The mediating effect of mood on in-store behaviour among Muslim shoppers

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Abstract

Purpose – The purpose of this paper is to examine the influence of atmospherics on in-store behaviour among Malay Muslim shoppers in Malaysia. The effect of age on shopping behaviour is tested using two age groups: 18-25 years and 50 years or older.

Design/methodology/approach – Quantitative methodology was employed, using structural equation modelling for testing the hypotheses developed. Purposive sampling was applied.

Findings – Results of the present study show that positive perceptions of atmospherics exerted a positive influence on mood, which, in turn, affected in-store behaviour. Based on stimulus–organism–response theory, Muslim shoppers who were positive about the atmospherics tend to spend more time and money, and they exhibited intention to patronize the store again.

Originality/value – Although past studies suggest that Muslim consumers are different due to their Islamic way of life, guided by the Islamic principles, by controlling for country-specific influences such as socio-economic factors, the results of this study provide support that modern marketing concepts are as relevant for the Muslim market as they are relevant for other market segments. Using the Mehrabian–Russell framework, Malay Muslims are found to be influenced by store atmospherics which, in turn, affect their in-store shopping behaviour. When comparing younger and older Muslims, results show no evidence of significant differences between these two age groups.

Keywords Repurchase intention, Mood, Age effect, Atmospherics, In-store behaviour, Muslim shoppers

Paper type Research paper

Introduction

Store atmospherics has intrigued researchers and marketers of shopping malls because it has been widely acknowledged that approach behaviour among shoppers has much to do with store atmospherics. According to McGoldrick and Pieros (1998, p.173), “The designed environment has been the focus of considerable attention within the marketing
strategies of shopping centres, retailers and other service providers”. Using the strategy of designing the in-store environment for shoppers, marketers hope to create a positive mood in them while they shop, thereby producing favourable in-store behaviour such as time spent, money spent, re-purchase intention and positive communication. Thus, in-store elements such as colour, lighting, style or music may have more immediate effects on decision-making than other marketing inputs that are not present at the point of purchase (e.g. advertising). In other words, the store environment has the potential to be an effective and powerful marketing tool if retailers can better understand how to utilise it. Moreover, Nicholls et al. (2000) find that a large proportion of respondents in their study consider atmosphere of the store as one of the important criteria in deciding where to shop. Past studies also find that cues from store environment contribute to the perceptions of merchandise and service quality (Baker et al., 1994; Grewal and Baker, 1994). While early studies on atmospherics tend to concentrate in the West, researchers in developing countries and emerging markets have shown great interest on the impact of atmospherics on shopping behaviour. Studies on store atmospherics have been on the rise (Ballantine et al. 2010; Haque and Rahman, 2009; Cai and Shannon, 2012; Kumar et al., 2010; Li et al., 2004; Suki, 2011; Ong et al., 2012; Zafar et al., 2007; Zhang et al., 2011).

Extant literature show strong evidence about the positive influence of store atmospherics on in-store behaviour among shoppers. However, Kotler (1973) cautioned about the possible mismatch between the intended atmosphere and the perceived atmosphere. Customers’ perception of store atmospherics may vary. Consumer’s taste and preference for the type of shopping environment purposefully designed using atmospheric cues, such as music, colour and design, could be explained, in part, by culture which has shaped and continues to shape consumption preferences. For example, in a multicultural country, such as Malaysia, the distinct preferences among the Malays, Chinese and Indians in consumption are influenced by their respective culture, including religion (Mokhlis, 2006, 2009). People’s religious commitment and beliefs influence feelings and attitude towards consumption (Jamal and Goode, 2003). For the Muslims, the Islamic principle determines what is forbidden and what is allowed for consumption and many other aspects that pertain to everyday life (Teimourpour and Hanzae, 2011).

In recent years, there has been increased interest among researchers in the study of religiosity and consumer research in Malaysia. Recent studies show that religious Muslim consumers tend to spend moderately as commanded by the Almighty in the Quran (Alam et al., 2011); religiosity has an influence in predicting retail patronage activities (Mohkis, 2006), and Malaysians of different faiths tend to exhibit differences in lifestyle, perceived importance of store attributes and store patronage (Mohkis, 2009). In spite of the importance of Islamic religion in influencing consumer behaviour, studies focusing on Malaysian Muslim consumers are scarce. Research focusing on Muslim consumers and their patronage behaviour has not kept in tandem with the proliferation of consumer research in Malaysia. For example, although researchers show interests in the study of shopping behaviour and store atmospherics (Mohkis, 2006; Ong et al., 2012; Zafar et al., 2007), scarcity of research on Muslim shoppers and the mechanism that influence their in-store behaviour is rather evident, in spite of the status of Muslims as majority ethnic group.

