An exploratory study of grocery shopping stressors

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Abstract

Many factors affect the store patronage decision, e.g. location, service levels, pricing policies, merchandise assortment, store environment and store image, but very little research has considered stress as a determinant. This is despite the increase in dual income families and longer working hours which are making general shopping a more stressful activity for many families because of time pressure and lack of response by retailers. This exploratory research confirms grocery shopping to be stressful, but time pressure was mentioned as only one factor causing shopping stress; other factors included: crowd density, staff attitude and training, store layout/relocation, impulse purchasing pressure, location, product assortment, music, and lighting. The article concludes by proposing a shopping stress curve for future examination.

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Introduction

The decline in overall US retail sales and an increase in shopping by computer, television, mail and telephone during the late 1980s and early 1990s, is an indication of Americans' tiredness of retail shopping hassles, such as fear of crime, parking problems and having to haul shopping around (Morgenson, 1993). William Tobin, President of PC Flowers, is quoted as saying "If people are convinced they can buy a trusted product, at a competitive price with a guarantee, there's no reason to spend the hour or two in that mall" (Morgenson, 1993). Fram and Axelrod (1990) report that consumers want to reduce the amount of time spent shopping. In addition, half of the primary shoppers in dual-earner families and 35 per cent of those in single-earner families felt that shopping adds stress to their lives. Moreover, the increase in working women has changed shopping from a social pleasure to a more functional chore. Lavin (1993) found that women's employment status is related to both spouses' feelings of pressure on time, but is not related to preferences for non-store shopping alternatives for either spouse. Furthermore, time pressure in UK and US households is projected to increase as a consequence of economic and demographic changes such as fall in real wages, increasing working hours and more women working outside the home (Kelly, 1994).

Although time pressure is seen as a main cause of shopping stress, other factors need to be considered. One such factor is the popularised notion of "Trolley rage" (Matthews, 1995) which suggests factors such as "crowding" can be the cause of shopping stress. Despite the considerable resources spent on the design, construction, refurbishing, manpower selection, training and compensation for stores, even US retailers do not generally and systematically research environmental factors that affect store patronage (Baker *et al.*, 1992). Business apparently has been slow to respond to the changing needs involved in time- compressed lifestyles (Fram, 1992).

Here we argue that stress can be a major consideration in retailing, which has hitherto been given insufficient attention in the literature. We propose stress could be an important consideration in store switching decisions, and we assume individuals will tend to shop in the most satisfactory and least stressful conditions. Stressors act to destabilise the individual

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and are likely to result in reduced sales and lost revenue to the grocery retailer as the individual changes his/her purchase pattern or decides to shop elsewhere. This article reviews the relevant literature and details exploratory UK research in shopping stressors which are useful for grocery retailers.

Stressors in grocery shopping

We focus on grocery shopping not only because preliminary findings suggested this to be the most stressful of all shopping, but also because food retailing accounts for 36 per cent of all retail turnover in Great Britain (Central Statistical Office, 1990). In the UK food is the largest single category of household expenditure and together with other groups, which are partly sold in supermarkets, such as household goods, leisure goods, clothing, tobacco and alcoholic drink account for a large share of consumer shopping (Central Statistical Office, 1991). Trips to the supermarket are made regularly and involve handling sometimes heavy, bulky and awkward bags. Whereas parents and children will queue in expectation for over an hour outside a toy store for the latest craze toy, they are horrified at the prospect of waiting at a supermarket, since in this shopping context the goods are seen as routine and unexciting and shopping for them is seen as a chore.

Unlike the studies by Fram *et al.* (Fram, 1992; Fram and Axelrod, 1990; Fram and Ajami, 1994) which identified only one main stressor, that of time pressure, this study explores the many other stressors associated with grocery supermarket shopping. Baker (1986) developed a framework of environmental factors which affected emotional states, e.g. temperature, scent, noise, music, and lighting; while other authors have focused on social factors e.g. people and design factors such as architecture, style and layout which give cues and messages to the shopper (Markin *et al.*, 1976). These environmental stimuli affect the emotional states of pleasure, arousal and dominance which determine the response of either approach or avoidance behaviour. When pleasant stores were also arousing, e.g. by using bright lighting and upbeat music, Donovan and Rossiter (1982) found shopping-related intentions increased. Pleasure and arousal emotions are therefore significant mediators between environmental stimuli and consumer responses. Here we look at the environmental stimuli from a stress perspective. Pleasurable stress that increases buying is called eustress while unpleasant stress is called distress (Selye, 1983). From previous work using the transactional model (Cox, 1978; Cummings and Cooper, 1979; Lazarus, 1976) we know that an individual will try to maintain a comfortable state of thought and emotion and as they come within the confines of an environment e.g. a grocery supermarket/superstore will try to cope with stressors that upset his/her equilibrium. We therefore define a shopping stressor as something occurring during shopping activity which disturbs the homeostasis of an individual.

