

# “Consumer Behaviour: Experience, Price, Trust and Subjective Norms in the OTC Pharmaceutical Market”

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# CONSUMER BEHAVIOUR: EXPERIENCE, PRICE, TRUST AND SUBJECTIVE NORMS IN THE OTC PHARMACEUTICAL MARKET

George N. Lodorfos, Kate L. Mulvana, John Temperley

## Abstract

This paper examines the determinants of consumers' attitudes and intentions to exhibit brand loyal behaviour. Specifically, this study employed the theory of planned behaviour to investigate the antecedent factors contributing to an individual's brand choice decision within the over-the-counter (OTC) pharmaceutical market. In addition, several hypotheses in relation to the theory of planned behaviour were investigated. A survey of 118 OTC consumers was used to determine if beliefs about trustworthiness, price and past experience determine consumers attitude towards OTC brand choice. Furthermore, attitudes and subjective norms were examined to determine whether they affect consumers' intention to repurchase from the same brand. This study's empirical evidence suggest that direct experience with the brand, price tolerance, brand trust and the subjective opinions of others are important determinants of repeat purchase behaviour of OTC pharmaceutical products. Price sensitivity had a significant effect on attitude to repurchase, which in turn affected intention to repeat purchase, whilst past experience with the brand is critical in determining trustworthiness beliefs, price sensitivity and purchase behaviour

**Key words:** Consumers behaviour, consumer's intent, Experience, over the counter drugs, pharmaceutical markets, subjective norms.

## Introduction

The landscape in which companies in the pharmaceutical industry operate and compete has changed rapidly over the past few years. The estimated value of the UK pharmaceutical market is expected to increase to £16 billion by 2007, an estimated increase of 39 per cent from 2003. Over-the-counter pharmaceutical sales were estimated to account for £2.8 billion of total sales in 2003 and are expected to grow by 56 per cent to 2007 (Mintel, 2003a). Growth is attributed to the increasing trend in self-medication, inline with greater awareness of health issues, despite the decreasing incidence of minor ailments such as cold and flu (Mintel, 2004). However with increasing pressure for new product development, the rate of technological change, and change in the competitive environment put pharmaceuticals under pressure to maintain loyal customers. Therefore, this study aims to consider the factors affecting the repeat purchase of both GSL (drugs on general sales list that can be sold in general retail outlets such as supermarkets and pharmacies) and OTC medicines (over-the-counter non-prescription medicines), implicating a wide range of products.

## Literature Review

### *Brand Loyalty*

Copeland (1923) first inferred the concept of brand loyalty, and over 200 definitions have since appeared in the literature (see Oliver, 1999, p. 34; Chang, 2005; Rundle-Thiele and Mackay, 2001), indicating its significance to marketing theory. Notably, many definitions reflect the two aspects used to measure loyalty, which are behaviour and attitude (Jacoby and Chestnut, 1978; Oliver, 1999). Indeed the importance of brand loyalty has been recognised by buyer behaviour theorists for several decades (Howard and Sheth, 1969, p. 232) being described as the core asset of any business, as future growth stems from the loyalty customers have in a company's brands (Gralpois, 1998).

Rundle-Thiele and Bennett (2001) explored the importance of product category to brand loyalty, suggesting that the characteristics of the product and the market, shape brand loyalty. The FMCG market was identified as characterised by multi-brand purchasing and brand switching. Other researchers have also suggested a relationship exists between product type and brand loyalty (Palumbo and Herbig, 2000). However examining consumer decisions and loyalty towards OTC products within the FMCG category is a relatively new topic in the marketing literature. There is limited research on repeat purchase behaviour and brand loyalty in the OTC market sector.

### ***Past Behaviour and Experience***

#### *Experience and Repeat Purchasing*

Within the brand loyalty literature, many researchers suggest that previous information or experience provides underlying reasons for repeat purchase or brand switching decisions (Inman and Zeelenberg, 2002; Ratchford, 2001). In Hoch's (2002) opinion, product experience credibly influences consumer behaviour because a consumer's personal experience with a product subtly affects their beliefs and 'draws the consumer in' (See also Dolliver, 2001).

### ***Trust***

Scholars studying consumers' behaviour often use trust as the surrounding concept that mediates the relationship between a consumer's attitude toward these brand features and consumer loyalty (Agustin and Singh, 2005; Wiener and Mowen, 1986).

Chaudhuri and Holbrook (2001) state that beliefs about reliability, safety and honesty are all important facets of trust that people incorporate in their operationalization of trust. Indeed when consuming an OTC medicine, consumer's trust is informed by their perception of whether the drug is safe to consume (Rainsford *et al.*, 1997; Mintel, 2004; Bissell *et al.*, 2001).

### ***Price Sensitivity***

Price sensitivity has been studied in relation to several different consumption factors such as satisfaction (Anderson, 1996), brand loyalty (Krishnamurthi and Raj, 1991) and purchase frequency (Kalyanaram and Little, 1994). These studies confirm that a relationship exists between consumers' post-purchase experience and subsequent price-sensitivity, and whether before or after, purchase experience will affect price sensitivity (Hsieh and Chang, 2004). However there is a different school of thought that believes that with experience of a product, the consumer becomes more knowledgeable as to its quality and value (Zeithaml, 1988) consequently when a consumer better understands the value of the product, they are more sensitive to changes in value (e.g. if the price were to increase), which may affect the intention to purchase (Chang and Wildt, 1994; Helsen and Schmittlein, 1994; Reicheld, 1996). In addition, customer commitment increases a customer's price tolerance (Aaker, 1996; Krishnamurthi and Raj, 1991; Samuelsen and Sandvik, 1997).

### ***Subjective Norm***

The subjective norm is intended to measure the social influences on a person's behaviour i.e., family members expectations (Ha, 1998). Therefore including the subjective norm in measures of repeat purchase should lead to more accurate estimates of consumer repurchase behaviour (Ha, 1998). Indeed the opinions of family and friends are reported to influence an individual's attitude, intentions and behaviour (Ajzen and Fishbein, 1980).

## **Methodology**

### ***Theory of Planned Behaviour***

The Theory of Planned Behaviour (TPB) (Ajzen, 1985), is an extension of the Theory of Reasoned Action (Ajzen and Fishbein, 1970), and is a widely used and supported model to predict consumer behaviour. One of the central themes in TPB is the individual's intention to perform a given behaviour. As the principal predictor of behaviour, intention is regarded as the motivation necessary

to engage in a particular behaviour: “the stronger the intention to engage in a behaviour, the more likely should be its performance” (East, 1990; Armitage and Conner, 1999).

A series of narrative and quantitative reviews (e.g. Ajzen, 1991; van den Putte, 1991; Sparks, 1994; Conner and Sparks, 1996; Godin and Kok, 1996; Conner and Armitage, 1998) have shown the efficacy of the TPB in predicting wide range of intentions and behaviours. Ajzen’s conceptualization of the TPB implies a causal link between beliefs, attitudes, intentions and behaviour.

The theory postulates that behaviour is a function of salient beliefs, relevant to the behaviour. These salient beliefs are considered to be the prevailing determinants of a person’s intentions and actions (Fishbein, 1967). In general TPB does not specify the particular beliefs that are used in the model in relation to the behaviour; this is left to be determined by the researcher.