The purpose of this study is to examine the influence of store atmospherics on in-store behaviour among Malay Muslim shoppers in Malaysia, by using the
Mehrabian–Russell (1974) framework that specifies the relationships between the stimulus, the intervening variable and outcome. In this study, the mediating role of mood for the relationship between store atmospherics and in-store behaviour will be examined. In addition, the present study examines the age effect by comparing the behaviour of younger and older Muslims towards the perception of atmospherics and the resultant in-store behaviour. Based on the categorisation proposed by Baker (1986), the atmospheric cues included in this study are music (ambient factor), colour (design factor) and salesperson (social factor).

Background and hypotheses
From retailers’ point of view, store atmosphere is designed to create a buying environment that produces specific psychological effects on buyers to enhance the probability of purchasing (Kotler, 1973). Viewed from shoppers’ perspective, store atmosphere represents bases on which consumers form their perception of the store surroundings (Tai and Fung, 1997). Baker (1986) classifies the environment into three components:

1. ambient factors, which refer to background features that may or may not be consciously perceived but that affect human senses (e.g. scent and music);
2. design factors representing features that are directly perceptible by consumers; and
3. social factors, that is, people in the environment.

Based on the early work of Mehrabian–Russell (1974) (M-R model) drawn from the environmental psychology literature, the model proposes a general measure of environmental stimulation that could be applicable across many physical and social settings (Ballantine et al., 2010). Since the early work of Donovan and Rossiter (1982), there has been a proliferation of research on store atmospherics treating store atmospherics as environmental cues on consumer in-store behaviour. According to Ballantine et al. (2010), researchers have explored how separate and distinct atmospheric variables can affect consumer behaviour, while some examine the interactions between store design, employees and music (Baker et al., 2002).

Tai and Fung (1997) distinguish two main streams of literature that have emerged within the body of literature on store atmospherics. The first stream concerns those studies that treat store atmosphere as a holistic concept, focusing on the combined or overall effects of elements of the environment on shopper behaviour (Ballantine et al., 2010; Fowler et al., 2007; McGoldrick and Pieros, 1998). The second stream focuses on specific atmospheric elements (Tai and Fung, 1997) such as music (Milliman, 1986; Morin et al., 2007; Yalch and Spangerberg, 2000), lighting (Areni and Kim, 1994; Summers and Hebert, 2001), scent (Gulas and Bloch, 1995; Spangenberg et al., 2006), colour (Babin et al., 2003; Bellizzi et al., 1983; Chebat and Morrin, 2007; Crowley, 1993) and salespeople and other customers (Sharma and Stafford, 2000; Kim and Kim, 2012). Turley and Milliman’s (2000) review of 60 studies find some significant relationships between atmospherics manipulation and shopping behaviour, indicating that consumers do, in fact, respond to stimuli found in these environments, giving rise to a wide variety of consumer evaluations and behaviours.
Music
According to Turley and Milliman (2000), music is the element that is the most widely examined in past research. Garlin and Owen (2006) review 157 papers on music, from which 150 papers explicitly discuss background music effects (p. 756). Among the conclusions drawn, they find that:

• music has a positive effect on patronage as well as felt pleasure;
• familiarity/liking for the background music has a positive effect on patronage;
• slower tempo, lower volume and familiar music results in shoppers staying marginally longer than when the tempo or volume are high; or
• the music is less familiar.

Beverland et al. (2006) find that in-store music also serves as an important cue to the brand of the store under the circumstance that consumers have no prior experience of the brand. Regardless of its valence, music ameliorates emotional/mood evaluation of the store/service environment which, in turn, positively affects approach behaviour towards the store/service organisation (Hui et al., 1997). Jain and Bagdore (2011) conducted a review of studies conducted in the past 30 years on music-related variables and their impact on consumption find that music influences consumption experience at cognitive, emotional and behavioural levels, with regard to attitudes and perception as well as time and money spent in retail experience. In short, there is a general consensus that music is a powerful tool that could be applied by retailers to influence mood. In a similar vein, we suggest that:

\( H_1 \). The more favourable the perception of Muslim shoppers towards in-store music, the more positive the influence of music on mood.

