

1 Application of Theory of Planned Behaviour in Purchasing Intention and Consumption 2 of Halal Food

3 4 ABSTRACT

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

11
12 **Purpose:** Thus the aim of this study was to examine the predictors of purchasing intention of
13 halal food products and perceptions of animal welfare among Muslims and non-Muslim
14 consumers of a public higher education institution.

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

20
21 **Findings:** The regression model for all the respondents explained about 73% of the variance
22 of the intent to purchase halal foods where $R^2 = 0.724$, (Adjusted $R^2 = 0.72$). This was
23 significantly different from zero $F(3, 185) = 162.130$, $p < 0.001$. Both Muslim and non-Muslim
24 consumers' attitudes were significant predictors of their purchasing intention of halal foods (β
25 $= 0.87$, $p < 0.001$). The implications of subjective norms and perceived behavioural control
26 and the lack of influence from these predictors are discussed.

27
28 **Originality:** This study revealed that both Muslim and non-Muslim consumers agreed on the
29 importance of animal welfare, but there exist differences in perceptions of animal welfare in
30 halal meat production. This research is of value to those working in ~~the~~ regulatory and food
31 service settings in understanding the differences and needs of consumers and it contributes
32 to a better understanding of the customers within a university setting.

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34
35 **Keywords:** acceptance; animal welfare; attitudes; consumers; halal meat

36
37 **Introduction**

38 The main consumers of Halal foods are Muslims since halal food is designed to meet the
39 Islamic dietary requirement. As migrations have brought Muslims to Western countries, their
40 dietary requirements have also influenced the meat trade networks, food supply chain and
41 menus in food catering services. This was evident in Italy where the public education system
42 now caters to the Muslim population (Giovine, 2013). At times, traditional food rules may limit
43 Muslim consumers' food options within Western countries, where any sort of food is
44 potentially available on a supermarket shelf (Giovine, 2013). Halal food production is no
45 longer a regional practice but an international requirement to cater to the Islamic dietary
46 sector (Stephenson, 2014). A number of UK public education institutions cater to students'
47 special dietary needs such as vegetarian, vegan, gluten free, kosher and halal (UCAS,
48 2016). In fact, the availability of halal food on campus can be a determining factor in
49 enhancing Muslim students' course experiences (Asmar, 2006; Gilby et al., 2011). The
50 Federation of Student Islamic Societies says there are over 300,000 Muslim students in
51 higher education in the UK (FOSIS, 2016). The university setting also provides students with
52 new experiences and transition to independence (Lewis et al., 2015). The eating
53 environment and food environment will be different as consumers within a university setting
54 are exposed to different social interactions, choices of food, cafes / refectories and
55 situational factors (Meiselman, 2006).

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

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

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

77 Ahmed (2008) explored the marketing issues and consumers buying behaviour of halal meat
78 in UK; however, there are limited studies that focus on investigating consumers' purchasing
79 and consumption behaviour of halal food products in the UK – particularly within a higher
80 education institution and ready-to-eat setting. There are also studies that revealed
81 consumers do not support halal food products on the grounds of animal welfare where
82 animals were slaughtered without stunning (Fuseini et al., 2016; Gibson et al., 2009;
83 Gregory, 2005). [Whilst TPB has been criticised due to lack of experimental studies](#)
84 [\(Sniehoff et al. 2014\), its usefulness is underlined by the ability to consider roles of](#)
85 [additional variables and it remains a widely accepted theory in predictive behaviour studies.](#)
86 Thus this paper aims to examine the relationship between consumers and their purchasing
87 intention of halal foods and perceptions of animal welfare within a university setting where
88 halal foods are routinely available.

