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Application of Theory of Planned Behaviour in Purchasing Intention and Consumption of Halal Food

ABSTRACT

Purpose: Food businesses provide halal food to cater to the dietary requirements of Muslims, especially in communities with a growing number of the ethnic minority and at public institutions such as higher education establishments. A large and growing body of literature has investigated the purchasing and consumption behaviour of halal food there are also studies that revealed consumers do not support halal food products on the grounds of animal welfare where animals were slaughtered without stunning.

Purpose: Thus the aim of this study was to examine the predictors of purchasing intention of halal food products and perceptions of animal welfare among Muslims and non-Muslim consumers of a public higher education institution.

Methodology: An online questionnaire collected information on sociodemographic profiles and importance of halal food. Descriptive statistics were used to determine the frequency of distribution of all sociodemographic characteristics. Multiple regression analyses were used to describe the Theory of Planned Behaviour (TPB) relationship and purchasing intention.

Findings: The regression model for all the respondents explained about 73% of the variance of the intent to purchase halal foods where $R^2 = 0.724$, (Adjusted $R^2 = 0.72$). This was significantly different from zero $F(3, 185) = 162.130$, $p < 0.001$. Both Muslim and non-Muslim consumers' attitudes were significant predictors of their purchasing intention of halal foods ($\beta = 0.87$, $p < 0.001$). The implications of subjective norms and perceived behavioural control and the lack of influence from these predictors are discussed.

Originality: This study revealed that both Muslim and non-Muslim consumers agreed on the importance of animal welfare, but there exist differences in perceptions of animal welfare in halal meat production. This research is of value to those working in ~~the~~ regulatory and food service settings in understanding the differences and needs of consumers and ~~it~~ contributes to a better understanding of the customers within a university setting.

Keywords: acceptance; animal welfare; attitudes; consumers; halal meat

Introduction

The main consumers of Halal foods are Muslims since halal food is designed to meet the Islamic dietary requirement. As migrations have brought Muslims to Western countries, their dietary requirements have also influenced the meat trade networks, food supply chain and menus in food catering services. This was evident in Italy where the public education system now caters to the Muslim population (Giovine, 2013). At times, traditional food rules may limit Muslim consumers' food options within Western countries, where any sort of food is potentially available on a supermarket shelf (Giovine, 2013). Halal food production is no longer a regional practice but an international requirement to cater to the Islamic dietary sector (Stephenson, 2014). A number of UK public education institutions cater to students' special dietary needs such as vegetarian, vegan, gluten free, kosher and halal (UCAS, 2016). In fact, the availability of halal food on campus can be a determining factor in enhancing Muslim students' course experiences (Asmar, 2006; Gilby et al., 2011). The Federation of Student Islamic Societies says there are over 300,000 Muslim students in higher education in the UK (FOSIS, 2016). The university setting also provides students with new experiences and transition to independence (Lewis et al., 2015). The eating environment and food environment will be different as consumers within a university setting are exposed to different social interactions, choices of food, cafes / refectories and situational factors (Meiselman, 2006).

The Theory of Planned Behaviour (TPB) (Ajzen, 1985) identifies the influences that predict and change behaviours. ~~where~~ Behavioural intention is influenced by: a person's attitudes; beliefs about whether individuals who are important to the person approve or disapprove of the behaviour; and perceived control over performing the behaviour. Attitude refers to the degree of favourable or unfavourable evaluation towards a behaviour and captures attribute dimensions such as important – not important, harmful – beneficial and pleasant – unpleasant (Ajzen, 2001). Subjective norms refers to the perceived social pressure to comply with expectations while perceived behavioural control (PBC) is the feeling of being in control or the confidence in performing a behaviour (Syed and Nazura, 2011). Generally speaking, the more positive the attitude, the higher the social expectations and control an individual feels about performing a behaviour, the more likely it is that the individual will do so (Ajzen, 1985).