The existing literature on store stressors mainly covers music, crowding, relocation of stock, floor and shelf space (e.g. Corstjens and Doyle, 1983; Crouch and Shaw, 1989; Curhan, 1973; Doyle and Gidengil, 1977; Eroglu and Machleit, 1990; Fried and Berkowitz, 1979; Stockol, 1972; Wilkinson *et al.*, 1981; Yalch and Spangenberg, 1990). Music in particular produces affective and behavioural responses (Bruner, 1990; Fried and Berkowitz, 1979; McGrath, 1989; Milliman, 1982, 1986; Yalch and Spangenberg, 1990); influences retail floor traffic (Milliman, 1982) and product choice (Gorn, 1982). In-store experiments have shown consumers spend significantly less time in stores when music is loud compared to when it is soft, although there was no significant difference in sales or in the customers' reported level of satisfaction (Smith and Curnow, 1966). Grayston (1974) believes that the music must fit the situation in which it is to be used and the wrong music can produce effects which totally negate the objective of the exercise. Milliman (1982) also found that the pace of in-store traffic flow was significantly slower and sales were significantly higher with the slow tempo music. It would seem that shoppers can be encouraged to shop faster by the playing of faster music and to shop slower by the playing of slower music. Music also works at a subconscious level since shoppers respond psychologically and behaviourally to music and other environmental factors even though they may not have been conscious that music was being played (Yalch and Spangenberg, 1990).

It is widely recognised that the perception of retail crowding is psychologically stressful (Eroglu and Harrell, 1986). Research on crowding in non-commercial environments

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(Eroglu and Machleit, 1990) and commercial service environments (Hui and Bateson, 1991), has shown context to have a large effect on the perceptions of crowding (Desor, 1972). For example, visitors to an Asian bazaar or sale opening might be disappointed if the venue is not crowded. The nature of the shopping is also important. Eroglu and Harrell (1986) distinguish between two general classes of shopping motive. The first, task-oriented shopping, is where purchasing is more planned, shopping trips are shorter and are less likely to continue after making a purchase and where less importance is placed on non-functional aspects of stores. The second, non-task shopping, involves the purchaser in recreation, pleasure and gathering information with little interest in acquiring products or services. Different shopping tasks will cause different reactions to the same environmental cues. If the trip is purely functional, crowding might be generally viewed as negative, while if the shopping trip is non-essential and mainly recreational, crowding may be seen more favourably. A task shopper may also react negatively to loud noises, flashes of light, abundant displays and crowding whereas a non-task shopper may react positively to these. In high retail density conditions, task-oriented shoppers may experience more feelings of crowding and less satisfaction with the shopping environment than non-task oriented shoppers. Non-task shoppers are also more likely to shop impulsively.

Architectural cues can also affect crowding perceptions through the creation of feelings of separation (Baum *et al.*, 1974; Desor, 1972). Cluttered shelves, narrow and irregular aisles can increase consumers' perception of crowding which in turn will lead to a behavioural reaction (Eroglu and Harrell, 1986). In addition, the ecological theory of crowding suggests that under-staffing affects perceptions of crowding (Wicker, 1973).

The stress literature is useful in highlighting some general potential shopping stressors, but the question arises how stress is manifest in UK grocery shopping? While general shopping stress has been found to be important in the USA, Jordan and Turkey (Fram and Ajami, 1994), little work has been done in the UK. Moreover, while previous research (Fram and Ajami, 1994; Fram and Axelrod, 1990) has considered shopping for clothing, durables, services and groceries, two problems with it exist. First, the samples used were restricted to exclude single adults, childless couples, older families and aged members of the population which are substantial market segments for UK grocery retailers. Second, is the issue of how stress was operationalised. In essence, only one scale item was used: i.e. "shopping and service tasks add stress to my life". Replies were scored on a five point scale from "strongly agree" to "strongly disagree". This leaves open the question of a more detailed analysis of what was causing the stress and given the cultural differences and differences in retail formats between countries, it does not help in our understanding of shopping stress in the UK. Having discussed what is currently known about general shopping stress, the question of which stressors are particularly relevant in the grocery market remain unanswered.

