was tested by one-way ANOVA with the probability of $p < 0.05$ (95%), and the analysis resulted that there was a significant difference between the mean sales scores (at least one of them) of the products placed in different shelf levels (see figure 3).

Figure 3: ANOVA Results for the Mean Sales Scores of the Product

SALES

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2394785,817	2	1197392,908	7,165	,001
Within Groups	84153020,150	117	719256,582		
Total	86547805,967	119			

Observed (or test statistic from the table 1) F value in the table is significant at the 0.05 level. And since the critical F value with k-1 numerator and N-k denominator degrees of freedom at 95% probability level $F_{0,05\ (2,117)}$ *(3,07)* was much lower than the observed value *(7,165)*, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted. Namely, the data suggested that the differences between the mean sales scores of the products placed in different shelf levels were *significant* and product shelf levels did have an impact on sales. Although significant differences were found in the mean sales scores of the products placed in different shelf levels with a probability p<0.05, the ANOVA did not tell which group differed from the other. For this reason, Fisher's least significant difference (LSD) analysis was also conducted to reveal which group's mean was different from the other one. The hypotheses below were tested by Fisher's LSD;

H_2: There is a significant difference between the eye level shelf's sales mean and the waist to shoulder level shelf's sales mean. (H_2: $\mu_{1\neq}\mu_2$)

H_3: There is a significant difference between the eye level shelf's sales mean and the knee level shelf's sales mean. (H_3: $\mu_{1\neq}\mu_3$)

H_4: There is a significant difference between the knee level shelf's sales mean and the waist to shoulder level shelf's sales mean. (H_4: $\mu_{2\neq}\mu_3$)

Fisher's least significant difference analysis revealed that at 95% probability level, the difference between the "knee level shelf sales" and "eye level shelf sales" was *significant* to the favour of "eye level". But the difference between the "knee level shelf sales" and "waist to shoulder level shelf sales" was *not significant* (see figure 4).

Figure 4: Multiple Comparison (LSD) Results for the Mean Sales Scores of the Product

Dependent Variable: **SALES**
LSD

(I) SHELFLVL	(J) SHELFLVL	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
KneeLev=1	WaistShoulderLev=2	-16,4250	30,89672	,596	-77,6677	44,8177
	EyeLev=3	-254,3000(*)	30,89672	,000	-315,5427	-193,0573
WaistShoulderLev=2	KneeLev=1	16,4250	30,89672	,596	-44,8177	77,6677
	EyeLev=3	-237,8750(*)	30,89672	,000	-299,1177	-176,6323
EyeLev=3	KneeLev=1	254,3000(*)	30,89672	,000	193,0573	315,5427
	WaistShoulderLev=2	237,8750(*)	30,89672	,000	176,6323	299,1177

Based on observed means.
* The mean difference is significant at the ,05 level.

The analysis also revealed that at 95% probability level, the difference between the "waist to shoulder shelf sales" and "eye level shelf sales" was *significant* to the favour of "eye level". According to these results, alternative hypotheses H_2 and H_3 were accepted but H_4 was rejected.

In order to indicate the strength and direction of the linear relationship between shelf level and sales, the Pearson correlation coefficient was calculated (see figure 5).

Figure 5: Correlation Results Between Shelf Levels and Sales Figures

		SHELFLVL	SALES
SHELFLVL	Pearson Correlation	1	,320
	Sig. (1-tailed)	.	,095
	N	120	120
SALES	Pearson Correlation	,320	1
	Sig. (1-tailed)	,095	.
	N	120	120

According to the Pearson correlation coefficient (r =0,32), there was a positive relation between the shelf levels and the sales figures but the degree of the relation was not strong.