Colour
Colour is one of the elements that could be manipulated to create feelings which may increase purchase probability. As consumers, we tend to associate certain colours with our emotional memories. Consumers may have favourite colours. Appealing colours could create positive mood via an association with a favourite stimulus. The effects of colour have been widely studied (Turley and Milliman, 2000). The first study on the role of colour in retail store design was conducted by Bellizzi et al. (1983). They manipulated the background colour of a photograph of a furniture store and measured consumers’ perceptions of the store as well as other store attributes. They find that colour create certain emotional responses including attention from subjects. The results indicate that warm colours, such as red and yellow, are more exciting, while cool colours, such as blue and green, are more calming. This means that the background colours in the shopping environment can also affect consumers’ mood: blue calms and red causes tension (Bellizzi and Hite, 1992). Crowley’s (1993) review of the literature on colour concludes that colour influences both consumers’ evaluation-related affect (affective tone) and activation-related (arousal) state. Stone (2003) manipulates environmental colour and view to determine their effects on mood, satisfaction, motivation and performance. The findings of Stone’s (2003) research suggest that blue is a calming colour and red is a stimulating colour, which may interact with other environmental factors. In addition, Babin et al. (2003) suggest that it is generally expected that violet/blue colours will produce higher levels of positive affective tone and increased purchase intentions than
red/orange colours. Other studies that evaluate the indirect impact of environments of different colours and perceptual quality include Yildirim et al. (2007). Based on past research, we suggest that colour of a store contributes to mood creation which can, subsequently, be linked to consumer in-store behaviour or responses. Based on the discussion, the study suggests the following:

H2. The more favourable the perception of Muslim shoppers towards colour of the store, the more positive the influence of colour on mood.

Salesperson
Retail salesperson often serves as a critical nexus between retailers and their customers, as a salesperson can provide information and services that assist customers during the purchase process (Lee and Dubinsky, 2003). Through this buyer–seller interaction, a salesperson conceivably will influence how customers feel when shopping; in essence, a salesperson is likely to have an impact on the customers’ mood. According to Lee and Dubinsky (2003), customers may consider enthusiastic behaviour of a salesperson annoying if such behaviour is interpreted to be redolent of aggressiveness. Customers may feel hesitant, annoyed, uncomfortable or angry. Menon and Dube (2000) find that customers frequently experience emotions when they are involved in interactions with a retail salesperson. They might have a negative feeling when the salesperson is insincere, aggressive and suspicious or a positive feeling when salesperson is friendly, trustworthy and emphatic. According to Kim and Kim (2012), non-verbal communication of salespersons displayed through facial expressions, tone of voice, gestures and body movements have been found to be important aspects of the physical attributes of sales associates.

Considering the interpersonal retail shopping experience, a key influence on emotions/moods are retail salespeople, as previous research find that salespeople are an important social stimulus that influence customer emotion (Kim and Kim, 2012; Sherman et al., 1997; Wakefield and Blodgett, 1994; Yoo et al., 1998). Often, very subtle aspects in salesperson’s behaviour (e.g. a smile, good wishes for the future, holding the door or swiftly being available for the consumers) contribute to positive feelings (Backstrom and Johansson, 2006). In addition, consumers’ experiences, positive and negative moods are related to the competence of the salespeople, such as their ability to provide helpful services, to give suggestions on what might suit the consumer or to handle complaints well. Because salespersons represent an important influence within the store environment, we would expect the mood of Muslim shoppers to be similarly influenced by salespersons:

H3. The more favourable the perception of Muslim shoppers towards salespersons, the more positive their influence on mood.

Mood and in-store behaviour
Evidence from past research shows that atmosphere within a store affects shoppers’ mood which influences buying behaviour (Swinyard, 1993). Emotions experienced while shopping are found to affect a variety of responses such as approach behaviour (Hui et al., 1997), spending levels (Donovan and Rossiter, 1982), retail preference and choice (Dawson et al., 1990), willingness to buy (Baker et al., 1992) and shopping satisfaction (Machleit and Eroglu, 2000). In the present study, mood is operationalized in terms of its valence, i.e. positive and negative moods, as positive and negative affects/
moods are distinct constructs (Babin et al., 1998). The influence of positive mood on shopping-related approach behaviours is, for the most part, clear. The notion that positive mood favourably influences patronage is one of the strongest tenets of environmental marketing (Bitner, 1992; Donovan et al., 1994; Donovan and Rossiter, 1982). In particular, past research finds that:

- positive mood can be generated by pleasant environments; and

In contrast to the positive mood, negative mood is not rewarding in and of itself, and thus distracts from an activity’s worth. Negative mood may encourage consumers to be less patient waiting for service (Baker and Cameron, 1996) and can lower involvement (Mano and Oliver, 1993). Consumers experiencing these emotions while in a store also become less likely to fulfill their intended purpose (Eroglu and Machleit, 1990). Consumers in negative mood state generally tend to have an avoidance response (Eroglu and Machleit, 1990), which makes it difficult for them to participate in the purchase process. While shoppers in a negative mood may actually spend the same amount of money, they spend less time shopping and are less satisfied overall (Babin and Darden, 1995). Thus, to bolster the mood of shoppers, retailers have learned to use atmospherics and “mood enhancer” such as pleasant music, pleasant colour and friendly salespeople. Positive mood will influence consumers’ in-store behaviour such as spending longer time, buying more and so on. Thus, this study posits that mood will influence Muslim shoppers’ in-store behaviour:

\[ H4. \] The more positive the mood, the greater the influence of mood on in-store behaviour among Muslim shoppers.