### ***Research Model and Hypotheses***

The research model used in this study, shown in Figure 1, is based on the theory of planned behaviour. The antecedent variables shown are posited to determine attitude and intent to purchase OTC pharmaceutical products. The antecedent constructs to repeat purchase behaviour are intent to make repeat purchases of a brand of OTC, price sensitivity, and experience of past purchasing the brand. Intent to make repeat purchases is preceded by attitudes toward repeat purchasing behaviour and by the subjective norm, when the subjective norm represents the individual’s consideration of the perceived beliefs and attitudes towards the brand of referent others. Beliefs in trustworthiness are suggested to help determine attitudes towards repeat purchase, which in turn, are postulated to be determined by experience with the brand. Experience is also posited to determine an individual’s sensitivity to the price of the brand. The variables within the research model and the directions of causality are explained as follows.

#### ***Experience***

Hypotheses 1, 2 and 3 all relate to past experience with a brand of OTC. Brand trust evolves from past experience and prior interaction (Garabrino and Johnson, 1999) because its development is portrayed most often as an individual’s experiential process of learning over time.

#### **◆ H1. Experience with a brand of OTC pharmaceutical product determines an individual’s beliefs about the trustworthiness of the brand.**

As consumer participation with a brand determines their satisfaction with the brand, and in turn consumer satisfaction and perceived value lead to decreased price sensitivity (Anderson, 1996; Agustin and Singh, 2005; Ambler, 1997), hypothesis 2 is derived:

#### **◆ H2. Experience with a brand of OTC pharmaceutical product determines an individual’s sensitivity to the price of the brand.**

Hypothesis 3 is simply drawn from the evidence of brand loyalty literature that states past experience with a brand provides underlying reasons for repeat purchase or brand switching decisions (Inman and Zeelenberg, 2002; Ratchford, 2001).

#### **◆ H3. Experience with a brand of pharmaceutical product determines repeat purchase behaviour of that brand.**

#### ***Trust***

Trust is proposed to enhance repeat purchase intentions as it contributes to the relational value of the brand (Grisaffe and Kumar, 1998), therefore as trust increases a brand’s value, and perceived value contributes to price tolerance, hypothesis 4 is derived:

#### **◆ H4. The more positive an individual’s beliefs in the trustworthiness of a brand of pharmaceutical product, the less sensitive they are to the price.**

A consumer’s judgment of relational trust and value has strong, significant and direct linear effects on loyalty intentions (Agustin and Singh, 2005). In addition, as trust is one component of a con-

sumer's relationship with a brand, developed as a substitute for human contact between the organization and the consumer (Sheth and Parvatiyar, 1995), brand trust will contribute to a consumer's attitude toward repeat purchasing the brand, leading to the hypothesis:

- ◆ **H5. Beliefs about the trustworthiness of a brand of OTC pharmaceutical product determine an individual's attitude to purchasing that product.**

#### *Price Sensitivity*

Anderson (1996) identified that increased consumer satisfaction would lead to increased price tolerance, meaning decreased price sensitivity. Thus since satisfaction and loyalty tend to exist harmoniously, it is postulated that:

- ◆ **H6. The less price-sensitive an individual is toward a brand of OTC pharmaceutical product, the more likely they are to repeat purchase the brand.**

#### *Subjective Norm*

Since the opinions of friends, family and health professionals are reported to influence the purchase decision of OTC products (Mintel, 2004, 2004c), hypothesis 7 is proposed:

- ◆ **H7. The more positive an individual perceives the attitude of friends, family and health professionals toward a brand of OTC pharmaceutical product, the greater the individual's intention to purchase that product.**

#### *Attitude and Intention*

In consideration of the relationship between attitude and intention (Fishbein and Azjen, 1980), the following hypothesis is derived:

- ◆ **H8. The more positive an individual's attitude toward a brand of OTC pharmaceutical product, the greater their intention to repurchase the brand.**

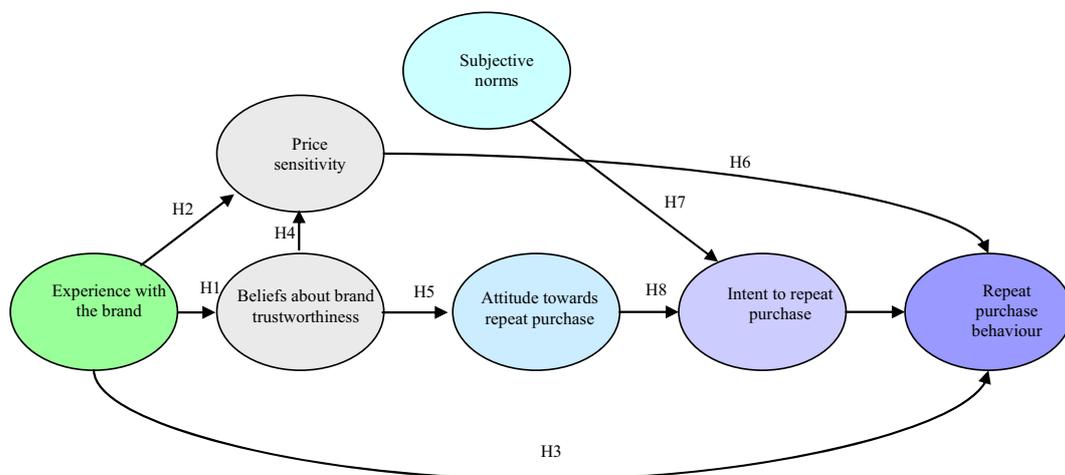


Fig. 1. Research Model

## Research Strategy and Sampling

This is predominantly an explanatory study as it aims to establish an understanding of the causal relationship between variables important to consumer decisions (Saunders *et al.*, 2003). To reduce selection bias, recruitment includes probability sampling within a large convenience sample. Miller *et al.* (1998) used a similar selection method when interviewing shoppers at a shopping mall.

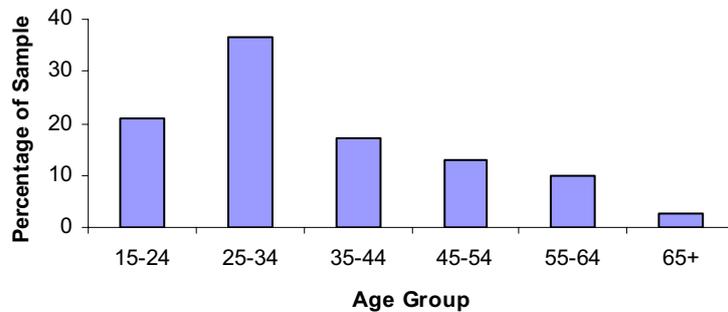
The 118 respondents included visitors and staff at a library, a health club, a mixed hockey club, and three different environments. The sampling allowed access to respondents with a broad range of household incomes, respondents’ employment roles ranged from administrative to company directors.

The questionnaire was piloted and presented a standardised set of questions for the respondents to complete. Including demographic information such as age, household income and liability to pay prescription charges; categorical questions on the type, frequency and brand name of the product most often purchased by the respondent and questions related to respondents experience, price sensitivity, views about the role of trust, tendency to repeat purchase and the subjective norm, using 5 scale Likert.

