Predictive ethical consumption: the influences of gender in the intention of adopting ethical veganism

Estela Díaz[1]

[1] Department. of Marketing, Economics and Business Administration, Comillas Pontifical University

Abstract

There is evidence that relationships between humans and non-human animals are gender sensitive. However, the impact of gender in decision-making related to our interactions with animals have been largely neglected in research. The aim of this article is to investigate the influences of gender in the intention of adopting ethical veganism under the Theory of Planned Behavior (hereafter, TPB). The author collected primary data from 476 non-vegan Spanish university students and examined two models of TPB: the standard version and an extended version of TPB – by the addition of 'general attitudes towards human-like attributes ascribed to animals' (hereafter, human-like attributes) as an indirect predictor of intention. Highlights from the results are as follows. First, data suggests that, for both genders, social factors are more relevant than attitudinal and practical factors in forming the intention to adopt veganism. Second, results showed no significant gender differences regarding the effect of those three factors on intention. Third, findings revealed that the effect of that human-like attributes on behavioural attitudes were significantly higher for women than for men. Lastly, the overall predictive ability of the models was higher for men than women. More research is needed to better understand these gender differences.

Keywords: Veganism; gender moderation; TPB; human-like attributes; Spain.

Introduction

As a society we have been researching and discussing ethical consumption for more than 40 years (Newholm & Shaw, 2007). Though we have come to know quite a bit, we still have much to investigate, especially when it comes to understanding how we form beliefs and make decisions (e.g. Connolly & Shaw, 2006). This need is particularly relevant when we analyse ethical consumption related to our interactions with non-human animals (hereafter, animals), such as ethical veganism (hereafter, veganism).

Veganism is a social movement, a political and moral stance, and a form of political consumption that advocates a new paradigm in which animals are not merely resources for human beings (Cherry, 2006; McGrath, 2000; Micheletti *et al.*, 2004). Veganism is a philosophy of life based on antispeciesism that shapes personal and social identity (Cherry, 2006). In other words, veganism can be conceived as a 'life project' or 'life-planning' –in Giddens' sense (1991 in Larsson *et al.*, 2003)— that

rejects the symbolic meaning related to the use of animals: including domination, inequality, violence, and death (e.g. Allen *et al.*, 2000; Twigg, 1983).

For some authors, the aforementioned symbolic meaning not only reflects an anthropocentric ideology, but also reflects a patriarchal society (e.g. Adams, 1990; Fiddes, 1991). In short, 'gender permeates all aspects of life' (Sobal, 2005: 135), including our discussion of ethical consumption as it relates to animals (e.g. Kruse, 1999; Peek, Bell & Dunham, 1996; Rothgerber, 2012; Ruby, 2012). According to research, women (when it comes to animals) have more positive attitudes and show more positive behaviours than men. For example, women are more likely to become emotionally attached to animals, condemn their use and abuse, advocate on their behalf, and tend to ascribe higher mental capacities and moral consideration to animals (e.g. Díaz, 2012; Herzog, Betchart & Pittman 1991; Knight *et al.*, 2004; Kruse, 1999).

Gender plays an interesting role in our food and lifestyle choices. Research suggests that women are more positive towards plant-based diets, veg(etari)anism, and veg(etari)ans; more likely to reduce/avoid the consumption of animals or animal-based products; and more likely to adopt some type of veg(etari)anism when compared to men (e.g. Backman *et al.*, 2002; Beardsworth *et al.*, 2002; Ruby, 2012). Not only there are difference in attitudes and behaviour, some research points out that our belief system is also moderated by gender. For example, Potts and While (2008) observed that 65% of women cited compassion as a guiding principal for the reduction in the consumption of animals and animal products (compared to 15% of men). For further discussion of beliefs, see Rothgerber (2012).