Age

Although it has been widely accepted that different age groups may react differently to store atmospherics, comparative studies between the younger and older age groups in terms of their perceptions towards store atmospherics are limited, except for a few that examine the influence of ambient music (Gulas and Schewe 1994; Joyce and Lambert, 1996; Yalch and Spangenberg, 1993). Different response among different individuals with respect to environmental stimuli is common and expected. For example, an atmosphere that produces a positive response in teenagers may produce a negative response in older shoppers (Turley and Milliman, 2000). Similarly, different age categories of consumers appear to behave differently when presented with the same atmospheric stimulus. According to Moschis (1987), with increasing age, consumers are less sensitive to external stimuli (e.g. lights and colours) and are less able to make distinctions between those stimuli.

Previous studies also provide evidence that the effects of store environment on emotions, cognition and behaviours are influenced by several consumer variables, including age (Babin and Darden, 1995; Yalch and Spangenberg, 1993). According to d’Astous (2000), age has a significant impact on the degree of perceived irritability induced by the environmental factors. Thus, the present study attempts to test the differences in perception of store atmospheric dimensions among younger and older Muslim consumers as well as to identify the most influential element that will affect
their mood states which will, in turn, affect their in-store behaviour. We suggest the following hypotheses:

\[ H5a. \] There are significant differences in perception between younger and older Muslim shoppers with regards to store atmospherics: music, colour and salesperson.

\[ H5b. \] There are significant differences in perception between younger and older Muslim shoppers with regards to mood and the influence of mood on in-store behaviour.

**Research methodology**

**Sample**

The sample used for the purpose of this paper is part of a larger study that surveyed young and old adults on the influence of atmospherics on their in-store shopping behaviour. The study was based on purposive sampling method where respondents were drawn from shoppers at selected major shopping malls in Kuala Lumpur/Petaling Jaya in Malaysia. Guidelines for respondent eligibility were established to capture individuals with different ethnic background, gender and age. The mall intercept approach was employed. Trained enumerators were stationed at the exit points of clothing or apparel stores located in six shopping malls: Mid-Valley Megamall, One Utama, Ampang Point, The Curve, KLCC and Sungai Wang Plaza. To ensure accuracy of recall, respondents were intercepted after their shopping at clothing and apparel stores.

For each shopping mall selected for the study, seven apparel stores comprising specialty, ethnic and mix-merchandise stores were identified. In total, 42 apparel stores were included in the study. These stores have their own atmospherics designs in terms of style of lighting, genre of music and service from salespersons. For stores selling ethnic fashions, the music and store design tend to have more ethnic-oriented features. However, because data collection avoided the festive season of Eidulfitri that sees a heightened display of ethnic and religious atmospherics, the in-store music played is usually a mix of Western and modern Malay songs. From the six shopping malls identified, 500 samples were collected with half made up of older adults aged ≥ 50 years and the remaining half comprising young adults aged 18-25 years. Of the 500 samples, 27 samples were removed due to incomplete information. Because this paper is about Malay Muslim shoppers, only Malay Muslims were selected. The resulting sample consisted of 223 Malay Muslims, with 38.6 per cent male and 61.4 per cent female. The younger age group made up 52 per cent of the sample and the remaining 48 per cent were older Muslims aged ≥ 50 years.

**Measures**

The items in the questionnaire were designed to collect data on the variables related to store atmospherics. The constructs music, colour and salesperson, representing the three major components of the physical environment (Baker, 1986) were measured using established scales with adaptation (Table I).

**Mood**

A shorter version of semantic differential measures of emotional state (Mehrabian and Russell, 1974) was used. The items included for the present study are as follows:
Although it may be argued that emotional state should be measured in the store, during the shopping experience, this would require an experimental design and the permission of the retailer. It would also intrude on and interrupt shoppers’ emotional state, causing demand artefacts and bias, even irritation or anger. This may be why studies attempting to measure in-store emotional state have had inconsistent results (Donovan et al., 1994). Therefore, mood was measured when shoppers first exited the store to ensure their ability to recall their emotional state.

**In-store behaviour**

For in-store behaviour, several measures were included based on three dimensions: time, exploration and satisfaction adapted from past research (Bitner, 1992; Donovan and Rossiter, 1982; Mehrabian and Russel, 1974; Milliman, 1986; Turley and Milliman, 2000).