## Data Analysis

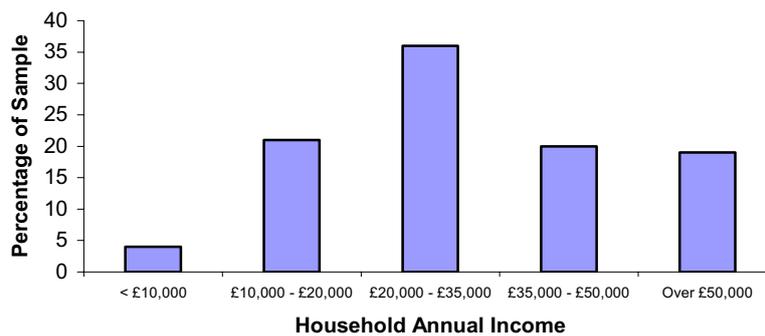
### Demographics

Gender, age and household annual income were queried to analyse the demographic characteristics of the sample population. Simple frequency analysis revealed that 31 per cent of the respondents were males and 69 per cent were females. Figure 2 shows the sample age distribution. Figure 3 shows the distribution of household annual income. 81 per cent of the sample paid prescription charges.



Mean = 2.62, SD = 1.358, N = 118

Fig. 2. Age distribution of respondents



Mean = 3.28, SD = 1.124, N = 118

Fig. 3. Household Annual Income of respondents

### ***OTC Products and Frequency of Purchase***

Respondents were asked the pharmaceutical product they had purchased most often in the past twelve months. These were Painkillers (57% of respondents) followed by cold and flu remedies (12%), then vitamins and dietary supplements (9.3%) and allergy relief (7.6%). 54 per cent of the sample purchased their most frequently bought product less often than once per month, 28 per cent purchased an OTC product once per month. Supermarkets were the most common primary retail outlet from which OTCs were purchased (51%), closely followed by pharmacies (42%).

### ***Importance of the Brand***

Respondents were asked to rate brand importance. 37 per cent of the respondents said that it was not at all important whilst 12 per cent said it was very important.

## **Data Analysis**

### ***Gender***

Independent t-tests were conducted to compare the responses for male and female respondents. The only question which showed significant difference was '*I would only purchase a brand that my doctor has recommended*', where the equal variances assumed Sig. (2-tailed) value was 0.005, indicating a significant difference in the mean scores for males (M = 2.92, SD = 0.722) and females [M = 3.42, 0.947; t(116) = -2.86, p=0.005] (Pallant, 2001).

### ***Prescription Charges***

Independent t-tests were conducted to compare the responses for those who pay prescription charges and those that do not. The only question showing significant difference was '*I always buy the same brand of pharmaceutical product*'. Payers (M = 3.04, SD = 0.99) and non-payers [M = 2.43, 0.99; t(116) = 2.64, p=0.009].

### ***Branded or Generic***

Independent t-tests were conducted to compare respondents who stated that their most frequently bought OTC product was branded, and those that stated it was generic. There were 16 questions showing significant difference between the two groups as shown in Table 1. For example for the question, '*To what extent does the brand of this product affect your purchasing decision*', brand name buyers (M = 3.41, SD = 1.30) and generic buyers [M = 1.60, 0.96; t(116) = 8.61, p=0.000]. Therefore respondents who purchase a branded product rate the brand of the product as more important to the purchase decision than generic buyers. Overall, brand name buyers found items relating to the importance of experience on the purchase decision more important than the generic buyers.

Table 1

Significantly different responses between brand name buyers and generic buyers calculated with Independent T-tests

Item	Brand name buyers		Generic buyers		t(116)	
	Mean	SD	Mean	SD		
<i>To what extent does the brand of this product affect your purchasing decision</i>	3.41	1.3	1.6	0.96	8.61	p=0.000
Items related to experience						
<i>If I had a good experience with a brand of pharmaceutical product, I would recommend it to friends.</i>	1.98	0.81	2.42	1.01	-2.58	p=0.011
<i>I prefer to purchase a brand of pharmaceutical product that I have previously purchased.</i>	2.05	0.91	2.62	1.09	-3.06	p=0.003

Table 1 (continuous)

Item	Brand name buyers		Generic buyers		t(116)	
	Mean	SD	Mean	SD		
<i>I am prepared to pay more for a pharmaceutical product that I have had a good experience with.</i>	2.00	0.82	2.7	1.24	-3.64	p=0.000
<i>I am loyal to the brands I have had a good experience with.</i>	2.14	0.83	2.65	1.069	-2.94	p=0.004
Items related to price						
<i>I will buy whichever pharmaceutical brand is cheapest.</i>	2.05	0.71	3.32	1.23	-6.87	p=0.000
<i>I am a price-sensitive customer.</i>	2.95	0.94	3.60	1.08	-3.50	p=0.000
<i>I will search for the cheapest brand of pharmaceutical product.</i>	2.05	0.74	2.83	1.039	-4.76	p=0.000
<i>Price is not important to me when I purchase a brand of pharmaceutical product I have experience with.</i>	2.48	1.03	3.03	1.04	2.89	p=0.005
<i>Price is not important to me when I purchase a brand of pharmaceutical product I trust.</i>	2.38	1.04	2.90	1.07	2.68	p=0.008
Items related to trust						
<i>Trusting the brand is not important when purchasing OTC's.</i>	2.33	0.83	3.02	0.97	-4.16	p=0.000
<i>I am loyal to the pharmaceutical brand names that I trust.</i>	2.47	0.88	2.92	0.89	2.77	p=0.007
Items related to brand loyalty						
<i>I always buy the same brand of pharmaceutical product.</i>	2.67	1.01	3.17	0.96	-2.72	p=0.008
<i>I would only recommend to a friend the brands that I am loyal to.</i>	2.57	1.01	3.13	0.85	-3.28	p=0.001
<i>I would switch to a different brand if a cheaper alternative was available.</i>	2.62	0.91	3.47	0.98	-4.84	p=0.000
<i>I would choose a different brand to my usual one if I could not find it in the first shop I visited.</i>	3.02	1.12	3.62	0.96	-3.13	p=0.002

Furthermore, brand name buyers seemed to be more brand-loyal than generic buyers.

Further independent t-tests were conducted on the overall scores for attitude to repurchase, intention to repurchase and actual repurchase behaviour. Significant statistical difference was found for attitude to repeat purchase for brand name buyers ( $M = 47.86$ ,  $SD = 6.09$ ) and generic buyers [ $M = 52.8$ ,  $9.19$ ;  $t(118) = -3.45$ ,  $p=0.001$ ], for intent to repeat purchase for brand name buyers ( $M = 28.67$ ,  $SD = 4.52$ ) and generic buyers [ $M = 32.87$ ,  $5.28$ ;  $t(118) = -4.63$ ,  $p=0.000$ ], and for actual repeat purchase behaviour for brand name buyers ( $M = 12.97$ ,  $SD = 3.14$ ) and generic buyers [ $M = 14.35$ ,  $3.52$ ;  $t(118) = -2.253$ ,  $p=0.026$ ]. The magnitude of the differences in the means were, moderate, large and small ( $\eta^2 = 0.11$ ,  $0.23$  and  $0.05$ ) in respective order (Cohen, 1988).