Methodology

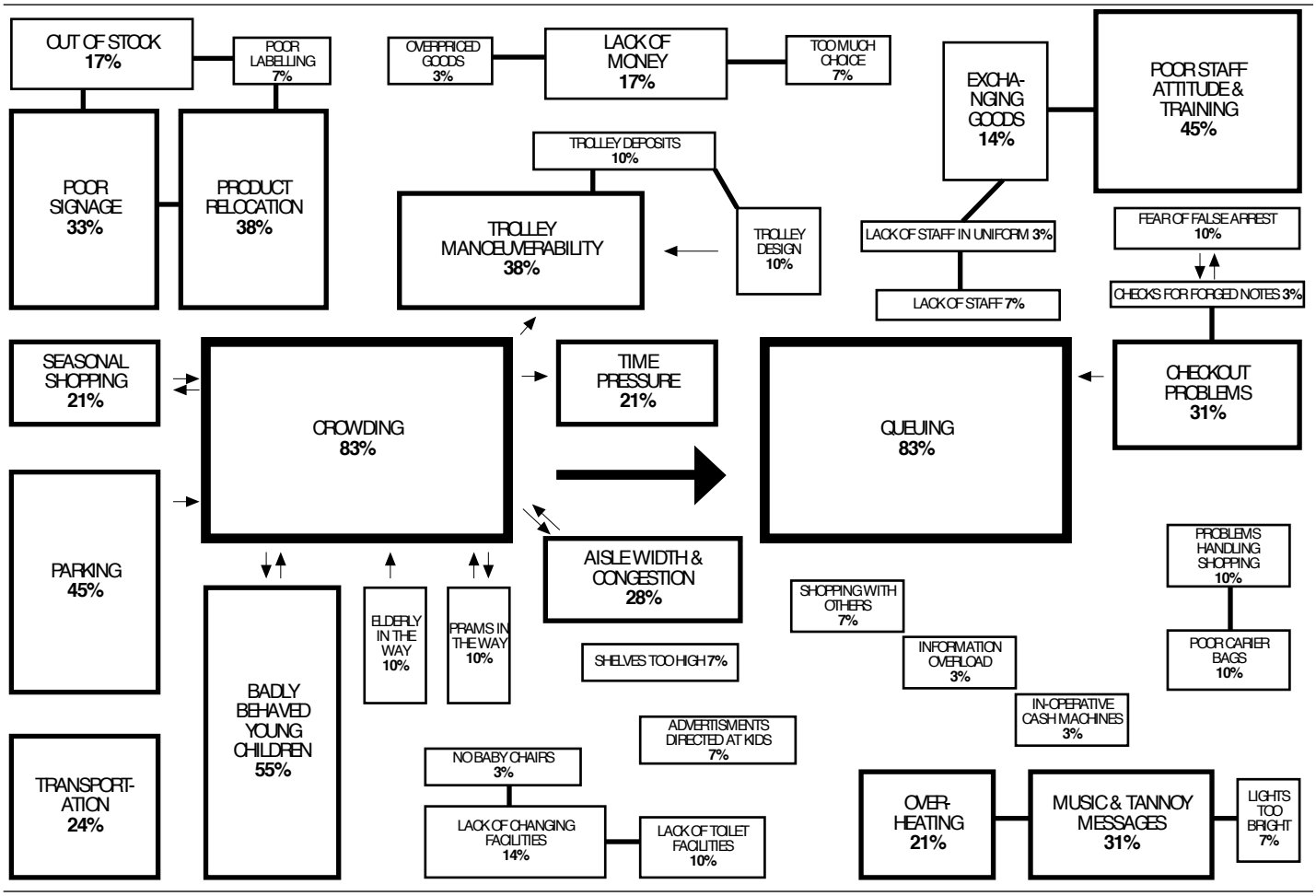
Twenty-nine focus groups comprising 239 respondents were chosen on a voluntary basis from within the boundaries of Sunderland city. (See appendix for sample details.) Group discussion moderators asked respondents to discuss stress in the context of grocery shopping. Written notes were taken by the moderator and observers and later transcribed. A content analysis was conducted of every group's transcript and the store stressors mentioned by all groups were tabulated.

Results

Although the group discussions began by asking about shopping in general, it became clear that most respondents associate more stress with grocery shopping than other forms of shopping. Invariably respondents used the term stress to reflect distress and failed to mention any positive stressors. Some respondents disliked grocery shopping: "To be honest, I'm not keen on [grocery] shopping, I hate shopping." Many found it stressful and only did it when they considered it essential. "It also depends on the mood you are in – sometimes you just can't be bothered to go out to the supermarket and buy food – but you know you have to otherwise you'll starve!" Some use coping strategies such as lists; "I try to know what I'm going for and try and get it over with quickly".