<table>
<thead>
<tr>
<th>Label</th>
<th>Items</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Music</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td>I like the music being played in the store</td>
<td>Herrington (1996)</td>
</tr>
<tr>
<td>M2</td>
<td>I find the background music of the store to be annoying(^a)</td>
<td>Herrington (1996)</td>
</tr>
<tr>
<td>M3</td>
<td>I find the background music of the store to be pleasing</td>
<td>Herrington (1996)</td>
</tr>
<tr>
<td>M4</td>
<td>I wish the store would play this music whenever I shop</td>
<td>Herrington (1996)</td>
</tr>
<tr>
<td>M5</td>
<td>Hearing the background music in this store make my shopping and browsing more fun</td>
<td>Herrington (1996)</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1</td>
<td>I think the interior wall and floor colour schemes of this store were attractive</td>
<td>Wakefield and Baker (1998)</td>
</tr>
<tr>
<td>C2</td>
<td>I feel very calm with the colour scheme of the store</td>
<td>Wakefield and Baker (1998)</td>
</tr>
<tr>
<td>C3</td>
<td>I think the colours used in the store appeared to be currently fashionable</td>
<td>Baker et al. (1994)</td>
</tr>
<tr>
<td>C4</td>
<td>I feel pleasant in this store because of its colour</td>
<td>Author</td>
</tr>
<tr>
<td>C5</td>
<td>Combinations of colour in the store make me feel refresh</td>
<td>Author</td>
</tr>
<tr>
<td><strong>Salesperson</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S1</td>
<td>I think the employees in the store are well dressed and appeared neat</td>
<td>Baker et al. (1994)</td>
</tr>
<tr>
<td>S2</td>
<td>The way that the salesperson in this store dressed seems very professional and presentable</td>
<td>Self-developed</td>
</tr>
<tr>
<td>S3</td>
<td>I think the employees in the store are very friendly</td>
<td>Baker et al. (1994)</td>
</tr>
<tr>
<td>S4</td>
<td>The salesperson guides me through the store and shows me the location of products</td>
<td>Sharma and Stafford (2000)</td>
</tr>
<tr>
<td>S5</td>
<td>The salesperson is ready to answer any questions that I may have</td>
<td>Sharma and Stafford (2000)</td>
</tr>
</tbody>
</table>

Note: \(^a\)Reversed score

| Happy     | – – – | unhappy       |
| Pleased   | – – – | annoyed       |
| Satisfied | – – – | dissatisfied  |
| Relaxed   | – – – | bored          |
| Comfortable | – – – | uncomfortable |
| Excited   | – – – | calm           |

**Table I.** Measurement of antecedent variables

**Effect of mood on in-store behaviour**
In this study, we used time spent (to represent time dimension), money spent (to replace exploration dimension) and repatronage intention (to represent satisfaction dimension). Each of the in-store behaviour dimensions consist of five items measured on a 7-point Likert scale. (Table II)

**Results**

Reliability test was conducted on the scale to examine the internal consistency of each construct in a summated scale. Results showed that the Cronbach’s alpha values for the constructs measuring antecedents and mediator were acceptable: music (0.821), colour (0.788), salesperson (0.762) and mood (0.895). For in-store behaviour, 1 (Time Spent) the Cronbach’s alpha value was 0.824, while in-store behaviour, 2 (Money Spent) was 0.790. However, the Cronbach’s alpha value for in-store behaviour 3 (Repatronage Intention) was below 0.7. Consequently, the item “I would avoid ever having to return to the store” that had low loading was removed, thus improving the value of Cronbach’s alpha to 0.719. The results above implied that all constructs have internal consistency.