Within a halal food environment, TPB has been used by Nazahah and Sutina (2012) to measure consumers' intention to purchase, consume and accept halal food products. Previous studies ~~Meanwhile, Aziz and Vui (2012)~~ reported that non-Muslims' purchasing intentions of halal food products were affected by halal awareness and certification (Aziz and Vui, 2012), attitude, subjective norm and perceived behavioural control (Haque et al., 2015) and whilst Mathew, Amir, and Mohamad (2014) reported positive attitudes and acceptance of halal food ~~-(Mathew Amir, and Mohamad, 2014) among non-Muslim consumers. Similarly,~~

[Ali et al. \(2015\) reported that positive attitude, personal conviction and perceived control predict the intention to consume halal meat among international Muslim students in China.](#)

Ahmed (2008) explored the marketing issues and consumers buying behaviour of halal meat in UK; however, there are limited studies that focus on investigating consumers' purchasing and consumption behaviour of halal food products in the UK – particularly within a higher education institution and ready-to-eat setting. There are also studies that revealed consumers do not support halal food products on the grounds of animal welfare where animals were slaughtered without stunning (Fuseini et al., 2016; Gibson et al., 2009; Gregory, 2005). [Whilst TPB has been criticised due to lack of experimental studies \(Sniehotta et al. 2014\), its usefulness is underlined by the ability to consider roles of additional variables and it remains a widely accepted theory in predictive behaviour studies.](#)

Thus this paper aims to examine the relationship between consumers and their purchasing intention of halal foods and perceptions of animal welfare within a university setting where halal foods are routinely available.

Methodology

An online survey was conducted among students and staff from a higher education institution. The online questionnaire was developed using SurveyMonkey® after reviewing current literature (Ambali and Bakar, 2014; Mathew et al., 2014; Tieman and Che Ghazali, 2014) and discussion about existing food provision and labelling with the catering and hospitality department. A 32 item questionnaire was developed and consisted of sections: i) demographics; (iii) halal status of food products; (iii) purchasing intention of halal foods; and (iv) halal certification and good (Halal) catering practices. The TPB items in section (iii) assessed participants' purchasing intention and were divided into attitudes, subjective norms and perceived behavioural control. A pilot test was carried out among students and staff (n=12) who provided recommendations to add and rephrase some questions. This helped to maximise clarity and correct interpretation of questions.

Statistical analysis

Descriptive statistics were used to determine the frequency of distribution of all sociodemographic characteristics. The internal consistency of the questionnaire was evaluated using Cronbach's alpha. Using the TPB as a guide, the authors hypothesised that positive attitudes towards halal, strong subjective norms and greater perceived control will result in stronger purchasing intention of halal products. To test the hypothesis, a multiple regression [based on direct attitudes, subjective norms and perceived behavioural control](#) was used to predict the intent to purchase halal food. In order to determine the independent

contribution of religion, further multiple regression was conducted on Muslim and non-Muslim groups. [Significance level is set at \$p < 0.05\$.](#)

Results and Discussion

The estimated response rate was 0.88%. 296 participants responded to the survey from an estimated potential pool of students ($n=31,000$ [excluding off-campus students]) and staff ($n= 2635$). A good balance between staff (49%) and students (51%) responded to the survey. More women (70.3%) than men (29.7%) completed the survey (Table 1). There were more non-Muslims (75.6%) compared to Muslims (18.2%) and 82% live on or nearby the campus (less than 1 hour commute).

Insert Table 1

The Muslim consumers strongly agreed that they understood the concept of halal and the halal status of food products will influence their purchases (Table 2). A lower mean score was received for feeling secure in eating halal foods in the campus. A study conducted by Ahmed (2008) who looked at consumers' buying behaviour revealed that respondents preferred to purchase halal meat from their local butchers instead of supermarkets as the language spoken made them more comfortable and they feel that they are buying from their own people who they can trust. Most Muslim consumers in this study preferred to consume non-stunned halal meats and this is supported by a high negative correlation between consumption of stunned or non-stunned meats ($r= -0.75$). Previous surveys carried out by the Halal Monitoring Committee (HMC), a certifier of non-stunned meat reported that 90% of 282 Islamic scholars in the UK rejected electric stunning of poultry, 85% rejected electrical stunning of larger animals whilst 9% requested that more research to be carried out in this area (HMC, 2009). However, in another recent survey in the UK, more than 95% of 66 Islamic scholars and 53% ($n=314$) Muslim consumers agreed that reversible stunning is halal compliant (Fuseini et al., 2017). The results regarding acceptance of reversible stunning and non-stunning are also highly dependent on the different Islamic schools of thought. Different groups of Muslims require different halal criteria on some ingredients and the slaughter method (van der Spiegel et al., 2012). [It is possible that the position of the local Lancashire Council of Mosques may have influenced the preference for non-stunned meats in this study \(LCM, 2017\).](#)