Research limitations

It is important to note that this research is subject to definite limitations. But within the framework of this study, some notable and constructive conclusions may be drawn. It was expected that the research would give some satisfactory results concerning the impact of shelf levels on product sales, and these conclusions would enable manufacturers to integrate improved shelving techniques to boost sales of their products and to strengthen the competitive position of their operations. Decisions to place certain merchandise in the preferred or less-preferred shelf arrangements may result in widely varying sales performances. However, it would be erroneous to conclude that proper shelf arrangement alone will produce the most favourable sales performance. In another limitation of the study, brand and brand loyalty factors which were omitted in the research could also be influential in creating favourable sales response in the shelves, but this should be the subject of further investigation. The research was carried out only in the small-sized and medium-sized supermarkets since the larger retailers and hypermarket chains did not display a positive approach towards this study. The research results might have varied if they had permitted this research in their stores. The data were collected during twelve weeks from the stores, but a more longitudinal study could have produced more accurate results that could be more widely generalised.

Conclusion

The basic purpose of this study was to assess the impact of product shelving on sales, as an element of atmospherics, and to investigate whether different shelf position levels (eye-level, waist-level, knee-level) may result in variations in sales figures for the same product. Analysis of sales volume statistics in the sample stores revealed that differences between the mean sales scores of the products placed on different shelf levels were significant, and product shelving had an impact on the sales figures. This indicated the existence of a direct relationship between the shelf levels of the products and their sales performance. Although the direct relationship between the shelf level positioning of the products and their sales performance was found, the degree of this relationship was not strong. Another interesting research finding is that when the product was positioned on the eye-level shelves, it showed a better sales performance statistically compared to its other waist-level and knee-level shelves' sales performances. Manipulating the shelf positions of the products resulted in positive sales performance variation only for "eye level" shelves, keeping the other variables that may affect the sales constant. These results supported the findings of research conducted by Dréze, Hoch and Purk (1994). Manufacturers should be aware that positioning their products on the prime location shelves (eye-level) may result in some increase on sales performance. But the balance between how much they lose by paying retailers to guarantee the best places for their products and how much they gain by increasing sales performance needs to be quantified. In short, the question of "Is it worth spending that much money in the shelf wars?" needs to be studied and answered by the manufacturers themselves.

REFERENCES

Areni, C.S., and Kim, D., 1993, "The influence of background music on shopping behavior: classical versus top forty music in a wine store", in McAlister, L., and Rotschild, M. (Eds.), *Advances in Consumer Research*, Vol.20:33.6–340.

Areni, C. S., and Kim, D., 1994, "The Influence of In-Store Lighting on Consumers' Examination of Merchandise in a Wine Store." *International Journal of Research in Marketing* 11(2):117–125.

Baker, J., Levy, M., and Grewal, D., 1992, "An experimental approach to making retail store environmental decisions", *Journal of Retailing*, 68:445–460.

Bellizzi, J. A., Crowley, A. E., and Hasty, R. W., 1983, "The Effects of Color in Store Design." *Journal of Retailing* 59(1):21–45.

Bitner, W.J., M., Barnes, J., 1992, "Measuring the prototypicality and meaning of retail environments", *Journal of Retailing,* 68(2):194–220.

Borin, N. and Farris, P., 1990, "An Empirical Comparison of Direct Product Profit and Existing Measures of SKU Productivity." *Journal of Retailing* 66(3):297–314.

Campo, K. and Gijsbrechts, E., 2005, "Retail Assortment, shelf and stockout management: issues, interplay and future challenges", *Appl. Stochastic Models Bus. Ind.,* (21):383–392.

Cox, K. K., 1964, "The Responsiveness of Food Sales to Shelf Space Changes in Supermarkets." *Journal of Marketing Research* 1(2):63–67.

Cox, K. K., 1970, "The Effect of Shelf Space Upon Sales of Branded Products." *Journal of Marketing Research* 7(1):55–58.

Curhan, R. C., 1972, "The Relationship Between Shelf Space and Unit Sales in Supermarkets." *Journal of Marketing Research* 9(4):406–412.