Figure 1 shows a diagrammatic representation of the stressors reported in the study. The

Figure 1 Grocery store stressors and their relationships



more frequently-mentioned stressors are larger and the percentages reflect the number of respondents reporting the stressor. Where the stressors are linked by arrows there is a causal relationship. For example, elderly people and disabled people can cause blockages that create congestion and crowding. Badly-behaved young children, obstruction by prams, aisle width and seasonal shopping problems have a two-way causal relationship with crowding. Time pressure and trolley manoeuvrability are aggravated by crowding. Crowding and checkout problems lead to queuing etc.

The two major stressors identified in the research were crowding and queuing; the latter generally being a direct function of the former. Stokol (1972) defined crowding as "a state of psychological stress that occurs when a person's demand for space exceeds the supply". Closer examination of the list of stressors shows that many other stressors identified are related to the phenomenon of crowding: e.g. badly-behaved young children, parking problems, trolley manoeuvrability and collisions, checkout problems, aisle width and congestion, time pressure, seasonal shopping, overheating, out-of-stock products and obstructions by elderly people or prams. Crowding is disliked because it frustrates customers achieving their task as quickly and as easily as they would like. "I just don't like other shoppers because they get in the way!" It may also involve feelings of claustrophobia in some people; however, those who are sensitive to this stressor cope by choosing different times to shop. "Whether shopping is stressful depends on when and where you do your shopping. I mean, if the shopping is done during busy times such as Saturdays, then it can be stressful because you are fighting through crowds". Younger people tended to be less tolerant of other people getting in their way such as mothers with young children, disabled people and old people.

Queuing is a function of crowding and adds to the feeling of frustration and the distress this causes: " I've frequently left my shopping at the checkout because I'm not prepared to wait at long queues". "I feel

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pressured trying to put all my shopping into those stupid bags as quickly as possible especially when there's about two hundred people waiting in the queue behind you."

The behaviour of children can sometimes aggravate other shoppers and can affect their ability to do their shopping: "I won't take my kids, so why should I put up with someone else's?" "…they constantly scream at the highest pitch possible…is that to get the message through to their parents that they do not want to be in the supermarket?" Parents have added stress when their children respond to promotions in the store and start pestering for goods that the parents do not wish to buy: "All they do is want…want…want…it's such a strain."

One important group of stressors is linked to overpriced goods, lack of money and too much choice. Unwaged shoppers and people on low incomes seemed to find grocery shopping more stressful; something which was exacerbated by seeing a large choice of goods and other shoppers buying lots of products. "It's expensive if you buy brand name goods so I usually buy things with the shop's name on it which annoys me sometimes 'cos I want to buy the good stuff but I can't afford to." "It's embarrassing having to buy 'second best' products." "When I'm going through the check-out after a weekly shop I feel really sick when I realise what I've spent…but by then I feel too embarrassed to put things back." "It [choice] encourages you to spend too much money and the pension soon runs out."

Respondents reported transportation problems including difficulties in using public transport and road congestion. Once at the store, motorists reported parking as a stressor: "When you get there you can't find enough parking space, if you find a slot somebody has left their trolley there and eventually you end up miles from the entrance". The problem is much worse for disabled people: "It infuriates me to find fit people taking up the disabled spaces". "Getting parked is a nightmare, it brings on road rage, people wander round car parks with trolleys, they never look where they are going. Old people are even worse". These problems can be particularly acute at Christmas and on other occasions like Mother's day and Easter when seasonal goods proliferate in the store. "I hate Christmas shopping." "Shopping around Christmas is most stressful when it's really busy and parking is terrible." Finally, some female group members expressed their worries relating to personal security in the car parks.

The attitude of staff and training can be a source of distress when staff fail to respond to the needs of the shopper: "When you're stood at the cashout and two assistants are deep in conversation it is really annoying. One day I'll just walk out." "Staff should be polite and considerate." "It's their [store staff] 'couldn't care less' attitude that annoys me." "It's infuriating when the staff sometimes have a *laissez-faire* attitude, after all they get paid to help shoppers." "…whenever I shop I find 'mentally deranged' staff."