## One-way analysis of variance (ANOVA)

### Age

A one-way between-groups analysis of variance was conducted to explore the impact of age on the responses measured by the strongly agree to strongly disagree Likert scale. Subjects were divided according to their age groups (i.e. group 1: 15-24, group 2: 25-34, group 3: 35-44, group 4: 45-54, group 5: 55-64 and group 6: 65+). There were statistically significant differences at the  $p < 0.05$  level for two of the price sensitivity questions, P5 'price is not important when I buy a brand that I have experience with' for groups 2, 4 and 5 [ $F(5, 112) = 2.98, p = 0.01$ ] and P6 'price is not important when I buy a brand I trust' for groups 2 and 4 [ $F(5, 112) = 2.72, p = 0.015$ ]. There were also statistically significant differences at the  $p < 0.05$  level for one of the trust questions, 'I am concerned about side-effects when purchasing OTC products' for group 3 and 5 [ $F(5, 112) = 2.75, p = 0.02$ ]. Furthermore there were statistically significant differences at the  $p < 0.05$  level for three of the brand loyalty questions, B3 'I would switch to a different brand if a cheaper alternative was available' for groups 2, 4 and 5 [ $F(5, 112) = 3.78, p = 0.003$ ], B4 'I like to try new brands of pharmaceutical products' for groups 1, 2, 4 and 5 [ $F(5, 112) = 5.14, p = 0.000$ ] and for B6 'I would choose a different brand to my usual one if I could not find it in the first shop I visited' for group 2 and 5 [ $F(5, 112) = 3.57, p = 0.005$ ].

These statistical differences of the mean values indicate that some attitudes towards price sensitivity differ with age, whereby those in the older age groups (45-54 and 55-64) are more likely to agree that price is not important when buying an experience product or a trusted product, compared to those in the 25-34 age group (See Figures 4 and 5). In addition, statistical differences between some attitudes towards brand loyalty indicate that younger age groups (15-24 and 25-34) are less likely to repeat purchase OTCs compared to older respondents (45-54 and 55 to 64) (See Figure 6).

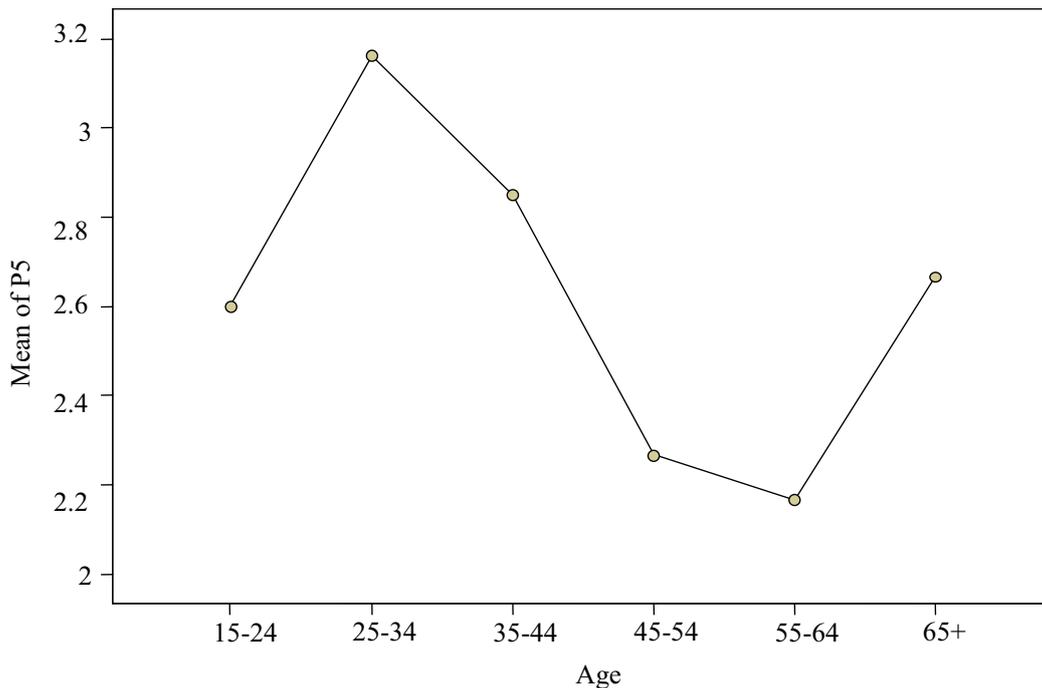


Fig. 4. Responses to 'price is not important when I buy a brand that I have experience with' split by age group

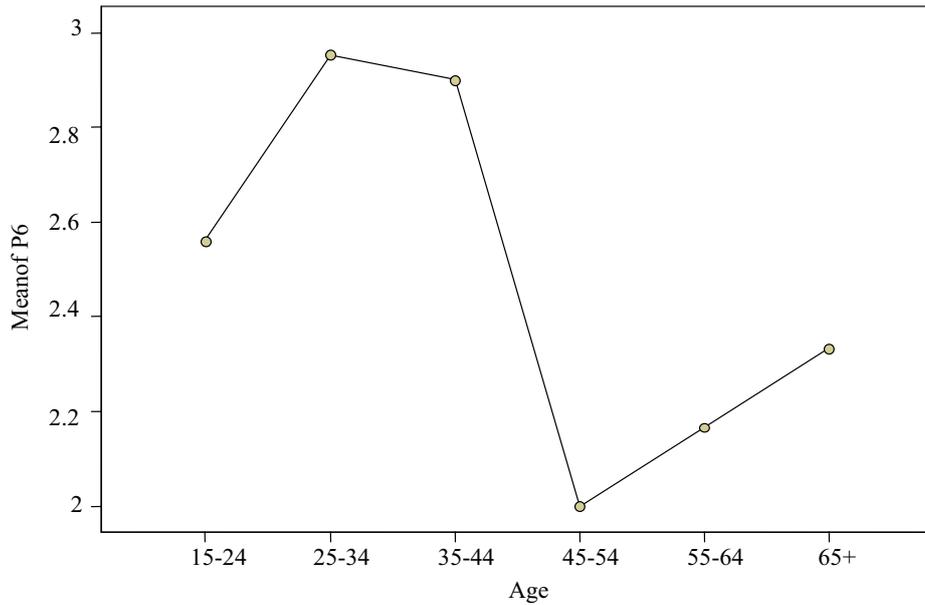


Fig. 5. Responses to ‘price is not important when I buy a brand I trust’ split by age group

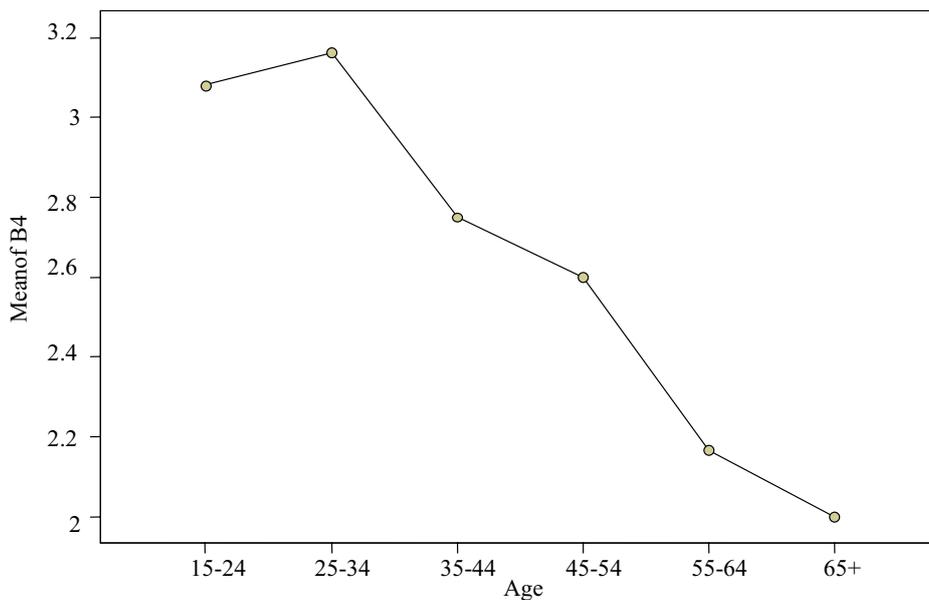


Fig. 6. Responses to ‘I like to try new brands of pharmaceutical products’ split by age group.