90 **Methodology**

91 An online survey was conducted among students and staff from a higher education
92 institution. The online questionnaire was developed using SurveyMonkey® after reviewing
93 current literature (Ambali and Bakar, 2014; Mathew et al., 2014; Tieman and Che Ghazali,
94 2014) and discussion about existing food provision and labelling with the catering and
95 hospitality department. A 32 item questionnaire was developed and consisted of sections: i)
96 demographics; (ii) halal status of food products; (iii) purchasing intention of halal foods; and
97 (iv) halal certification and good (Halal) catering practices. The TPB items in section (iii)
98 assessed participants' purchasing intention and were divided into attitudes, subjective norms
99 and perceived behavioural control. A pilot test was carried out among students and staff
100 (n=12) who provided recommendations to add and rephrase some questions. This helped to
101 maximise clarity and correct interpretation of questions.

103 **Statistical analysis**

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

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

113

114 **Results and Discussion**

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

121

122 Insert Table 1

123

124 The Muslim consumers strongly agreed that they understood the concept of halal and the
125 halal status of food products will influence their purchases (Table 2). A lower mean score
126 was received for feeling secure in eating halal foods in the campus. A study conducted by
127 Ahmed (2008) who looked at consumers' buying behaviour revealed that respondents
128 preferred to purchase halal meat from their local butchers instead of supermarkets as the
129 language spoken made them more comfortable and they feel that they are buying from their
130 own people who they can trust. Most Muslim consumers in this study preferred to consume
131 non-stunned halal meats and this is supported by a high negative correlation between
132 consumption of stunned or non-stunned meats ($r= -0.75$). Previous surveys carried out by
133 the Halal Monitoring Committee (HMC), a certifier of non-stunned meat reported that 90% of
134 282 Islamic scholars in the UK rejected electric stunning of poultry, 85% rejected electrical
135 stunning of larger animals whilst 9% requested that more research to be carried out in this
136 area (HMC, 2009). However, in another recent survey in the UK, more than 95% of 66
137 Islamic scholars and 53% ($n=314$) Muslim consumers agreed that reversible stunning is
138 halal compliant (Fuseini et al., 2017). The results regarding acceptance of reversible
139 stunning and non-stunning are also highly dependent on the different Islamic schools of
140 thought. Different groups of Muslims require different halal criteria on some ingredients and
141 the slaughter method (van der Spiegel et al., 2012). [It is possible that the position of the local
142 Lancashire Council of Mosques may have influenced the preference for non-stunned meats
143 in this study \(LCM, 2017\).](#)

144

145 Insert Table 2 here

146

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

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

168

169 Insert Table 3 here

170

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

180

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

184 the future. Positive and high correlations were identified between strong religious beliefs and
185 understanding of halal labels and certification ($r = 0.79$, $p < 0.0001$) and between
186 understanding the labels and purchasing of foods with halal logo ($r = 0.71$, $p < 0.0001$).
187 There ~~is~~are also ~~a~~-very high and positive correlations between disagreeing in buying foods
188 labelled with halal logo and disagreeing with purchasing halal food in future ($r=0.82$,
189 $p<0.0001$) (Table 3).

190
191 Insert Table 4 here

192
193 All animal welfare and good catering practices' items scored high agreements among the
194 Muslim consumers. Bonne and Verbeke (2008) also emphasise where animal welfare has
195 been identified as a halal control point to ensure animals are treated humanely. Among
196 Muslim consumers, there exist significant correlations between the importance of animal
197 welfare during halal slaughter and purchasing halal raw materials and ingredients ($r=0.64$).
198 Animal welfare during religious slaughter also correlates with the importance of animal
199 welfare in all meat products ($r=0.66$). Good Halal Catering Practices also showed high
200 correlations in good handling practices such as segregation of halal foods and using different
201 sets of utensils ($r=0.74$) and cleaning of utensils and equipment ($r=0.79$, $p<0.0001$) (Table
202 4). Good Halal Catering Practices are crucial to Muslims as many are concerned whether
203 the food is genuinely halal (Battour, Ismail, & Battor, 2010), especially in terms of the
204 utensils and equipment used, which should be uncontaminated by pork and alcohol (Dugan,
205 1994). However, not all Muslim consumers felt uncomfortable whilst purchasing halal food
206 products from vendors which also sell non-halal products such as pork-based products or
207 alcoholic drinks (Bonne and Verbeke, 2008).