Shopping trolleys cause distress due to the physical difficulty of handling them and any resultant collisions that may lead to embarrassing situations: "Trolleys always wobble and go in the wrong direction. I'm sure it's a supermarket plot for the trolleys to take us down aisles that we don't want to go down!" Some respondents avoid stores that require a deposit on trolleys because they find it cumbersome: "A lot of the time you're uptight, even before you enter the store, by the time you've chased around the car park looking for someone with a pound coin…"

At the checkout distress may be caused by problems arising from: missing price labels and the consequent delay while staff check the price of goods, incorrect till receipts and queries made by the operator to supervision. "I wish the check-out operators would quicken up a bit, they seem in a world of their own." "I had queued for ages then the till roll ran out."

Some respondents complained of overheating. "…because I rush I tend to get hot and uncomfortable. The atmosphere is artificially hot". Female respondent: "I get hot and stressed in the supermarket". This could be due to either a stress reaction, i.e. peripheral vasodilation, or the actual store temperature being too hot. There could also be other reasons for feeling too hot such as wearing winter clothing and feeling unwell.

Fear at the prospect of a confrontation with store staff over the exchange of goods can cause stress. Some shoppers were also stressed by the presence of security cameras and shop lifting notices. This was induced by fears of wrongful arrest for shoplifting after cases of wrongful arrest have been reported in the media. "With all these security cameras I feel I'm being constantly watched." "The security is like 'big brother'." One respondent,

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from an ethnic minority, felt intimidated by the presence of security guards and cameras.

Some problems were noted with the physical handling of shopping. Such problems included broken eggs, heavy potatoes and spilt milk pouring all over the car. In addition, many complained about carrier bags "The carrier bags are too flimsy and when you're in a hurry you can't seem to open it." "…those cheap bags either split or cut your hands to bits."

Shopping with others can become stressful when there are conflicts over purchase decisions and some respondents reported rows with spouses. "I'm totally stressed out when I go shopping with my boyfriend – he prefers different foods to what I like. I like healthy foods such as pasta and fresh foods and he likes easy to make things like microchips and all that rubbish!" "Shopping with my husband and children upsets my routine." "It's difficult to shop when your husband is complaining."

More minor stressors mentioned include; not being able to reach high shelves, friction caused by shopping with others, finding cash dispensing machines inoperative, being overwhelmed by the plethora of promotions and information, and having one's children tempted by store advertisements and the pestering that results.

Implications

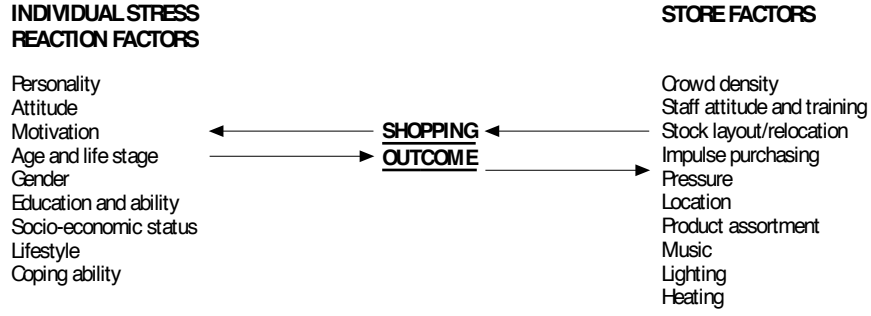
Stress coping factors

The way a shopper responds to shopping stressors will vary from individual to individual and these may depend on stress reaction factors such as personality, attitude, motivation, age and life stage, gender, education and ability, socio-economic status, lifestyle and coping ability (see Figure 2). In this next section we discuss how some of these factors affect the individual's ability to cope with stress.

Rosenman *et al.* (1966) discovered the first relationship between stress and personality by linking coronary heart disease and type A and type B personality profiles. We might expect type A personalities to be more impatient, volatile, aggressive and expect higher standards of service than their type B counterparts. Type A behaviour has been associated with higher socio-economic status and education (Bass and Akhras, 1987; Bramwell and Cooper, 1992; Health Promotion Research Trust, 1987; Mann and Brennan, 1987; Waldron *et al.*, 1977). Another dimension of personality is that of Locus of Control (Rotter, 1966). Those individuals who take charge of their lives are described as having internal control and those who think their lives are controlled by outside factors are described as having external control. We might speculate that shoppers with internal control are more likely to reduce stress by using a shopping list and shoppers with external control being more likely to use the store displays to influence their choice and remind them of their shopping needs.