Additionally, women and men are subject to different social responses regarding their decision-making. When it comes to food and lifestyle choices, it is no different. In general, some studies argue that meat consumption is perceived to be masculine, embodying strength and the rational world; while vegetarianism is perceived to be feminine, portrayed as weak and emotional (e.g. Rothgerber, 2012; Ruby & Heine, 2012; Sobal, 2005). This finding supports the idea that men perceive more negative social pressure than women when becoming a vegetarian or adopting a plant-based diet (e.g. Graça *et al.,* 2015; Lea & Worsley, 2003). However, other research revealed that women were constantly exposed to doubt about their decisions to become vegetarian and felt more pressure to go back to eating meat, especially by men (e.g. Merriman, 2010; Potts & Parry, 2010). For some authors, these pressures are due to paternalism and, as such, exist to question the self-determination of women and their decision-making capability (e.g. Adam, 1990; Merriman, 2010; Worsley & Skrzypiec, 1998). As of today, there is no consensus on the issue of gender-based social responses in ethical consumption. For example, some studies related to healthy and green lifestyles adoption suggest that women were more prone to receive social pressure than men (e.g. Backman *et al.*, 2002; Blanchard *et al.*, 2009), whereas other research found that men receive more pressure (e.g. Emmanuel *et al.*, 2012), and yet another studies did not find significant differences (e.g. Wyker & Davidson, 2010).

Lastly, research suggests that gender also influences how we perceive obstacles (and facilitators) while we make decisions about food and lifestyle. For example, data reveals that women experience less attachment to meat (Graca *et al.*, 2015) and experience higher levels of negative emotions (e.g. disgust) during consumption (e.g. Fessler *et al.,* 2003; Kubberød *et al.*, 2002; Lea, Crawford & Worsley, 2006a, 2006b). Additionally, Lea and Worsley (2003), while researching vegetarianism adoption, found significant differences in gender in more than half of the 25 barriers/benefits analysed. For example, the lack of availability of vegetarian products in stores and vegetarian choices when dining out was perceived more intensely by men than women. Some researchers stipulate that the perception about certain barriers could be related to gender roles assumed in society. Because activities related to food acquisition and preparation (e.g. shopping, cooking, and serving) continue to be

primarily associated with women (Mezzoni *et al.*, 2015, Ruby, 2012), this could explain why men, when sizing up tasks related to food, perceive them as important barriers.

Despite these findings, the impact of gender in decision-making related to our interactions with animals have been largely neglected in research (de Backer and Hudders, 2015; Rothgerber, 2012; Worsley and Skrzypiec, 1998). Fortunately, this negligence has not gone unnoticed. For example, some authors point to the need for future empirical research that specifically address gender issues in veg(etar)ianism (Merriman, 2010; Ruby, 2012).

The aim of this article is to address some of the shortcomings found in literature by investigating the influences of gender in the intention of adopting veganism. Specifically, the Theory of Planned Behaviour (hereafter, TPB) (Ajzen, 1985) was used, a theory widely applied in the study of ethical consumption (e.g. Shaw, Shiu & Clarke, 2000). According to TPB, there are three antecedents of behavioural intention: attitudes toward the behaviour, subjective norm (or perceived pressure from others) toward the behaviour, and perceived behavioural control (Ajzen, 2011). In general terms, TPB postulates that "the more favourable the attitude and subjective norm with respect to a behaviour, and the greater the perceived behavioural control, the stronger should be an individual's intention to perform the behaviour under consideration" (Ajzen, 2011: p.188).

However, past research shows that the predictive power of TPB is enhanced when other variables are included in the model, which suggests that moral behaviours may add additional complexity to decision-making (Shaw, Shiu & Clarke, 2000). For our article, primary survey data from Spanish university students were collected and two models were examined: the original formulation of TPB and an extended version of TPB (the extended version adds one other variable, a background factor). In general, the inclusion of background factors is a recommended practice because it allows us 'to advance in the knowledge of the determinants of human behaviour' (Ajzen, 2005: p.135); nevertheless, their relevance needs to be addressed empirically in each domain (Ajzen, 1991; 2005). For this paper, the general attitudes toward human-like attributes ascribed to animals (hereafter, human-like attributes or HAA) were selected as our background factor because of its influence, shown in past research, on behaviours towards animals (e.g., Knight *et al.*, 2004). Therefore, the effect of human-like attributes in the adoption of veganism needs to be further examined.