208
209 Animal welfare being important for all meat products and cleaning of utensils and equipment
210 should be carried out according to prevailing hygiene and safety standards received the
211 highest mean scores among Non-Muslim consumers (Table 4). Most disagree that animal
212 welfare was taken into consideration in halal slaughter methods and, perhaps unsurprisingly,
213 place less importance on purchasing of halal raw material and featuring halal status of food
214 products e.g. in front of food counters or shelves. Religious slaughter remains a
215 controversial animal welfare issue as concerns focus on the stress of animals being
216 slaughtered without stunning (Anil, 2012; Farouk et al., 2013; Nakyinsige et al., 2013). The
217 public places important considerations on animal welfare as they feel that they have
218 obligations to the animals they use (Broom et al., 2016). Animal welfare is a multi-
219 dimensional concept and includes, amongst other factors, animal health, ability to express
220 certain behaviours, absence of pain, and absence of stress (Miele et al., 2011). Projects

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

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

237 Multiple linear regression was performed to evaluate the TPB model for purchasing
238 intention behaviour. Cronbach alpha scores for attitudes (0.86) and subjective norms (0.71)
239 were satisfactory demonstrating consistency between subjects when answering the
240 questions, although the Cronbach's alpha for perceived behavioural control is low (0.35).
241 The Intraclass Correlation Coefficient (ICC) values range between 0 and 1, with values
242 above 0.8 considered excellent reliability, 0.6 – 0.8 good, 0.4 – 0.6 moderate, and less than
243 0.4 as low reliability (Landis and Koch 1977). The regression model for all the respondents
244 explained about 73% of the variance of the intent to purchase halal foods where $R^2 = 0.724$,
245 (Adjusted $R^2 = 0.72$). This was significantly different from zero $F(3, 185) = 162.130, p <$
246 0.001 . However, only one predictor (attitude) contributed significantly to the prediction of
247 purchasing intention of halal food products (Figure 1). This suggests that participants with
248 positive attitudes towards halal food products were more likely to purchase them.

249
250 Insert Figure 1 here

251
252 Furthermore, attitude, subjective norms and perceived behavioural control were regressed
253 against intention according to religion, both the Muslim and non-Muslim consumers' attitudes
254 are significant predictors in purchasing of halal foods (Table 5). Muslim consumers score a
255 very high mean in attitude reflecting the importance placed on purchasing halal food. The
256 Islamic religion clearly dictates the importance of halal diet which in turn becomes an
257 important factor in performing a behaviour. This supports a number of previous studies who

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

263

264 Insert Table 5 here

265

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

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

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

298 The regression model for Muslims explained about 58% of the variance of the intent
299 to purchase halal foods where $R^2 = 0.58$, (Adjusted $R^2 = 0.54$) while in the non-Muslim
300 group, the model explains 34% of the variance where $R^2 = 0.34$, (Adjusted $R^2 = 0.22$). Both
301 models were significantly different from zero where $F(3, 31) = 14.16$ for the Muslim and
302 $F(3, 141) = 23.84$ for non-Muslim consumers. Additional predictors must be sought as more
303 than 60% of the variance in purchasing intention among non-Muslims remains unexplained.
304 Other studies revealed increased halal awareness (Aziz and Vui, 2012; Nor Sara et al.,
305 2014), halal certification (Aziz and Vui, 2012), marketing promotion and branding (Aziz and
306 Vui, 2012) and knowledge about product ingredients (Mohani et al., 2009; Nor Sara et al.,
307 2014) positively influenced consumers to purchase halal food products. Meanwhile, food
308 products without a locally recognised halal logo, food products from non-Muslim countries,
309 unfamiliar brands and lack of information on ingredients resulted in consumers being less
310 confident with the food products (Rezai et al., 2012b). [A recent review by Talib et al. \(2016\)](#)
311 [captured the essence of how a highly institutionalised halal industry \(i.e. strong government](#)
312 [support, consumer demand and industry competition\) encourages the implementation of](#)
313 [halal food certification which could lead to positive acceptance among Muslim consumers.](#)