Insert Table 2 here

There was a positive and moderate correlation in quality being more important than price [for the Muslim group](#) and halal food being safe ($r=0.52$) and healthy ($r=0.47$). There was a slightly low but significant correlation between cleanliness, safety and quality of halal food with feeling secured in eating halal food on campus ($r=0.37$). This provides support to previous findings in Belgium, where researchers argued that hygiene, taste and freshness are perceived as the most important halal meat attributes (Verbeke et al., 2013). Similarly, in the UK, consumers placed more importance on the authenticity and quality of halal meat compared to price (Ahmed, 2008).

Among the non-Muslim group, most indicated that they understood the concept of halal and the majority neither agreed nor disagreed that halal food is safe to consume. This finding contradicts Mathew et al. (2014) who reported that the main reason non-Muslim consumers accepted halal food was concern over food safety. The rest of the scores were all ranked below 3.00 reflecting disagreement regarding the halal status of food products. Most preferred not to eat halal foods especially non-stunned halal meats. Moderately high correlation exists between feelings of security and cleanliness of halal food ($r=0.63$) and halal food is safe for consumption ($r=0.65$) (Table 2). Rezai et al. (2012a) suggested that socio-environmental factors such as mixing with Muslims socially and the presence of halal labelled food contributes to non-Muslims' understanding of halal concept. It is not possible to determine if these factors had an impact in this study; however users of the university catering services come from mixed and multicultural backgrounds as reflected in the staff and student profile of the University.

Insert Table 3 here

For obvious reasons, Muslim consumers scored very high mean scores across all areas of purchasing, understanding and having access to wide selection of halal foods off campus. The impact of religion on food choices and purchasing intention depends on the religion itself and the level of religiosity of the individuals (Mohani et al., 2009). Understanding of halal labels are crucial to Muslims as is purchasing foods with halal logo. The correct labelling on halal food is essential as certain labels can be misleading or mislabelled as halal (Doosti, Ghasemi, & Rahimi, 2011; Trenwith, 2013). This is in line with Verbeke (2000) who proposed that reliable and effective communication can establish trust and confidence among consumers.

On the other hand, the non-Muslim consumers (most of whom do not eat halal foods) disagreed or were undecided regarding the purchasing and availability of halal foods on or off campus. The majority of the non-Muslim consumers also chose not to buy halal foods in

the future. Positive and high correlations were identified between strong religious beliefs and understanding of halal labels and certification ($r = 0.79$, $p < 0.0001$) and between understanding the labels and purchasing of foods with halal logo ($r = 0.71$, $p < 0.0001$).

There ~~is~~are also ~~a~~-very high and positive correlations between disagreeing in buying foods labelled with halal logo and disagreeing with purchasing halal food in future ($r=0.82$, $p<0.0001$) (Table 3).

Insert Table 4 here

All animal welfare and good catering practices' items scored high agreements among the Muslim consumers. Bonne and Verbeke (2008) also emphasise where animal welfare has been identified as a halal control point to ensure animals are treated humanely. Among Muslim consumers, there exist significant correlations between the importance of animal welfare during halal slaughter and purchasing halal raw materials and ingredients ($r=0.64$). Animal welfare during religious slaughter also correlates with the importance of animal welfare in all meat products ($r=0.66$). Good Halal Catering Practices also showed high correlations in good handling practices such as segregation of halal foods and using different sets of utensils ($r=0.74$) and cleaning of utensils and equipment ($r=0.79$, $p<0.0001$) (Table 4). Good Halal Catering Practices are crucial to Muslims as many are concerned whether the food is genuinely halal (Battour, Ismail, & Battor, 2010), especially in terms of the utensils and equipment used, which should be uncontaminated by pork and alcohol (Dugan, 1994). However, not all Muslim consumers felt uncomfortable whilst purchasing halal food products from vendors which also sell non-halal products such as pork-based products or alcoholic drinks (Bonne and Verbeke, 2008).