The response to stress changes with each stage of the life cycle (McLean, 1979). As people age, their coping and adaptive skills change, sometimes unpredictably (Bhaghat, 1983). Intellectual capacity may combine with social confidence and socio-economic status in early life to develop psychological resources to cope with distress; a kind of adaptability (Kalimo and Vuori, 1991; Kuypers, 1974). Additional factors are gender and role expectations: figures for the USA suggest that fathers spend three hours a week doing general shopping while mothers spend eight (Fram and Axelrod, 1990). The imbalance is similar in the UK and even though the traditional male worker and female housewife stereotypes are disappearing since women account for 49.6 per cent of the UK workforce

Figure 2 Interaction between the individual and the store



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(Office for National Statistics, 1997), grocery shopping is not being shared. For example in an observational study of an Ulster shopping centre, there were five times more lone adult female shoppers than lone adult male shoppers (Brown, 1991). The National Readership Survey (NRS Ltd., 1992/3) confirms that 71 per cent of main shoppers are female and 29 per cent male. Women may cope with stress better than men (Frankenhaeuser, 1975; Johansson, 1972) there is some evidence of this notion translating as men perceive grocery shopping as more stressful than do women. "[Grocery] shopping's too stressful so I get the girlfriend to do it." "I go sometimes but I always buy the wrong things and get a right blasting from my girlfriend! I mean, a tin of peas is a tin of peas…or is there a difference?" "I find food shopping hard work. I've tried sending my husband but he won't even listen, so I guess I'm stuck with it." A female: "Men get more stressed over shopping." "It's us women who do the shopping." Male respondent – "she can't make her mind up which brand or item to purchase." In the group discussions it was evident that some males used the excuse of arguing over the shopping with their female partners as a reason not to go shopping either alone or together. Other men adopted a compliant and passive role which usually involved driving their wife or girlfriend to the supermarket, carrying the shopping and bringing it home.

Shoppers may already be stressed when entering the grocery store because of stressful experiences they encounter at work or at home. This may mean that stress spills over from one context to another. Spillover can be defined as a process whereby a person's mood created in one environment is carried into, and affects, another environment (Piotrkowski, 1979; Repetti, 1987). Parasuraman *et al.* (1992) note that spillover may not be allowed to exist because some individuals compartmentalise their various environments to prevent the proliferation of strain. Importantly for the retailer, compensation can also take place (Evans and Bartolome, 1984; Kabanoff, 1980) whereby an individual expects one environment to counterbalance the other. Some shoppers will welcome the store atmosphere and see the grocery store as an escape from stress in other areas of their life. This "shopping therapy" should be identified more fully by retailers as a useful way of understanding shoppers' recreational needs and gaining competitive advantage.

Retailers' policies can be seen to be responsible for seven stressor groups where the associations are expressed in the form of straight lines in Figure 1. For example, staffing policies affect lack of staff to give assistance, lack of staff in uniforms to aid identification, poor staff attitude and training, and apprehension experienced by shoppers exchanging goods. Similarly trolley problems give rise to three reported stressors of manoeuvrability, inadequate design and the requirement for coin deposits. Problems finding goods are related to poor signage, products being relocated, bad labelling and products being out of stock. Lack of facilities includes lack of adequate toilets, absence of baby changing facilities and non-availability of baby chairs.

Finding that an item on the shopping list is out of stock can be stressful, because of the time and effort needed to find a substitute and the frustration of not achieving the goal. "It really peeves me when I can't find what I want and you end up walking up every aisle trying to find things." Park *et al.* (1989) also found that consumers store knowledge and the available shopping time affects many types of in-store shopping decisions. Time pressure primarily had an effect on frequency of failure to make intended purchases. If consumers have to look for stock their time is reduced and they spend less time processing other in-store information, thus potentially reducing levels of unplanned buying. Increased time pressure may also adversely affect other in-store grocery buying behaviours such as unintended purchases and purchase volume decisions. "The supermarket in which we once shopped frequently, changed their stock around twice in a short period of time so we stopped shopping there. Shopping is stressful enough without adding to it." "I find it annoying when the product that you want isn't there. The staff always say 'it'll be here this afternoon or tomorrow', it's probably in the back but they can't be bothered to look." There are occasions when staff cannot be found to tell shoppers where goods are located, how they are priced or some other problem: "Why can't you find an assistant when you want one?"

Bad labelling is associated with this when customers are not informed of product details. "It's not easy to compare different

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packs when prices are missing." "…the offer stated one bottle of wine free for every two purchased, so I chose nine bottles. When I checked my receipt I found they had only given me two free bottles. It took over quarter of an hour to sort out when it turned out that they had mixed labels on the stand." Isenberg (1981) and Swensson (1972) note that consumers can often make a trade-off between speed and accuracy when coping with stress caused by time pressure. Some respondents reported the effects of severe stress namely total abandonment of the shopping trip or panic induced impulse buying in a frantic attempt to bring the shopping trip to a swift end which may be symptomatic of the "fight or flight" reaction seen in the work of Walter B. Cannon of the 1930s.