Curhan, R. C., 1973, "Shelf Space Allocation and Profit Maximization in Mass Retailing." *Journal of Marketing* 37(3):54–60.

Davies, J., and Tilley, N., 2004, "Interior Design:Using the Management Services approach in Retail Premises", *Management Services*, July 2004: 10–13.

Dréze, X., Hoch, S. J., and Purk, M. E., 1994, "Shelf Management and Space Elasticity." *Journal of Retailing* 70(4):301–326.

Fiore, A.M., and Kim, S., 1997, "Olfactory cues of appearance affecting impressions of professional image of women", *Journal of Career Development*, 14(2):45–54.

Fiore, A. M., Yah, X., and Yoh, E., 2000, "Effects of a Product Display and Environmental Fragrancing on Approach Responses and Pleasurable Experiences." *Psychology and Marketing* 17(1):27–54.

Gruen, T.W., and Shah, S.H., 2000, "Determinants of outcomes of plan objectivity and implementation in category management relationships", *Journal of Retailing*, 76(4):483–510.

Harris, B., and McPartland, M., 1993, "Category Management Defined: What it is and Why it works", *Progressive Grocer*, 72(9):5–8.

Herrington, J. D., and Capella, L. M., 1996, "Effects of Music in Service Environments: A Field Study." *Journal of Services Marketing* 10(2):26–41.

Hubbard, C.W., 1969, "The Shelving of Increased Sales", *Journal of Retailing* 45(4):75–84.

Kahn, B., and Wansink, B., 2004, "The Influence of Assortment Structure on Perceived Variety and Consumption Quantities", *Journal of Consumer Research*, 30(4):519–533.

Kaltcheva, V. D., and Weitz, B. A., 2006, "When Should a Retailer Create an Exciting Store Environment?" *Journal of Marketing* 70(1): 107–118.

Kotler, P., 1973-1974, "Atmospherics as a marketing tool", *Journal of Retailing*, Vol.21, Winter: 48–64.

Larson, R., 2005, "Making Category Management More Practical." *Journal of Food Distribution Research* 36(1):101–105.

Larson, R., 2006, "Core Principles for Supermarket Aisle Management" *Journal of Food Distribution Research* 37(1):100–103.

Markin, R.J., Lillis, C.M. and Narayana, C.L.,1976, "Social psychological significance of store space", *Journal of Retailing*, Vol.52, Spring:43–54.

Milliman, R.E., 1982, "Using background music to affect the behaviour of supermarket shoppers", *Journal of Marketing*, 46:86–91.

Milliman, R.E., 1986, "The influence of background music on the behaviour of restaurant patrons", *Journal of Consumer Research*, Vol.13, September:286–289.

Rattner, R., Kahn, B., and Kahneman, D., 1999, "Choosing Less_Preferred Experiences for the Sake of Variety", *Journal of Consumer Research*, 26(1):1–15.

Smith, P.C., and Curnow, R., 1966, "Arousal hypotheses and the effects of music on purchasing behaviour", *Journal of Applied Psychology*, 50:255–256.

Smith, P., and Burns, D.J., 1996, "Atmospherics and Retail Environments: The Case of the Power Aisle", *International Journal of Retail and Distribution Management*, 24(1):7–14.

Tarnowski, J., 2004, "The Executioner", *Progressive Grocer*, 83(12):71–75.

Underhill, P., 1999, **Why We Buy**, Simon and Schuster, New York, NY.

Urbanski, A., 2000, "Drink Up." *Supermarket Business* 55(8):33–40.

Wilkinson, J. B., Paksoy, C. H., and Mason, J.B., 1981, "A Demand Analysis of Newspaper Advertising and Changes in Space Allocation." *Journal of Retailing* 57(2):30–48.

Yalch, R. and Spangenberg, E., 1990, "Effects of store music on shopping behaviour", *Journal of Consumer Marketing*, Vol. 7, Spring:55–63.