After having reviewed existing literature, the following four hypotheses were proposed:

- *Hypothesis 1 (H1): Gender moderates the relationship between attitudes and intention of adopting veganism.*
- *Hypothesis 2 (H2): Gender moderates the relationship between subjective norms and intention adopting veganism.*
- *Hypothesis 3 (H3): Gender moderates the relationship between perceived behavioural control and intention adopting veganism.*
- *Hypothesis 4 (H4): Gender moderates the relationship between human-like attributes and TPB constructs.*

Method

Procedure and Sample

The study employed a structured, online and paper-and-pencil survey that included adapted versions of previously validated scales. Following Meng (2009), purposive sampling was used. For the electronic survey (via encuestafacil.com), participants were recruited by randomly inviting students on campus and by asking help from the university professors who distributed the survey amongst their students. For the paper-and-pencil survey, professors in three major universities were contacted to

distribute the questionnaires in their classrooms (from the faculty of law, sociology, and engineering); none of the students refused to complete the questionnaire.

The resulting data sets were examined to identify missing values, outliers, and errors; problematic observations were deleted. The three data sets (43.4% online, 12.9% on-campus recruitment, and 43.7% classroom recruitment) were merged into one data set for further analysis –since the survey administration method did not have a significant effect on the response (Mann-Whitney U test with Bonferroni correction was used). The valid sample (excluding vegans) consisted of 475 students (57.3% female) and were relatively young, with a mean age of 23.26 years (SD=6.1), covering six majors and 25 Spanish universities.

Questionnaire

The self-reported questionnaire was based on previous TPB studies (e.g., Ajzen, 1991; Kurland, 1995) and, especially, those used by Povey, Wellens & Conner (2001). Throughout the survey, the author provided formal definitions of vegetarianism ('exclude the consumption of meat and fish') and veganism ('exclude the consumption of all types of products, derived wholly or partly from animals, and services in which animals were used –e.g. meat, fish, eggs, honey, milk, silk, wool, leather, zoos'); both lifestyles framed animal concerns in a moral tone. The following measures are the object of analysis in the present paper.

(i) *Socio-Demographic* (e.g. gender, age) and *diet/lifestyle*. Students indicated, out of 10 options, which best described their diet/lifestyle. These were grouped into four categories: (1) 'avoids no animal products'; (2) 'avoids some animal products'; (3) 'vegetarian'; (4) and 'vegan'. For further analysis, vegans were excluded.

(ii) *TPB variables. Behavioural Attitudes towards Veganism* (ATTV) were measured with ten items (positive and negative attitudes towards becoming vegan in the next two years). During the data trimming process, 3 items were eliminated to achieve greater reliability and validity of the construct. *Subjective norm* (SNV) was assessed by asking normative pressures and the motivation to comply with four significant others ('parents/friend/partner/doctors). *Perceived behavioural control* (PCBV) was assessed by asking control beliefs, control capability, and the difficulty to adopt veganism in the next two years. Finally, *Behavioural Intention* (INTV) was assessed with one item, which referred to the intention to adopt veganism in the next two years. All items were scored on 5-point scale ranging from 'Strongly disagree/No, not at all' to 'Strongly agree/Yes, totally'. The scales showed good internal consistency (Cronbach's alpha> 0.8).

(iii) *Human-like Animal Attributes* (HAA) scale was based on Herzog and Galvin's (1997) factor analysis and assessed by asking to rate on five statements: (1) 'affection for the species' (AFFEC); (2) 'presence of consciousness in these animals' (CONSC); (3) 'ability to suffer or feel pain' (SUFFR); (4) 'ability to experience emotions' (EMOTN); (5) and 'how much moral consideration the animal deserves' (MORAL). The questions were presented for 13 species of animals (pigs, chickens, cows, sheep, fish, shrimps, elephants, mice, dogs, cats, chimpanzees, sea urchins, and dolphins) using a 5-point scale scored from 1 ('None') to 5 ('Human-like'). The scale showed good internal consistency (Cronbach's alpha>0.9).

Analysis

For statistical analysis, SPSS v.22 and SmartPLS 3.2.3 programs were used. As in Herzog and Galvin (1997), the analysis of human-like attributes (HAA) was conducted by first collapsing the scores given by each respondent for all 13 species and

each of the five attributes. The author also performed a factor analysis (Principal Component Analysis with Promax Rotation) to explore the multidimensionality of TPB variables. The two-stage technique was adopted to construct a reflective first-order and formative second-order model (e.g. Becker, Klein & Wetzels, 2012). The evaluation of the measurement model for reflective indicators in PLS was based on individual item reliability, construct reliability, convergent validity, and discriminant validity (Hair *et al.*, 2014). The structural model and its explanatory power were addressed by examining path coefficients (β) and their significance (p<0.05), as well as the models' variance explained (R2) and predictive relevance (Q2) for women and men samples (Chin, 1998; Hair *et al.*, 2014). Bootstrapping (5,000 resamples) was performed to verify the statistical significance of path coefficients as well as to study the moderation effect of gender through the multi-group analysis (PLS-MGA). Lastly, the Blindfolding technique was conducted to evaluate the structural model's predictive relevance (Hair *et al.*, 2014).