314

315 **Limitations and future research**

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

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

336

337 **Conclusion**

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

351

352

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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.](#)

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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

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

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577 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

578 [Results are presented as mean ± sd. Items are measured on a 5-point scale ranging from 1 strongly disagree \(1\)](#)
579 [to strongly agree \(5\) using descriptive statistics and correlations \(*correlations at p < 0.0001\).](#) 18 responses
580 [which preferred not to indicate their religion were omitted from statistical analyses. Muslim consumers scored](#)
581 [very high mean scores across all areas of purchasing, understanding and having access to wide selection of](#)
582 [halal foods off campus. Positive and high correlations were identified between strong religious beliefs and](#)
583 [understanding of halal labels and certification \(r = 0.79, p < 0.0001\) and between understanding the labels and](#)
584 [purchasing of foods with halal logo \(r = 0.71, p < 0.0001\).](#)
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603 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

604 [Results are presented as mean \$\pm\$ sd. Items are measured on a 5-point scale ranging from 1 strongly disagree \(1\)](#)
605 [to strongly agree \(5\) using descriptive statistics and correlations \(*correlations at p < 0.0001\).](#) 18 responses
606 [which preferred not to indicate their religion were omitted statistical analyses. Animal welfare scored high](#)
607 [agreement among the Muslim consumers with significant correlations between the importance of animal welfare](#)
608 [during halal slaughter and purchasing of halal raw materials and ingredients \(r=0.64\). Non-Muslim consumers](#)
609 [mostly disagree that animal welfare was taken into consideration in halal slaughter methods.](#)
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611 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.

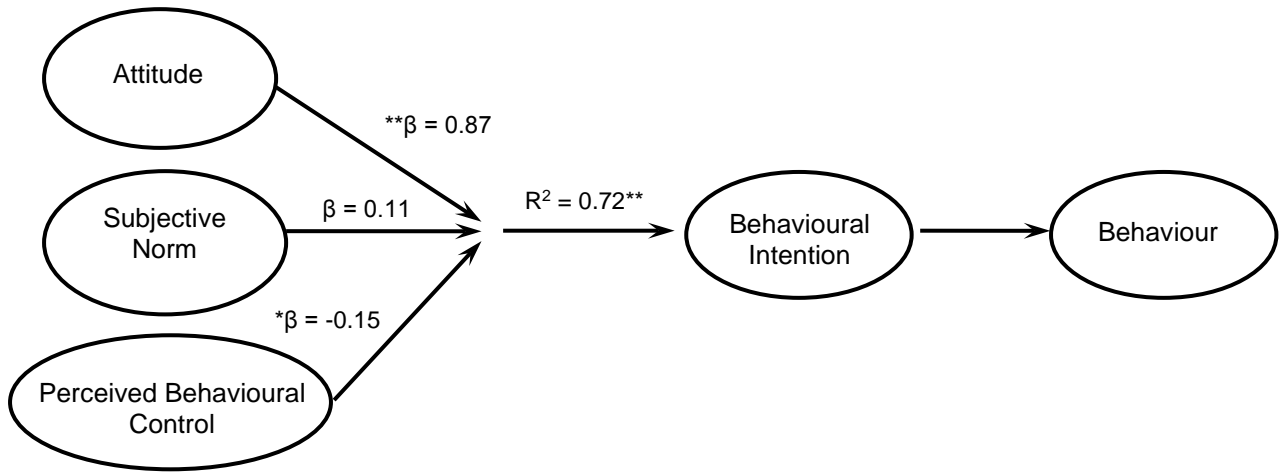


Figure 1. Theory of Planned Behaviour model for purchasing intention of halal food products (* $p < 0.05$; ** $p < 0.001$) ($n=190$). Using multiple regression, the model explained about 73% of the variance of the intent to purchase halal foods where $R^2 = 0.724$, (Adjusted $R^2 = 0.72$). This was significantly 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 ($\beta=0.87$, $p < 0.001$).