Store ambience stressors involve too high a temperature, irritating music and tannoy messages and lighting which is too bright. When in the store shoppers reported being patronised by tannoy messages and annoyed by the music: "That annoying music really gets on my nerves." One person's music is another person's noise. For some individuals store lighting can present problems because "bright lighting gives me a headache and makes me feel sick." These factors need to be checked regularly by in-store interview and the results fed back to retail headquarters. The fact that some checkout problems are linked to the security measure of checking for forged notes which in turn is causally linked to fears of the possibility of false arrest means that this issue needs to be handled sensitively by staff and if identified as a problem in certain stores should result in better checkout assistant training.

The retailer has little influence over some stress reaction determinants, in particular how stressed a person is before he or she enters the store. Yalch and Spangenberg (1990) recommend soothing music for novel or anxiety arousing situations. Shoppers report spending less time in a store than they intended when familiar music was played possibly because people pay more attention to non-familiar music and their perception of time is greater (Yalch and Spangenberg, 1990). Yalch and Spangenberg (1990) do not support the premise that liked music is necessarily the most appropriate music to use in all situations, by recognising that individual tastes vary and therefore music for retail settings should be appropriately chosen. For example, age is strongly associated with different music tastes. As can be seen from the list of factors which can affect stress levels the retailer must accept that many are beyond his control. Nonetheless, it is still important to recognise how these factors affect customers and their perceptions of the store environment. It may be possible to score the stress forces and aggregate them to gauge the effect of the store environment on customers so that the strength of each stressor can be assessed and the stress force scores added for each store to see which store causes least stress to customers. Stressors can be compared for the amount of stress they cause customers so that retailers can then better evaluate the cost effectiveness of eliminating or reducing particular stress forces in their stores. This idea resembles the concept of the Social Readjustment Rating Scale (Holmes and Rahe, 1967) where life stressors were scored and then individuals' susceptibility to illness assessed on the basis of their total score. One possible problem with this technique may be that different people are affected by stress forces differently and show different levels of coping. Since one person's distressor can be another person's eustressor the research should be conducted within relatively homogeneous market segments.

Conclusion and further research

The pioneering work of Fram *et al.* (Axelrod, 1990; Fram and Ajami, 1994; Fram and Fram, 1992) was nonetheless a relatively superficial and descriptive study of shopping stress which emphasised time pressure and made no detailed enquiry into grocery shopping.

Grocery store stressors, have hitherto been overlooked in the literature despite the fact that unprompted responses from shoppers indicate that grocery shopping is perceived as the most distressful form of shopping. This study confirmed the need for more than just time saving innovations, e.g. reducing transaction time and increasing customer ease of obtaining shopping. The research has identified stressors that can impact on store design and the rest of the retailers' marketing mix. For instance, some trolley problems and congestion can be alleviated by wider aisles, and maybe crowding by lengthening opening times and giving price incentives for shopping in less busy shopping periods. Regional

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policies of retailers may need further review in that less affluent groups of customers experience grocery shopping stress through what they perceive as overpricing, lack of money and too much choice (see Mitchell and Bates, 1998). Management should be vigilant in monitoring staff attitude and their reaction to customers to see that distress is minimised by adequate training and development of procedures. Shifting stress away from customers may create a more stressful environment for staff and therefore training schemes must take this into account.

Retailing and stress research suggests an inverted U-shaped stress curve, originating from the work of Yerkes and Dodson (1908), is likely to apply to grocery shopping, i.e. that if consumers are subject to no stress they will not buy anything, then as the eustress increases so does the amount spent until they are subject to distress when they will abandon some, or all, of the shopping. Eustressors can be identified as independent variables causing favourable reactions and, up to now, have been sometimes included in concepts such as service quality, store image and consumer satisfaction. The classification of personal shopping motives suggested by Tauber (1972): role playing, diversion, self gratification, learning about new trends, physical activity and sensory stimulation is really a nomenclature overlying the dimension of eustress. We would expect that people shop to experience eustress and seek to avoid distress, but currently we do not have any indication as to how eustressors and distressors interact. It could be a case of simple summation, in which a eustressor will cancel a distressor of similar magnitude; or it may be that one has a blocking effect on the other, such that one severe distress can block the perception of eustress. Other more complex relationships are also possible. If this research can throw light on these relationships it may contribute to the field of general stress knowledge. Future research needs to focus on identifying other eustressors and measuring their impact.