<table>
<thead>
<tr>
<th>Label</th>
<th>Dimension and items</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Time spent</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISB1</td>
<td>I like to stay at this store as long as possible</td>
<td>Wakefield and Blodgett (1994)</td>
</tr>
<tr>
<td></td>
<td>I enjoy spending my time at this store</td>
<td>Wakefield and Blodgett (1994)</td>
</tr>
<tr>
<td></td>
<td>I don’t mind spending more time browsing in this store</td>
<td>Wakefield and Blodgett (1994)</td>
</tr>
<tr>
<td></td>
<td>I spent more time in the store than I had planned</td>
<td>Author</td>
</tr>
<tr>
<td></td>
<td>Given a choice, I would avoid spending my quality time in the store&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Wakefield and Blodgett (1994)</td>
</tr>
<tr>
<td><strong>Money spent</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISB2</td>
<td>I spent more money in the store than I had planned</td>
<td>Roy and Tai (2003)</td>
</tr>
<tr>
<td></td>
<td>I don’t mind spending my money in the store</td>
<td>Author</td>
</tr>
<tr>
<td></td>
<td>I regret spending my money in the store&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Author</td>
</tr>
<tr>
<td></td>
<td>I would avoid spending my money in the store again&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Author</td>
</tr>
<tr>
<td></td>
<td>If I need to visit and shop at this store in the future, I will try to minimise my money buying the product(s)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Author</td>
</tr>
<tr>
<td><strong>Repatronage intention</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ISB3</td>
<td>Given a choice, I would probably not go back to the store&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Eroglu and Machleit (1990), Machleit <em>et al.</em> (1994)</td>
</tr>
<tr>
<td></td>
<td>I am committed to maintain my purchasing at this store</td>
<td>Macintosh and Lockshin (1997)</td>
</tr>
<tr>
<td></td>
<td>I would avoid ever having to return to the store&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Mehrabian and Russell (1974)</td>
</tr>
<tr>
<td></td>
<td>In the future, my shopping at the store will be possible</td>
<td>Wakefield and Baker (1998)</td>
</tr>
<tr>
<td></td>
<td>I will definitely go to the store when I have a chance to buy the same material in this shopping mall/complex</td>
<td>Author</td>
</tr>
</tbody>
</table>

Table II.
Dimensions and measurement items for in-store behaviour

*Note:* <sup>a</sup> Reversed score
To apply structural equation modelling (SEM) to test the hypothesized relationships, first, an exploratory factor analysis (EFA) was conducted using principal component method with varimax rotation. Based on the EFA test, the five dimensions that were extracted were consistent with the literature. Common method variance (CMV) was tested on the five dimensions extracted using the Harman’s one-factor test (Podsakoff et al., 2003). The test revealed that the single general factor accounted for approximately 34 per cent of the total variance of the 21 variables. Results further implied that this single largest general factor that explained 34 per cent of total variance did not explain the majority of the total variance. Therefore, the CMV was not evident in this study (Chen and Chang, 2012).

Based on the EFA results in Table III, the highest factor loadings of variables on a particular construct were confirmed. In short, these variables were constrained to only manifest a particular construct (Hair et al., 2006). This process is called confirmatory factor analysis and these dimensions are now implied as constructs. Constructs 1, 2, 3, 4 and 5 were labelled as mood, colour, music, salesperson and in-store behaviour, respectively. Nevertheless C5, S1 and S5, which were included in the measure of colour and salesperson dimensions had to be removed as the factor loadings were < 0.5.

Subsequently, discriminant and convergent validities were performed on the five constructs. In measuring discriminant validity, the Fornell and Larcker (1981) approach was used. According to this approach, the squared correlation ($\hat{\phi}^2$) among the constructs...
must not be larger than the average variance extracted (AVE) of the respective constructs. The results revealed that constructs’ discriminant validity was met and each construct was distinct from one another (Yap and Khong, 2006). For example, the $\phi$ between mood and salesperson was 0.504 and the $\phi^2$ was 0.254, a value lower than the AVE of mood (0.7422) and salesperson (0.6577) (Table IV). Therefore, discriminant validity was achieved. The composite reliability and AVE of each construct also showed that there were sufficient shared variances among constructs. Additionally, the AVE of each construct was above the threshold of 0.5, thus indicating that constructs’ convergent validity were achieved (Chen and Chang, 2012).

Consequently, SEM analysis was performed. The model showing mood as mediator for the relationship between store atmospherics and in-store behaviour is shown in Figure 1.

Table IV. Discriminant validity test

<table>
<thead>
<tr>
<th></th>
<th>Mood</th>
<th>Salesperson</th>
<th>In-store behaviour</th>
<th>Colour</th>
<th>Music</th>
<th>Composite reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salesperson</td>
<td>0.504 (0.254)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-store</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>behaviour</td>
<td>0.689 (0.475)</td>
<td>0.437 (0.191)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>0.449 (0.202)</td>
<td>0.705 (0.497)</td>
<td>0.421 (0.177)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>0.521 (0.271)</td>
<td>0.682 (0.465)</td>
<td>0.591 (0.349)</td>
<td>0.47 (0.221)</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Values bolded in brackets denote $\phi^2$

Figure 1. The mediating effect of mood on in-store behaviour
Results (Figure 1) showed that music, colour and salesperson have a positive association with mood, supporting $H_1$, $H_2$ and $H_3$, which posited that positive perceptions of these atmospheric cues influence mood in a positive manner.