Animal welfare being important for all meat products and cleaning of utensils and equipment should be carried out according to prevailing hygiene and safety standards received the highest mean scores among Non-Muslim consumers (Table 4). Most disagree that animal welfare was taken into consideration in halal slaughter methods and, perhaps unsurprisingly, place less importance on purchasing of halal raw material and featuring halal status of food products e.g. in front of food counters or shelves. Religious slaughter remains a controversial animal welfare issue as concerns focus on the stress of animals being slaughtered without stunning (Anil, 2012; Farouk et al., 2013; Nakyinsige et al., 2013). The public places important considerations on animal welfare as they feel that they have obligations to the animals they use (Broom et al., 2016). Animal welfare is a multi-dimensional concept and includes, amongst other factors, animal health, ability to express certain behaviours, absence of pain, and absence of stress (Miele et al., 2011). Projects

such as DIALREL (2010) and Welfare Quality® (2005) provided platforms for dialogues and debates and proposed practical measures to integrate animal welfare in the food supply chain. However, the situation remains that pre-slaughter stunning of animals, often considered a positive indicator of animal welfare considerations, is only accepted by some Islamic Schools of Thought and, therefore, is required in some halal certification schemes but not others (Fuseini et al., 2017). This dichotomy means that ingredients being purchased for their animal welfare and halal credentials to meet the needs of broad consumer groups might result in food products that are not considered halal by some Islamic scholars, which in turn might impact consumer perception about availability of halal foods.

The usage of halal raw materials and preparation of halal foods in a halal kitchen area ($r=0.69$), using different sets of utensils and equipment ($r=0.66$) and segregation of halal foods ($r=0.68$) show moderately high correlations. Similar to Muslim group, the non-Muslim consumers also showed high correlations in using designated kitchen for preparation of halal food and segregation of halal foods ($r=0.80$) and using different sets of utensils ($r=0.89$). However, the mean scorings showed the non-Muslim group neither agrees nor disagree regarding the segregation and utilisation of different sets of utensils.

Multiple linear regression was performed to evaluate the TPB model for purchasing intention behaviour. Cronbach alpha scores for attitudes (0.86) and subjective norms (0.71) were satisfactory demonstrating consistency between subjects when answering the questions, although the Cronbach's alpha for perceived behavioural control is low (0.35). The Intraclass Correlation Coefficient (ICC) values range between 0 and 1, with values above 0.8 considered excellent reliability, 0.6 – 0.8 good, 0.4 – 0.6 moderate, and less than 0.4 as low reliability (Landis and Koch 1977). The regression model for all the respondents explained about 73% of the variance of the intent to purchase halal foods where $R^2 = 0.724$, (Adjusted $R^2 = 0.72$). This was significantly different from zero $F(3, 185) = 162.130$, $p < 0.001$. However, only one predictor (attitude) contributed significantly to the prediction of purchasing intention of halal food products (Figure 1). This suggests that participants with positive attitudes towards halal food products were more likely to purchase them.

Insert Figure 1 here

Furthermore, attitude, subjective norms and perceived behavioural control were regressed against intention according to religion, both the Muslim and non-Muslim consumers' attitudes are significant predictors in purchasing of halal foods (Table 5). Muslim consumers score a very high mean in attitude reflecting the importance placed on purchasing halal food. The Islamic religion clearly dictates the importance of halal diet which in turn becomes an important factor in performing a behaviour. This supports a number of previous studies who

found that positive or favourable attitudes resulted in higher likelihood of purchasing intention (Bonne et al., 2007; Syed and Nazura, 2011). However, the mean scoring for non-Muslim group was low suggesting, perhaps unsurprisingly, that non-Muslims' attitudes do not place importance on halal food purchase. It would be important [in future](#) to study other attitudes or factors and identify which, if any, are positive.