***Household Annual Income***

A one-way between-groups analysis of variance was conducted to explore the impact of household annual income on the responses measured by the strongly agree to strongly disagree Likert scale. There were statistically significant differences at the  $p < 0.05$  level for S5 ‘I would only purchase a brand of pharmaceutical product that my doctor has recommended’ for group 2 and group 4 [ $F(4, 113) = 2.63, p = 0.04$ ]. This indicates that individuals in the higher income group of £35,000 to

£50,000 were more likely to only purchase products that their doctor has recommended, compared to individuals in the lower income group of £10,000 to £20,000.

### **Validity**

Exploratory factor analysis was conducted as a means of data reduction, to see if the face validity of the items held (Pallant, 2001). The items of the attitude scales were subjected to principal component analysis (PCA) using SPSS. Prior to performing PCA the suitability of data for factor analysis was assessed. The correlation matrix revealed many coefficients of .3 and above. The Kaiser-Meyer-Olkin (KMO) measure was .858 exceeding the recommended value of .6 (Kaiser, 1970) and the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance, supporting the factorability of the correlation matrix. PCA revealed the presence of 6 components with eigenvalues exceeding 1, explaining 68.7 per cent of the variance. Inspection of the screeplot revealed a break after the third component. Therefore using Catell's (1966) scree test, three components were retained for further analysis with Varimax rotation to aid interpretation of the components. The three components explained 53.6 per cent of the variance. The variance explained by each factor is shown in Table 2.

### **Reliability**

Since multiple items were used to measure attitude towards the importance of past experience, attitude towards price sensitivity, attitude towards brand trustworthiness and attitude towards the opinions of subjective others, the items in the scales were subjected to reliability testing using Cronbach's coefficient alpha to determine the internal consistencies (Saunders *et al.*, 2003). Scales that produced Cronbach alpha coefficients greater than 0.7 were considered to be measuring the same underlying attribute (Nunnally, 1978) and were thus reliable. Only total trust was below the minimum cut-off level of .7, however since it was very close at .693 it was not dropped from the model.

Table 2

Varimax Rotation of Three Factor Solution for Attitude and Intent Items

Factor Items	Components			Cronbach alphas
	1	2	3	
E6 I am loyal to the brands I have had a good experience with.	.800			.909
T6 I will only purchase a brand of pharmaceutical product that I feel is trustworthy.	.735			
T7 I am loyal to the brand names I trust.	.730			
B2 I would only recommend to a friend the brands I am loyal to.	.705			
E5 I am prepared to pay more for a pharmaceutical product I have had a good experience with.	.689			
E4 Only if I had a good experience with a brand of pharmaceutical product I would trust the brand.	.670			
E2 If I had a good experience with a brand of pharmaceutical product, I would recommend it to friends.	.639			
E3 I prefer to purchase a brand of pharmaceutical product that I have previously purchased.	.633			
B1 I always buy the same brand of pharmaceutical product.	.605			
E1 If I had a good experience with a brand of pharmaceutical product, I would purchase products only from that brand in the future.	.579			
P5 Price is not important when I buy a brand of pharmaceutical product that I have experience with.		.781		

Table 2 (continuous)

Factor Items	Cronbach alphas		
	1	2	3
P6 Price is not important when I buy a brand of pharmaceutical product I trust.		.708	
P1 I will buy whichever pharmaceutical brand is cheapest.		.678	
P4 I will search for the cheapest brand of pharmaceutical product.		.654	
B6 I would choose a different brand to my usual one if I could not find it in the first shop I visited.		.638	
P2 I am a price-sensitive customer.		.595	
T5 Trusting the brand is not important when purchasing OTC pharmaceutical products.		.420	
S5 I would only purchase a brand that my doctor has recommended.			.801
S6 I tend to purchase a brand that my doctor trusts.			.725
S7 I tend to purchase a brand that my doctor has recommended.			.718
S3 I would not purchase a brand that friends and family would not purchase.			.627
S4 I would only purchase a brand that my friends and family had recommended.			.588
T2 I do not trust new brand names.			.408
% of variance explained	22.5	18.5	12.6
Note. Only loadings above .3 are displayed.			

Kaiser-Meyer-Olkin (KMO) = 0.858  
 Bartlett's Test of Sphericity = 1705.7  
 Bartlett's Test of Significance = 0.000

Table 3

Cronbach alpha coefficients for Total scales

Total Scales	Cronbach Alpha coefficients
Total Experience	.854
Total Price Sensitivity	.832
Total Trust	.693
Total Repeat Purchase	.738
Total Subjective Norm	.770

**Correlation Analysis**

The Pearson product-moment correlation coefficient was used to investigate the relationships between all the continuous variables, the total scores for experience, price sensitivity, beliefs in trustworthiness and the subjective norm and the three factors. Preliminary analysis showed no violations of the assumptions of normality, linearity and homoscedasticity (Field, 2005). The results shown in Table 4 illustrate that the strongest relationship exists between experience and attitude and trust and attitude. Similarly strong correlation exists between price sensitivity and intention.

Table 4

## Pearson product-moment Correlation Matrix

Variables		A	B	C	D	E	F	G	H	I	J
Overall attitude	A	1									
Overall intention	B	.787**	1								
Overall behaviour	C	.746**	.753**	1							
Total experience	D	.816**	.751**	.785**	1						
Total price sensitivity	E	.778**	.801**	.556**	.572**	1					
Total trust	F	.816**	.608**	.663**	.627**	.517**	1				
Total subjective norm	G	.466**	.422**	.614**	.389**	.178	.320**	1			
Factor 1	H	.834**	.779**	.865**	.959**	.584**	.741**	.394**	1		
Factor 2	I	.801**	.833**	.566**	.584**	.938**	.609**	.115	.613**	1	
Factor 3	J	.465**	.533**	.642**	.387**	.297**	.401**	.880**	.402**	.222*	1
**. Correlation is significant at the 0.01 level (2-tailed)											
*. Correlation is significant at the 0.05 level (2-tailed)											

**Regression**

Three standard multiple regression analyses were performed between overall attitude, overall intent and overall behaviour as the dependent variables and the total scales for experience, price sensitivity, trust and subjective norm as the independent variables to allow the simple question of multiple correlation to be addressed (Tabachnick and Fidell, 2001). Results of evaluations of assumptions revealed the dependent variables of overall attitude, overall intent and overall behaviour showed good relationships of above .3 with the independent variables.