The standardized regression weights ($\gamma$) for music, colour and salesperson were 0.41, 0.25 and 0.16, respectively, and significant at $\alpha = 0.05$. Together they explained 26 per cent of total variance in mood. Results of SEM analysis showed that mood had a positive association with in-store behaviour with $\gamma$ of 0.68 (significant at $\alpha = 0.05$), again supporting $H_4$, which concerned the positive influence of mood on in-store behaviour if the mood state among shoppers was positive. Additionally, the mediator, mood explained 47 per cent of in-store behaviour. From a goodness of fit (GFI) point of view, the stringent test of the chi-square ($\chi^2$) $p$-value of 0.198 suggested good fit for the model. Estimated using the maximum likelihood (ML) method, the model fits into the variance covariance matrix with $\chi^2$ value of 206.297 (df = 198). Other GFI tests also supported a good fit for the model. For example, the absolute fit index root mean square error of approximation (RMSEA) is 0.03 fulfilling the threshold of 0.08 and below. Incremental fit indexes as measured by incremental fit index (IFI) (0.978), Tucker Lewis index (TLI) (0.975) and comparative fit index (CFI) (0.977) also fulfilled the threshold of 0.95 and above. The parsimony fit index of $\chi^2 / df = 1.086$ was between 1 and 2, again indicating that the tests showed a good model fit.

Further analyses were conducted on the age group to compare younger and older Muslims with respect to the influence of atmospherics on in-store behaviour for apparel shopping. The age groups included in the study were: younger adults aged 18-25 years and older Muslims aged 50 years or older. Of the 223 Malay Muslims, 116 respondents were in the age group of 18-25 years and 107 respondents were categorized into the age group of $\ge$ 50 years. The age group comparison is shown in Figure 2.

Based on the results in Figure 2, mood explained 49 per cent of total variance of in-store behaviour for older adults ($\gamma = 0.70$), whereas the total variance explained was 32 per cent for the younger age group ($\gamma = 0.57$). Music, colour and salesperson have positive effects on mood for both the age groups. The value of $\gamma$ for music, colour and salesperson on mood were 0.37, 0.31 and 0.17, respectively, for the younger shoppers while the value was 0.41, 0.25 and 0.18, respectively, for older shoppers. Additionally
music, colour and salesperson explained 27 per cent of total variance in mood among the younger shoppers, while these variables explained 26 per cent among the older shoppers. Using the $\chi^2$ model invariant test, the younger and older age groups did not show significant differences for their in-store behaviour due to the influence of mood, which, in turn, was influenced by store atmospherics (Table V). The unconstrained model had a $\chi^2$ of 744.497 (df = 382), while the fully constrained model had a $\chi^2$ of 763.862 (df = 396). The difference in $p$-value was 0.151 implying that the two models did not have significant differences (Hair et al., 2010; Byrne, 2010). In other words, the influence of atmospherics on in-store behaviour through mood as the mediator did not impact differently on the younger and older age groups of shoppers, thus providing no support for H$_{5a}$ and H$_{5b}$, which posited significant differences among age groups.

Subsequently, the test of significant differences was conducted at path level using Stats Tools Package by Gaskin (2012). Results showed that there were no significant differences between the paths for the younger (Group 1) and older age groups (Group 2) (Table VI).

**Discussion and conclusion**

Based on the framework of Mehraban–Russell (1974), the present study investigates the influence of atmospherics on apparel shopping behaviour by applying the three components of environments, ambient factors, design factors and social factors, suggested by Baker (1986). While many of the past studies examined single cue, this study adopted multi-cues to examine the impact on atmospherics in a retail environment. Based on the sample of Malay Muslims, the study controls for the possible influence of religion and other country factors (such as the macroeconomic environment and income). Using SEM, results of this study showed that Muslim shoppers’ positive perception of background music, colour and salesperson exerted a positive influence on

<table>
<thead>
<tr>
<th>Overall model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unconstrained</td>
<td>744.497</td>
<td>382</td>
<td></td>
</tr>
<tr>
<td>Fully constrained</td>
<td>763.862</td>
<td>396</td>
<td></td>
</tr>
<tr>
<td>Number of groups</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difference</td>
<td>19.365</td>
<td>14</td>
<td>0.151</td>
</tr>
</tbody>
</table>

**Note:** The $\chi^2$ model invariant test was conducted using stats tools package

<table>
<thead>
<tr>
<th>Paths</th>
<th>Younger age group Estimate</th>
<th>Older age group Estimate</th>
<th>$p$</th>
<th>$p$</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood</td>
<td>&lt; Music</td>
<td>0.334 ***</td>
<td>0.413 ***</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Mood</td>
<td>&lt; Colour</td>
<td>0.235 0.002</td>
<td>0.289 0.020</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Mood</td>
<td>&lt; Salesperson</td>
<td>0.134 0.098</td>
<td>0.323 0.095</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>In-store behaviour</td>
<td>&lt; Mood</td>
<td>2.679 ***</td>
<td>3.356 ***</td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The test of differences at path level was conducted using stats tools package

**Source:** Gaskin (2012)
mood, consistent with the literature on atmospherics. For example, music and music-related variables had an influence on cognitive, emotional and behavioural response (Jain and Bagdore, 2011). Similarly, music was found to influence mood positively.