Insert Table 5 here

There were negative but insignificant relationships between subjective norms in purchasing of halal foods. Previous studies revealed that influence of peers (Bonne et al. 2007; Mathew et al., 2014; Syed and Nazura, 2011) was a significant predictor of purchasing or consuming intention of halal food. Subjective norms were related to compliance with social expectations and feeling of pressure (e.g. from family/colleagues/lecturers). There is a possibility that a reduction in social norms and pressure will improve the purchasing intention of halal food. According to Jamal (2003), the majority of British Muslims – particularly the first generation tend to conform to cultural traditions and expectations, whilst the young British Muslims (second and third generations) experience a clash of cultures both at home and outside where some will assimilate or integrate and a minority may separate or marginalise themselves (Ansari, 2002; Jamal and Shukor, 2014). This study, set in a multicultural university campus, did not discriminate between British and non-British Muslims so there is no data to support such a possible reduction in social norms. Subjective norms' intentions can be experienced as pressure or coercion and may have poorer motivational impact (Sheeran, Norman, & Orbell, 1999).

The perceived feeling of being in control due to the environment e.g. availability of halal food in campus and ease of differentiation of halal foods did not influence the purchasing behaviour of halal food among Muslim and non-Muslim consumers. The Muslim group disagreed (2.49 ± 1.24) while non-Muslims were unsure (2.99 ± 0.81) that they have access to a wide selection of halal products (Table 3). This is in contrast to the views of catering services management who believed that a selection of halal foods ~~we~~are available. If there is high intention or motivation to purchase halal food products by the Muslim group but lack of availability, this will reduce the buying desire (Vermeir and Verbeke, 2004). This is in contrast with previous studies that found significant and positive relationship between perceived control and purchasing behaviour (Bonne et al., 2007; Mukhtar and Butt, 2012). However, this finding is consistent with another non-halal related study ~~who~~[that](#) found that perceived control is not a significant predictor in consumption of ready meals (Mahon, Cowan, & McCarthy, 2006). This chimes with behaviour in this catering setting where prepared meals are offered for purchase. Consumers with a high level of self-confidence

when making a purchasing decision are less influenced by perceived control. It is proposed that a self-efficacy measurement be included to increase predictability in future studies (Mahon et al., 2006; Povey et al., 2000).

The regression model for Muslims explained about 58% of the variance of the intent to purchase halal foods where $R^2 = 0.58$, (Adjusted $R^2 = 0.54$) while in the non-Muslim group, the model explains 34% of the variance where $R^2 = 0.34$, (Adjusted $R^2 = 0.22$). Both models were significantly different from zero where $F(3, 31) = 14.16$ for the Muslim and $F(3, 141) = 23.84$ for non-Muslim consumers. Additional predictors must be sought as more than 60% of the variance in purchasing intention among non-Muslims remains unexplained. Other studies revealed increased halal awareness (Aziz and Vui, 2012; Nor Sara et al., 2014), halal certification (Aziz and Vui, 2012), marketing promotion and branding (Aziz and Vui, 2012) and knowledge about product ingredients (Mohani et al., 2009; Nor Sara et al., 2014) positively influenced consumers to purchase halal food products. Meanwhile, food products without a locally recognised halal logo, food products from non-Muslim countries, unfamiliar brands and lack of information on ingredients resulted in consumers being less confident with the food products (Rezai et al., 2012b). [A recent review by Talib et al. \(2016\) captured the essence of how a highly institutionalised halal industry \(i.e. strong government support, consumer demand and industry competition\) encourages the implementation of halal food certification which could lead to positive acceptance among Muslim consumers.](#)