Results

After confirming the compliance of the measurement requirements of the two final models, the structural models were analysed, which assesses the relationships between the variables that predict the intention to become vegan and the moderation effect of gender on those relationships. Once the properties of the measures were checked, the next step was to evaluate the hypothesized relationships. The author provides two models to test the hypotheses: the standard TPB model (Model #1) and the extended TPB model (Model #2).

Standard TPB model

Upon examination, the Standard TPB Model (Model #1) revealed that attitudes towards the adoption of veganism (ATTV), subjective norms (SNV), and perceived behavioural control (PCBV) significantly predict the intention to adopt veganism (INTV). Data also shows that subjective norms (SNV), followed by attitudes (ATTV), had the strongest direct effect on the
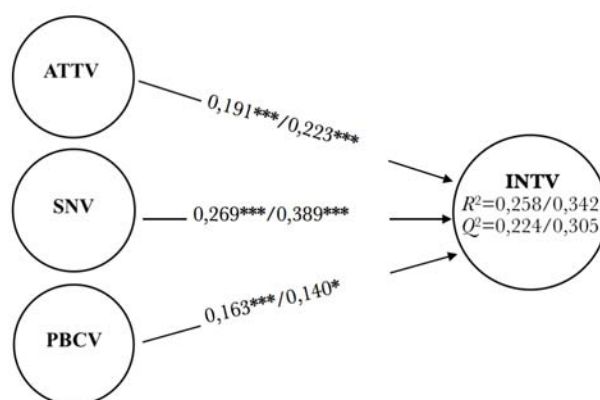

Figure 1. Prediction of the intention of adopting veganism (Model #1). TPB model for women/men.

ATTV=Attitudes towards the adoption of veganism; SNV=Social Norms towards veganism; PBCV= Perceived behavioural control towards veganism; INTV=Intention to adopt veganism. Beta-coefficients for women/men sample; R2=Explained variance for women/men sample (0.19 small, 0.33 medium, and 0.67 large); Q2=Model's predictive relevance for women/men sample (0.02 small, 0.15 medium, 0.35 large); NWomen = 272; NMen = 203). The differences between gender-specific path coefficients are not statistically significant (see Table 1). *p<0.05; **p< 0.01; ***p<0.001

intention of adopting this lifestyle (INTV), especially for men. Overall, the model did not display large predictive relevance (Q2) nor explained variance (R2) for neither gender. Interestingly, the explanatory power of the three variables (attitudes, subjective norms, and perceived behavioural control) on the intention of becoming vegan was higher for men than for women. Figure 1 shows the results from the model for women/men subgroups.

Despite these differences, the multi-group analysis (MGA) – conducted to examine if the differences between women and men for path strength of the three factors (ATTV, SNV and PCBV) on behavioural intention (INTV) were statistically significant— showed negative results (p > 0.5). As a result, hypothesis 1 (H1), hypothesis 2 (H2), and hypothesis 3 (H3) stated that gender moderates the relationships between attitudes towards the adoption of veganism and intention (H1), between subjective norms and intention (H2), and between perceived behavioural control and intention (H3) did not find support in our data.