**Attitude to Repeat Purchase**

92.5 per cent of the variance in attitude to repeat purchasing was explained by the model (R Square: 0.925) with statistical significance of  $p < .0005$ . The Beta coefficients for all four independent variables (experience, price sensitivity, trust and subjective norm) were significant, as none exceeded Sig. values of 0.05 (Pallant, 2001). Price sensitivity produced the largest variance in overall attitude with beta value (B) 0.384 (unstandardised B = 0.673), indicating that price sensitivity accounts for the greatest variability in respondents' overall attitude to repeat purchasing OTC's. The second largest variance came from trustworthiness beliefs ( $\beta = 0.380$ , B = 0.673), whilst experience produced the third largest variance ( $\beta = 0.296$ , B = 0.503). The subjective norm was ranked fourth with  $\beta = 0.162$  (B = 0.315). The Durbin-Watson test was used to test for serial correlations between errors (Field, 2005). The Durbin-Watson value 1.931 is very close to 2, showing that residuals are uncorrelated and therefore the lack of autocorrelation assumption is not violated (Field, 2005).

Table 5

## Attitude

	Beta	Significance
Experience	0.296	0.000
Price sensitivity	0.384	0.000
Trust	0.380	0.000
Subjective norm	0.162	0.000
R Square	0.925	
Adjusted R Square	0.923	
F	349.679***	
Durbin-Watson	1.931	

Note: \*\*\*:  $p < 0.001$

Multiple regression analysis, attitude factors

Dependent value: Overall Attitude

Table 6

## Intention

	Beta	Significance
Experience	0.329	0.000
Price sensitivity	0.550	0.000
Subjective norm	0.176	0.000
R Square	0.799	
Adjusted R Square	0.792	
F	112.473***	
Durbin-Watson	2.058	

Note: \*\*\*:  $p < 0.001$

Multiple regression analysis, intention factors

Dependent value: Overall Intent

***Intent to Repeat Purchase***

79.9 per cent of the variance in intent to repurchase was explained by the model (R Square: 0.799) with statistical significance of  $p < 0.0005$ . The Beta coefficients for three independent variables (experience, price sensitivity and subjective norm) were significant as none exceeded Sig. values of 0.05. Price sensitivity produced the largest variance in overall intention with  $\beta = 0.550$  ( $B = 0.629$ ), indicating that price sensitivity accounts for the greatest variability in respondents' overall intention to repeat purchase OTC's. The second largest variance came from experience  $\beta = 0.329$  ( $B = 0.366$ ) and the subjective norm produced the third largest variance ( $\beta = 0.176$ ,  $B = 225$ ). Trustworthiness beliefs did not contribute significantly to regression with a Sig. value of 0.283. The Durbin-Watson value 2.058 is very close to 2, showing the data feeds well into the regression equation (Field, 2005).

***Repeat Purchase Behaviour***

77.5 per cent of the variance in the behaviour of repeat purchase was explained by the model (R Square: 0.775) with statistical significance of  $p < 0.0005$ . The Beta coefficients for all four independent variables (experience, price sensitivity, trust and subjective norm) were significant as none exceeded Sig. values of 0.05. Experience produced the largest variance in overall behaviour with  $\beta = 0.444$  ( $B = 0.314$ ), indicating that experience is the most important factor in predicting variability in respondents' overall repeat purchase behaviour of OTC's. The second largest variance came from the subjective norm ( $\beta = 0.353$ ,  $B = 0.286$ ) and trustworthiness beliefs were ranked third most important ( $\beta = 0.202$ ,  $B = 0.286$ ). Price sensitivity was only significant at 0.018 with  $\beta = 0.135$  ( $B = 0.098$ ). The Durbin-Watson value 1.601 is less close to 2, showing the data feeds less well into the regression equation than the other two models (Field, 2005).

Table 7

## Behaviour

	Beta	Significance
Experience	0.444	0.000
Price sensitivity	0.135	0.018
Trust	0.202	0.001
Subjective norm	0.353	0.000
R Square	0.775	
Adjusted R Square	0.767	
F	97.245***	
Durbin-Watson	1.601	

Note: \*\*\*:  $p < 0.001$

Multiple regression analysis, behaviour factors

Dependent value: Overall Behaviour

## Discussion

### Research Findings

The survey found analgesics are the most commonly purchased OTC, supporting the findings of recent consumer statistics of OTC value sales, and the apparent high percentage (78%) of UK households keeping stocks of painkillers in the medicine cabinet (Mintel, 2003a, 2004). The supermarket was the most popular place of purchase for OTCs, a finding that disputes the belief that most OTCs are obtained from pharmacies (Mintel, 2000, 2004). However this finding corroborates with data that implies multiple grocers take the largest share of analgesic sales (38%), since 57 per cent of our sample were referring to the purchase of analgesics when asked to state the outlet from which they most often purchased their most frequently bought product. Equal numbers of generic and brand name buyers in the sample are consistent with reports of increasing confidence in own-label OTC brands (Mintel, 2004; Fetto, 2001). However only 34 per cent of respondents claimed the brand name was important to the purchase decision, whilst 57 per cent claimed it was not important, suggesting that confidence in own-label brands may not be the sole cause. Rather that 57 per cent of respondents trusted that any brand on the market would fulfil their expectations, consistent with research indicating the public has significant trust in available medicines (MORI, 2002), and trust in the UK Medicines and Healthcare products Regulatory Agency (MHRA). Further to this, brand name buyers stated that the brand was far more important to the purchase decision than generic buyers, implying strong differences in the beliefs and attitudes of these two groups. Culminating in generic buyers exhibiting a lower tendency to repeat purchase than brand name buyers, consistent with the findings of Sivakumar (1995) and Krishnamurthi and Raj (1991) in purchase studies of foodstuffs.