Limitations and future research

The results of this study cannot be generalised due to the small sample size. It also represents a snapshot of a UK institute of higher education. Gender-related differences i.e. male being more likely to eat off campus and religion-related differences i.e. Muslims and non-Muslims should be interpreted with caution as the distribution of male and female (Orfanos et al., 2009) and Muslims and non-Muslims are unequal. King and Crowther (2004) recognised that religiosity is sensitive and private in nature, thus studies exploring consumers' beliefs may be subjected to reduced validity and reliability. The internal consistency particularly for PBC is low and can be improved by increasing the number of questions and ensure high inter-relatedness between items (Tavakol and Dennick, 2011). [Although there are possible limitations of TPB \(Sniehotta et al. 2014\), the extended TPB and potential roles for variables allow researchers to work within a broader framework and to account for more variance in behaviour \(Ajzen, 2015; Armitage, 2014\). For example, in addition to the three main antecedents or predictors, other factors that influence consumers purchasing behaviour of halal food should be explored. It is possible that other factors would reflect different results i.e. culture, nationality and ethnicity \(Said et al., 2014\), trust and values \(Bonne et al., 2007\) and confidence towards halal food products \(Said et al., 2014\).](#)

The study ~~can~~could be improved by increasing the sample size and including participants from other universities or by being expanded to other regions. It also reveals that the consumers have different perceptions of animal welfare and this is an area that should be explored further.

Conclusion

In order to increase the sales of halal food products on campus, the amount, variety and visibility of halal food could be increased at selected cafeterias and refectories. The campus adheres to strict good hygiene and halal practices and this can be an effective strategy in marketing of halal food to Muslim consumers. This study supports previous findings that attitude is a significant factor in influencing purchasing intention of halal food. Although both Muslim and non-Muslim consumers agreed on the importance of animal welfare, there exist differences in perceptions of animal welfare in halal meat production. Differences also exist between both groups particularly in their attitudes and choices towards halal food. This is an area that warrants further investigation into consumers' food choices and beliefs towards halal food. Future studies should be carried out to understand the differences and to raise awareness among consumers on the integration of animal welfare in the food supply chain. This study emphasises the needs ~~for~~of both types of consumers and contributes to a better understanding of the customers within a university setting.

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536 Table 1 Sociodemographic characteristics and campus eating patterns of survey
537 respondents

Demographic profiles	Number of respondents (%)
N = 296	
Staff	127 (42.9)
Student	151 (51.0)
Staff and student	18 (6.1)
Male	88 (29.7)
Female	208 (70.3)
Age (295)	
18-25 yrs	101 (34.2)
26 -35 yrs	69 (23.4)
36 – 45 yrs	50 (16.9)
46 – 55yrs	49 (16.6)
56yrs and above	26 (8.8)
Education (293)	
Secondary Education	23 (7.8)
HNC or Foundation Degree	18 (6.1)
Degree	162 (55.3)
Masters	61 (20.8)
Doctorate	29 (9.9)
Religion (295)	
No religion	117 (39.7)
Buddhist	1 (0.3)
Christian (all denominations)	94 (31.9)
Hindu	4 (1.4)
Jewish	0
Muslim	54 (18.3)
Sikh	2 (0.7)
I prefer not to indicate	18 (6.1)
Any other religion (please describe)	5 (1.7)
Eat on campus (243)	
Yes	203 (83.5)
No	40 (16.5)

538 [Results are presented as number of respondents \(%\). A total of 296 participants responded to the survey. A good](#)
539 [balance between staff \(49%\) and students \(51%\) and more non-Muslims \(75.6%\) compared to Muslims \(18.2%\)](#)
540 [completed the survey.](#)