The indirect influence of atmospherics on in-store behaviour via mood was supported. The positive mood evoked by the positive perception of atmospherics influenced in-store behaviour in terms of time and money spent as well as re-patronage intention. The results of this study further confirmed that the Mehrabian–Russell framework that is developed in the West could also be applied to Muslim consumers in Malaysia, a multicultural society. Colour and salespersons that constituted the other two components of the shopping environment were also found to exert a positive influence on mood due to the positive perception among Muslim shoppers. Again, this provided support for the extant literature on the impact of atmospherics on patronage behaviour.

However, multi-group analysis in SEM that examined age group differences among younger and older Muslim shoppers did not yield significant differences in terms of the influence of music, colour and salesperson on mood as well as the impact of mood on in-store behaviour. This finding did not support past studies that show age differences (Babin and Darden, 1995; d’Astous, 2000; Gulas and Schewe, 1994; Joyce and Lambert, 1996; Turley and Milliman, 2000; and Yalch and Spangenberg, 1993). We could speculate the lack of support for age differences in the perception of the environment and behaviour to:

• age has no impact on the influence of atmospherics or
• religion has a stronger effect.

We could also assert that older Muslims still maintain their sensitivity to external stimuli and, hence, are able to make their judgement about their shopping environment, contrary to the notion that suggests older consumers are less sensitive external stimuli (e.g. lights and colours) and are less able to make distinctions between those stimuli (Moschis, 1987).

In terms of managerial implications, the results of the present study could provide useful information to marketers for better targeting and communication by adopting atmospherics that appeal to customers. Although apparel stores tend to change atmospherics during festive seasons, varying atmospherics at different times of the year could also provide a “fresh” atmosphere that appeals to shoppers. Because age did not yield a significant difference in terms of store atmospherics, marketers could consider evergreen songs that appeal to broad age groups.

This study is not without limitations. Data were collected for two age groups: 18-25 years and ≥ 50 years. Those aged 26-49 years were not sampled. Their perception and behaviour towards the store atmospherics may be different. Therefore, the results of this study must be interpreted with caution. A larger sample comprising consumers of all age groups must be included in future studies to test the effect of age and religion. While the present study focused on Malay Muslims, future studies should include the comparison of in-store behaviour among Muslims and non-Muslims, as well as among the different ethnic groups. In addition, foreigners who are Muslims could be used as a control group to validate if the absence of age differences among Malay Muslims in Malaysia is due to culture or religion since religion has been found to influence
consumption behaviour (Mokhlis, 2009). In addition, the absence of age effects could be due to the similarities of the apparel stores that emphasised lifestyle segmentation by de-emphasizing age-based segmentation. Further research about age differences and the causes for differences in perception among younger and older shoppers should include third variable effect such as product and purchase involvement to provide a deeper understanding on the relationship between store atmospherics and in-store shopper behaviour.

References


Byrne, B.M. (2010), Structural Equation Modelling with Amos, 2nd ed., Lawrence Erlbaum Associates, Mahwah, NJ.


University of Sterling.
Lexington MA.
mirrors: shopping in two countries”, Journal of Consumer Marketing, Vol. 17 No. 2,
pp. 106-119.
and convenience on flow: the mediation effect of brand affect and brand trust”, The
International Review of Retail, Distribution and Consumer Research, Vol. 22 No. 3,
pp. 277-292.
behavioural research: a critical review of the literature and recommended remedies”,
elaboration and shopping orientation”, Journal of International Consumer Marketing,
of salespeople and customer persuasion: an empirical investigation”, Journal of Business
behaviour: mediating role of consumer emotions”, Psychology and Marketing, Vol. 14 No. 4,
pp. 361-378.
scents influence on approach and avoidance behaviours in a retail store”, Journal of
Environmental Psychology, Vol. 23 No. 1, pp. 63-78.
Suki, N.M. (2011), “Female fashion shoppers responses towards the mall atmospherics”, Journal of
illumination on consumer behaviour”, Journal of Business Research, Vol. 54 No. 2,
pp. 145-150.
in-store buying behaviour”, The International Review of Retail, Distribution and Consumer
Research, Vol. 7 No. 4, pp. 311-337.


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**Effect of mood on in-store behaviour**