### Research Model and Hypotheses

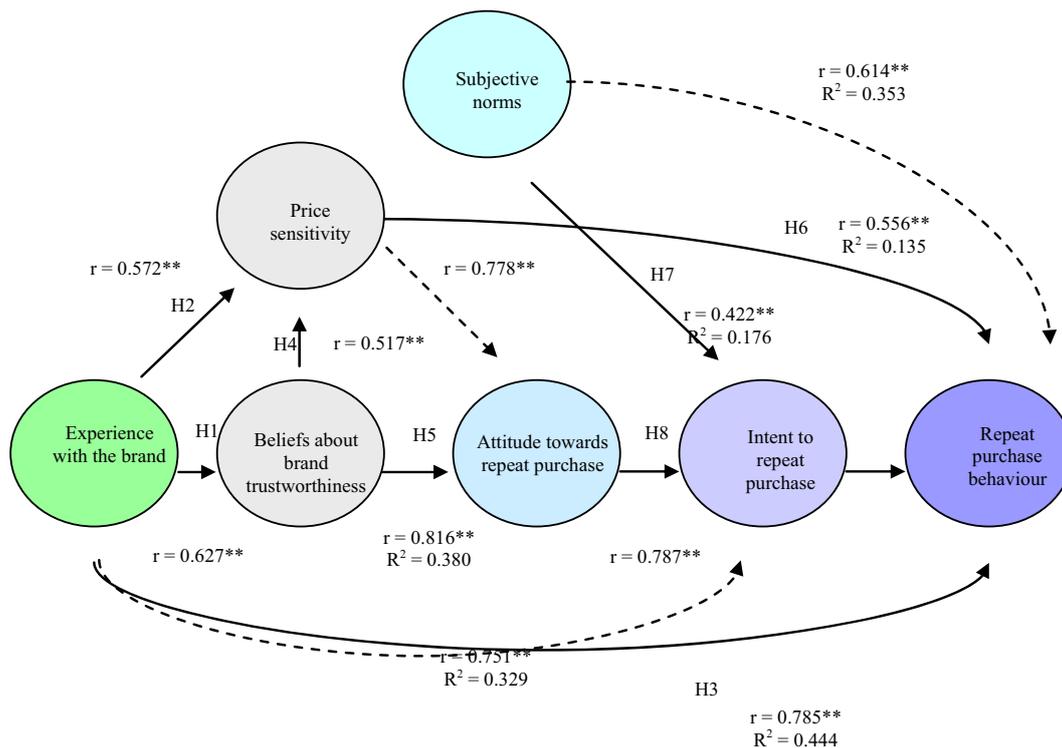


Fig. 6.1. Research model: with correlations and variances

All eight of the hypotheses were supported by the primary data. A strong relationship was found between respondents' attitude towards the importance of experience to purchase decisions and their beliefs in brand trustworthiness. Therefore importance of experience with an OTC was associated with beliefs about trustworthiness of the brand (H1), supporting research by Hoch (2002), who advocates that experience is an important determinant of consumers' beliefs, and research by Rempel *et al.* (1985), Ravald and Gronroos (1996) and Curran *et al.* (1998) who state experience affects trustworthiness beliefs. Our findings in the OTC market agree with Schurr and Ozanne (1985, p. 940) who state that 'experience... is a basis for a buyer's beliefs about a seller's trustworthiness'. In fact 57 per cent of respondents said they would only trust an OTC brand after a good experience with the brand, and 65 per cent said they would pay more for a brand they had had a good experience with. Hence attitude towards the importance of experience, and attitude towards price strongly correlated, supporting the hypothesis that experience is associated with price sensitivity (H2), similar to price sensitivity in fast food restaurants and hair salons (Hsieh and Chang, 2004). In addition Anderson's (1996) empirical study of customer satisfaction and price tolerance, and Delgado-Ballester and Munuera-Aleman's (2001) research on customer commitment to nappy brands provide further support, since past involvement with the brand decreased price sensitivity. Zeithaml's (1988) perspective of increased experience leading to lower price tolerance is not supported in the OTC market on the basis of these findings. However differences between the responses of generic buyers and brand name buyers indicate abstract support for a link between experiential learning and higher price sensitivity (see 'additional findings' below). The relationship between experience and repeat purchase behaviour was also strong, supporting the hypothesis that experience with a brand of OTC significantly affects an individual's repeat purchase behaviour (H3). This finding is supported by literature within the broad context of purchase behaviour, such as Inman and Zeelenberg (2002), Ratchford (2001), and within specific contexts, such as the automotive industry in which Ewing (2000) found past experience was an important antecedent to future purchase behaviour. Furthermore, experience was the most important factor influencing repeat purchase behaviour of OTCs, supported by 61 per cent of respondents claiming they were loyal to the brands they had a good experience with. Therefore Akcura *et al.*'s (2001) assumption that experience is the best test of drug performance is supported, since respondents repurchase behaviour is most heavily influenced by past experience.

Trustworthiness beliefs strongly associated with attitude towards repeat purchasing behaviour supporting hypothesis 5, backing up research placing brand trust as a criterion of purchase decisions (Doney and Cannon, 1997) and purchase loyalty and attitudinal loyalty (Chaudhuri and Holbeck, 2001). Indeed trust appears to motivate repeat purchase of OTCs, consistent with the importance of trust in empirical investigations of loyalty within the retail clothing market (Agustin and Singh, 2005) and substantiating Delgado-Ballester and Munuera-Aleman's (2001) speculation that consumers are motivated to look for a trustworthy brand when the product class confers risk (in terms of safety and health). However, only 45 per cent of respondents agreed they had concerns about the potential side effects of OTCs, which according to Mintel (2004) is a primary concern, but 33 per cent of our sample disagreed. Conversely, MORI (2002) supports that people have a significant level of trust in the safety of medicines. Nevertheless brand trustworthiness emerged as the second most important independent factor of variance in attitude to repeat purchase, behind low price sensitivity. Since price sensitivity and trust are associated with a consumer's perception of value (Agustin and Singh, 2005), the findings support the view that value is the higher-order factor in this particular market place exchange (Sirdeshmukh, Singh and Sabol, 2002). Furthermore, trust was an important independent variable on actual repeat purchase behaviour, although this was not hypothesized.

Beliefs in brand trustworthiness were strongly associated with price sensitivity, in support of the work of Ravald and Gronroos (1996), and the findings of Sethuraman and Cole (1999), who investigated willingness to pay price premiums in twenty categories of branded non-durable grocery products. Their findings suggest that individuals believe certain brands to be trustworthier in terms of providing consistent quality, raising the consumer's price tolerance. Indeed 55 per cent of respondents claimed price was not important when purchasing an OTC they trust. Our findings also

support the hypothesis that low price sensitivity is associated with repeat purchase behaviour (H6), in collaboration with the importance of price tolerance to loyalty in service industries (Ruyters *et al.*, 1999). In view of support for hypotheses 5 and 6, a consumer's judgment of relational trust and value has strong effects on attitude towards loyalty in the OTC market, as found by Agustin and Singh (2005) in the retail clothing industry and non-business airline travel.

The survey suggests that opinions of health professionals are more important to the consumer than the opinions of friends and family when purchasing an OTC, indicated by 58% of respondents agreeing with item S1<sup>1</sup> and 84% agreeing with item S2<sup>2</sup>, substantiating research suggesting the importance of referent others to OTC consumer behaviour (Mintel, 2004; Nicholas Hall and Co., 2005), and supporting evidence that recommendation by doctors and pharmacists ranks higher than recommendation from friends and family (Mintel, 2004). However 24 per cent claimed they did not consider the opinions of others when purchasing an OTC. Still the subjective norm was found to be associated with intention to repurchase OTCs supporting hypothesis 7, but it only explained a small proportion of the variance. Nevertheless, this research finds support for the subjective norm in behaviour frameworks (Ajzen, 1991; Fishbein and Ajzen, 1975) and purchase behaviour models (Netemeyer *et al.*, 1993; Miniard *et al.*, 1994), and proves the importance of referent others to purchasing decisions in the pharmaceutical market. However regression analysis showed the subjective norm to explain greater variance in actual behaviour than behavioural intention, suggesting the subjective norm construct should feed into repurchase behaviour in the research model. This leads us to question whether an intention is formed as an intermediary between the subjective norm and actual behaviour. Bagozzi and Yi (1989) have shown that sometimes people do not formulate intentions, or do not form them completely because they haven't the opportunity or motivation. Therefore consumers may repurchase products that comply with the attitudes of referent others through force of habit.

Finally, attitudes towards repeat purchase showed strong association with intention to repeat purchase (H8). Thus our research supports the predictability of intentions from attitudes in conjunction with research by Miniard *et al.* (1982) by Ajzen and Driver (1992) and East (1993).