549

550 Table 2 Halal status understanding and purchasing/consumption of food products

No	Items	Muslims (n=42)		Non-Muslims (n=167)	
		Mean	SD	Mean	SD
1	I understand the concept of Halal	4.93	0.26	3.85	1.01
2	The Halal status of food influences where I purchase my meals	4.79	0.72	2.85	1.57
3	Halal is concerned about cleanliness, safety and quality	*4.55	0.89	**2.49	1.07
4	I feel secure eating Halal food on campus	*3.71	1.38	**2.53	1.06
5	I feel that Halal food is safe to consume	**4.67	0.82	**3.00	1.19
6	The quality of Halal food is more important than price	**4.64	0.69	2.60	0.98
7	Halal food is healthy food	**3.90	1.10	2.50	**0.92
8	I prefer to eat Halal food products	4.76	0.69	1.66	1.02
9	I prefer to eat Halal meats that have been stunned	**2.26	1.34	2.78	1.29
10	I prefer to eat non-stunned Halal meats	**4.05	1.23	2.08	1.09

Results are presented as mean \pm sd. Items are measured on a 5-point scale ranging from 1 strongly disagree (1) to strongly agree (5) using descriptive statistics and correlations (**correlations at $p < 0.0001$; * $p < 0.05$). 18 respondents who preferred not to indicate their religion were omitted from statistical analyses. The Muslim consumers strongly agreed that they understood the concept of halal and the halal status of food products will influence their purchases. Among the non-Muslim group, most indicated that they understood the concept of halal and the majority neither agreed nor disagreed that halal food is safe to consume. The rest of the scores were all ranked below 3.00 reflecting disagreement regarding the halal status of food products. Most non-Muslims preferred not to eat halal foods especially non-stunned halal meats.

Table 3 Purchasing of halal foods

No	Items	Muslims (n=35)		Non-Muslims (n=140)	
		Mean	SD	Mean	SD
1	My religious beliefs influence my purchasing intention	*4.91	0.28	1.99	1.22
2	Eating non-Halal foods are products are forbidden in Islam	4.63	0.97	3.12	0.92
3	Understanding of Halal labels and certification influence my purchasing intention	*4.69	0.80	2.71	1.35
4	I will purchase foods labelled with Halal logo	*4.49	1.01	*2.04	1.19
5	I have access to a wide selection of Halal food on campus	2.49	1.24	2.99	0.81
6	I have access to a wide selection of Halal food off campus	4.20	0.99	3.12	0.93
7	I will choose to buy Halal food on campus in future	4.20	1.05	*1.75	1.01

Results are presented as mean \pm sd. Items are measured on a 5-point scale ranging from 1 strongly disagree (1) to strongly agree (5) using descriptive statistics and correlations (*correlations at $p < 0.0001$). 18 responses which preferred not to indicate their religion were omitted from statistical analyses. Muslim consumers scored very high mean scores across all areas of purchasing, understanding and having access to wide selection of halal foods off campus. Positive and high correlations were identified between strong religious beliefs and understanding of halal labels and certification ($r = 0.79$, $p < 0.0001$) and between understanding the labels and purchasing of foods with halal logo ($r = 0.71$, $p < 0.0001$).

Table 4 Good catering practices of halal foods

No.	Items	Muslims (n=29)		Non-Muslims (n=122)	
		Mean	SD	Mean	SD
1	Animal Welfare is important in Halal slaughter methods	*4.27	1.13	2.83	0.59
2	It is important that the university purchases Halal raw materials and ingredients	*4.48	0.95	2.28	1.27
3	Animal welfare is important for all meat products	*4.34	0.97	4.49	0.91
4	Halal raw materials and ingredients should have a dedicated storage area or racks	4.76	0.58	*3.33	1.33
5	Halal foods sold on campus should be prepared in a designated Halal kitchen area	4.52	0.69	*2.95	1.33
6	Halal foods sold on campus should be prepared using different sets of utensils and equipment from non-Halal foods	*4.86	0.44	*3.04	1.35
7	Halal foods sold on campus should be segregated (e.g. using different utensils/shelves)	*4.66	0.72	*3.04	1.33
8	Cleaning of utensils and equipment should be according to prevailing hygiene and safety standards	*4.90	0.31	4.56	0.81
9	I would like the university to feature the Halal status of food in more prominent areas (e.g. in front of food counters/shelves)	4.55	0.83	2.87	1.40
10	I feel uncomfortable buying Halal certified foods from a shop/cafe which also sells non-Halal food(e.g. pork-origin meals/meat not slaughtered to Halal method/alcoholic drinks)	3.59	1.32	2.40	1.21