Theoretically, eustress such as the smell of freshly roasted chicken, the smell and feel of freshly baked bread or polite and helpful staff will influence the shoppers to buy more. Determining the nature of the relationship between grocery shopping stressors and sales is a priority for future research as this may make it possible for retailers to manipulate the level and nature of stressors to increase sales. If a relationship can be determined between shopping stress and grocery sales it may be possible to make innovations in the management of shoppers, for example, as distress increases, managers may have the option of activating strategies to reduce it such as by redirecting staff to the checkouts or the shop floor. The stressors being examined for grocery shopping can also be adapted to identify stressors in other retail sectors such as for brown goods, computers, white goods, clothing, and in other service sectors, e.g. travel, estate agency and health care which will make it possible to make comparisons between retail sectors.

Since retailers have a vested interest in a long life cycle for their stores, they are likely to modify and improve the existing structure rather than make radical departures with new innovations such as the Internet and virtual shopping, which can render their superstores potentially obsolescent. One possible benefit to supermarkets of a grocery shopping stress measure is the generation of a stress profile for each individual store. Comparisons between stores will enable management to identify physical features and staff performance characteristics that can be modified to increase profitability. This will impact on store refurbishment, new store design and staff training. Stress measures of competitors' stores can also be made. It may also be possible to conduct a stress profile on each grocery multiple from representative samples of their stores and compare this to overall sales and profit to see whether successful companies have lower distress profiles.

A stress audit of existing grocery stores can guide management to provision of the ultimate leisure-oriented store which will offer more eustress to the customer and less distress. The focus will shift from the supply of groceries to the provision of entertainment through the supply of groceries. Buying groceries will no longer be a chore, but an excuse for customers to enjoy themselves. They may look forward to going to the supermarket in the same way as they now plan to visit the pub or health club.

One feature of grocery shopping stress is its transient nature happening perhaps once a week for around an hour. This has implications for how and when stress is measured. Biofeedback mechanisms, such as pulse rate monitors, are currently too obtrusive to put on customers for the duration of their shop-

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ping and make them too conscious of their behaviour. In addition there is the problem of correlating readings with the stressors experienced. It is currently possible to take measurements of the peripheral blood flow of shoppers by simply asking them to stick their finger into a photoplethysmograph on entering and exiting the supermarket. Future technology may allow the incorporation of pulsemeters into the handles of shopping trolleys so that by means of telemetry the overall change in the heart rate of the store customers could be measured. Measurement of affective response will require more care. For instance, the occupational stress indicator (OSI), which is a questionnaire-based measure (Cooper *et al.*, 1988), can be adapted. This has the advantage that individual differences, such as type A behaviour pattern (Friedman and Rosenman, 1974) and locus of control (Rotter, 1966) and the health of shoppers can be taken into account. However, the OSI was designed to be administered in environments different to that faced by the grocery shopper and will require considerable modification. Brief and momentary mood checklists such as the one developed by Thomas and Diener (1990) may also be appropriate to the supermarket environment. If this can be achieved the results should benefit from the proven reliability and validity of the measurement instrument. Shopper observation too could also be used to triangulate the stress questionnaires and physiological measures.

Other areas for future research include investigating how involvement and information processing are linked to stress perceptions. Does high shopping involvement mean shoppers are less aware of distressors? If a shopper can perform more than one activity at a time is he or she less prone to distress? Will the "stress and spend" relationship hold for particular types of individual such as type A personalities who are particularly prone to stressors and might spend less on a distressful shopping trip or will any effects be general across the population? It may be that type A personalities are inclined to talk about shopping stress. This would mean that stress prone types are more likely to notice and respond to grocery store distressors and more likely to articulate their experiences afterwards. The research implication is that we should measure individual differences in relation to perceived distress.

The gender issue warrants further investigation into whether women cope innately better than men with the distress of grocery shopping or does it reflect learned behaviour based on gender role stereotypes where men used to be the breadwinners and women looked after the home and family? Changing household structures and patterns of work have begun to alter this pattern. Finally, further work also needs to investigate the relationship between personality, attitude, motivation, age and life stage, education and ability, lifestyle and coping ability with grocery shopping stress.

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Appendix

Table AI

Sample structure	
Total respondents	239
Male	112
Female	127
Married	113
Single	121
Divorced	1
Widowed	4
18-29 years	128
30-54 years	83
55 years and over	28
ABC1	84
C2DE	155
Parents with children at home	63
Parents with older children away from home	46