The findings suggest disparate beliefs and attitudes amongst the respondents who purchase generic versions of OTC products and purchasers of brand name products. On average generic buyers believed experience was less important to purchase decisions than brand name buyers. Moreover, generic buyers exhibited more sensitivity to price, consistent with the finding that consumers loyal to high quality-tier brands are less price-sensitive than consumers loyal to low quality-tier brands in a study of grocery products<sup>3</sup> by Sivakumar (1995). However this speculates that consumers believe quality differentials exist between brand name and generic OTC products (Sethuraman and Cole, 1999; Bellizi *et al.*, 1981; Cunningham *et al.*, 1982).

In addition, generic buyers placed less importance on brand trust and emerge as being less brand loyal in terms of their tendency to repeat purchase. This implies that 'loyalty'<sup>4</sup> to different quality-tiers moderates price sensitivity, and is a function of differences in beliefs in the importance of brand trust and brand experience. However East *et al.* (1995) suggest reverse causality whereby consumers who are more concerned about price in general, are typically less loyal, based on studies of the relationship between demographics and brand loyalty using non-durable products (toilet soap, toothpaste, cereal and washing-up liquid). Consumer confidence in generic brands, particularly supermarket own labels, is speculated to be similar to confidence in branded products, due to the relative maturity of the OTC market and increasingly well-known own label brands (Mintel, 2004; De Wulf *et al.*, 2005), therefore consumers who purchase generic products are more price sensitive than purchasers of brand name products as they are confident that generic brands will be as satisfactory as brand name products (Mintel, 2004).

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<sup>1</sup> Item S1 'The opinions of friends and family are important to me'.

<sup>2</sup> Item S2 'The opinions of health professionals are important to me'.

<sup>3</sup> The grocery products studied were crackers and ketchup.

<sup>4</sup> Here the word 'loyalty' is used in the loosest sense to describe favour of one type of product over another.

Further to these findings, older consumers were less price-sensitive with experienced and trusted products than younger consumers, consistent with older people having slightly more concern for side effects than younger consumers, in conjunction with a reluctance to self-treat (Intel, 2004). East *et al.* (1995) found a curvilinear relationship between age and brand loyalty with non-durables, however our results do not present such a consistent trend in the OTC category. However our results support that older people have a slightly higher tendency to repeat purchase than younger age groups (Day, 1969). Additionally household annual income did not reveal any significant difference among consumer attitudes and intentions, consistent with previous studies finding little or no correlations between income and repeat purchase (East *et al.*, 1995; Cunningham, 1956; Frank, 1967). Therefore our findings confirm that income has little effect on repurchase decisions in the OTC market.

## Conclusions

The findings reveal that experience with an OTC product is the primary factor determining actual repeat purchase of the pharmaceutical brand. The subjective norm is the secondary causal factor, whereby the subjective norm refers to the opinions and attitudes of friends, family and health professionals. Experience determines an individual's beliefs about the trustworthiness of the brand and establishes an individual's sensitivity to the price of the brand owing to experiential learning of the relational value of the product. Secondly, the more positive an individual's beliefs in the trustworthiness of a brand, the less sensitive the individual is to the price. Therefore in a situation of a price increase, the extra cost will be evaluated against the perceived risk of purchasing a less trusted brand. Thus trustworthiness beliefs help determine an individual's overall attitude toward repurchasing the brand. Thirdly, an individual's sensitivity to the price of the brand determines their attitude and intention to repeat purchase, described as 'the less price sensitive an individual is toward a brand, the more likely they are to repeat purchase the brand'. Furthermore, price sensitivity is the primary factor determining an individual's overall attitude towards repurchase, and overall intention to repurchase. Fourthly, the more positive an individual perceives the attitude of friends, family and health professionals towards an OTC brand, the greater their intention to purchase the product. Finally, overall attitude towards purchasing an OTC brand, which is informed by trustworthy beliefs, price sensitivity and experience, positively influences the individual's intention to repeat purchase.

## Managerial Implications

As price sensitivity was the primary determinant of attitude and intent to repeat purchase, the relational value of an OTC brand is of principal importance to marketing strategy. Brand managers and marketers should be motivated to develop further knowledge and understanding of consumer perceptions of value and quality in each OTC brand, since relational value is a function of weighing up the benefits against the costs (Agustin and Singh, 2005; Ambler, 1997). This does not mean that low priced products will have success; it indicates that OTC products that represent value for money will be repurchased. Furthermore in view of the importance of trust to repurchase behaviour, features of brand trust (such as product safety and credibility) add to the relational value of the brand (Ravald and Gronroos, 1996). Therefore since well-known brand names hold credibility, these trusted brands offer greater value to the consumer. Given that research informs us that shops own-label or generic brands are regarded as lower-quality tier products, price promotions will benefit high quality brand names comparatively more than generic products (Hoch, 1996), as generic buyers were found to be more price sensitive, and therefore may switch upwards to high quality brands if they are made cheaper (Sethuraman and Cole, 1999). However if quality is perceived as equivalent between generic and brand name products as has been shown with some grocery products, low priced generics may outperform branded products (Hoch and Banerji, 1993), leading to a loss in market share for big brands. Research into branded and generic products from other markets may thus aid understanding of competition in the pharmaceutical business. However, Gonul *et al.*'s (2001) examination of the buying system for pharmaceutical drugs proved to

be less simple than it is for grocery products, suggesting a need for further research into the reasons behind generic or brand name choice of OTC products.

A further promotional implication for brand managers is the importance of experience to repurchase. As experience is the primary determinant of actual repurchase behaviour, encouraging the consumer to experience the OTC products through free trial seems reasonable. However free trial of medication incites ethical, legal and safety concerns that warrant careful consideration and investigation.

### Limitations

This research has focused on the determining factors affecting attitudes and intention to repeat purchase a specific class of products. Although inferences from this research can be discussed with respect to other non-durable product classes, the research model is limited as to the type of market/product it may be applied to, as research in the pharmaceutical market may not correspond to other markets (Berndt et al., 1997; Rundle-Thiele and Bennett, 2001; Palumbo and Herbig, 2000). Secondly this research relies heavily on the theory of planned behaviour as a highly regarded framework for studying attitudes in respect to future behaviour. Despite extensive effort to ensure the validity and reliability of the findings, some readers may be concerned with the predictability of behaviour from attitude and intention. Thirdly, this research was conducted solely in the UK where respondents were recruited from the three areas Wakefield, Wetherby and Leeds in West Yorkshire. Therefore the composition of the sample may not be analogous to the wider OTC consumer population due to the selective regions used in the sampling technique.

### Recommendations

As the creation and maintenance of brands are becoming more important in today's highly competitive environment (Seetharaman et al., 2001), further research should lean towards investigating the differences in beliefs and attitudes of consumers characteristically 'loyal' to brand name products, in comparison with those who purchase generic products. Own-label brands have only recently been theoretically and empirically researched (Ailwadi, 2001; De Wulf, 2005), with past research fixed on national brands (Steenkamp and Dekimpe, 1997), therefore empirical research examining differences in generic and brand name consumer buying patterns will be valuable to the current knowledge pool. Further research into the OTC market sector should endeavour to consider the vast range of products within the market, since this research primarily covered the purchase of analgesics. The use of a quota within the survey would allow a wider range of OTC products to be included in future research. Furthermore covering a larger geographical area will give a more representative sample of the larger OTC consumer population.

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