Results are presented as mean \pm sd. Items are measured on a 5-point scale ranging from 1 strongly disagree (1) to strongly agree (5) using descriptive statistics and correlations (*correlations at $p < 0.0001$). 18 responses which preferred not to indicate their religion were omitted statistical analyses. Animal welfare scored high agreement among the Muslim consumers with significant correlations between the importance of animal welfare during halal slaughter and purchasing of halal raw materials and ingredients ($r=0.64$). Non-Muslim consumers mostly disagree that animal welfare was taken into consideration in halal slaughter methods.

Table 5 Purchasing intention of halal products among Muslims and non-Muslim consumers

TPB components	Muslims (n=35)			Non-Muslims (n=145)		
	Mean	SD	β	Mean	SD	β
Attitude	4.51	0.94	**0.81	1.88	0.90	0.55*
Subjective norms	2.80	0.95	-0.02	1.43	0.72	0.02
Perceived behavioural control	2.93	1.00	-0.11	2.98	0.69	-0.04

Intention	4.40	1.03	1.50	0.84
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Results are presented as mean \pm sd. Items are measured on a 5-point scale ranging from 1 strongly disagree (1) to strongly agree (5) using descriptive statistics and multiple regression (* $p < 0.05$ and ** $p < 0.0001$). 10 participants that preferred not to indicate their religion were omitted from the model. Both the Muslim and non-Muslim consumers' attitudes are significant predictors in purchasing of halal foods.

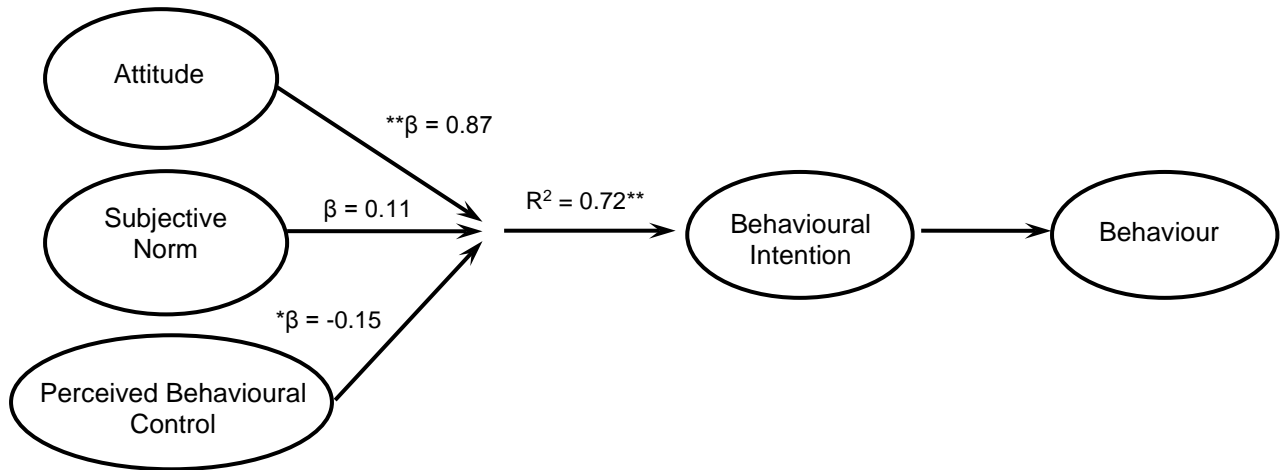


Figure 1. Theory of Planned Behaviour model for purchasing intention of halal food products (* $p < 0.05$; ** $p < 0.001$) ($n=190$). Using multiple regression, the model explained about 73% of the variance of the intent to purchase halal foods where $R^2 = 0.724$, (Adjusted $R^2 = 0.72$). This was significantly different from zero $F(3, 185) = 162.130$, $p < 0.001$. However, only one predictor (attitude) contributed significantly to the prediction of purchasing intention of halal food products ($\beta=0.87$, $p < 0.001$).