Extended TPB model

The next step was to analyse the extended TPB model (Model #2), which added the 'human-like attributes' factor to the standard TPB model, for both genders. First, results revealed that the effects of attitudes (ATTV), subjective norms (SNV), and perceived behavioural control (PBCV) on the intention of becoming vegan (INTV) did not change with respect to the standard model of the TPB (Model #1). In other words, the three variables continued to have the same predictive effect on behavioural intention than in Model #1.
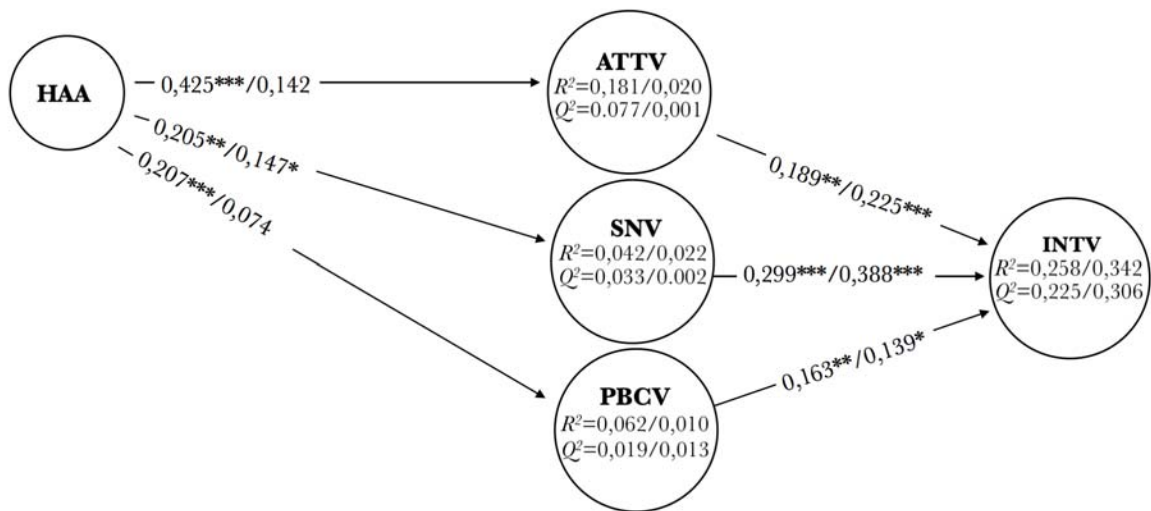

Figure 2. Prediction of the intention of adopting veganism (Model #2). Extended TPB model for women/men.

HAA=Human-like attributes; ATTV=Attitudes towards the adoption of veganism; SNV=Social Norms towards veganism; PBCV= Perceived behavioural control towards veganism; INTV=Intention to adopt veganism. Beta-coefficients for women/men sample; R2=Explained variance for women/men sample) (0.19 small, 0.33 medium, and 0.67 large); Q2=Model's predictive relevance for women/men sample (0.02 small, 0.15 medium, 0.35 large); NWomen=272; NMen=203). The differences between gender-specific path coefficients are not always statistically significant (see Table 1).
*p<0.05; **p< 0.01; ***p<0.001

Moreover, as proposed in general terms by the TPB, the inclusion of human-like attributes (HAA) in the model did not increase, for neither gender, the explained variance of the intentions (25.8% for women, 32.4% for men), nor the predictive relevance of the model. Figure 2 shows the results from the final model for women/men subgroups.

Second, upon examining the relationships between the human-like attributes and the three antecedents of intention, it became clear that gender differences in the paths from human-like attributes (HAA) to the three TPB components were present. For men, human-like attributes (HAA) only significantly predicted subjective norms (SNV). In contrast, for women, human-like attributes (HAA) also significantly predicted perceived behavioural control (PBCV) and, especially, attitudes towards the adoption of veganism (ATTV) (see Figure 2). To confirm the significance of these differences between both genders, the multi-group analysis (MGA) was conducted. MGA showed that gender only moderated the effect of human-like attribute (HAA) on attitudes towards the adoption of veganism (ATTV) ($p=0.001$).

Discussion

Moral aspects are becoming more relevant in consumer research. However, the use of animals, especially the consumption of their flesh, is so pervasive in our culture that 'the issue of whether humans are ethically and morally entitled to do so is seldom considered' (McGrath, 2000: p.53). Nevertheless, ethical-vegans reflect and act upon the aforementioned moral judgment in their everyday practices of consumption by rejecting the commodity status of animals.

Although veganism "is in" (Lundahl, 2014: p. 343), it continues being overlooked in empirical research, especially in social psychology and consumer behaviour (Povey, Wellens & Conner, 2001), which are key fields for understanding the individual decision-making process and for designing more effective intervention campaigns. Not surprisingly, our knowledge about those factors that predict and moderate the adoption of this lifestyle is very limited (Beardsworth & Keil, 1991).

This paper aimed to reduce this gap by investigating the moderating effect of gender on the intention of adopting veganism, under the framework of TPB, given that evidence shows that attitudes and behaviours toward animals are gender-sensitive (e.g. Herzog, Betchart & Pittman, 1991; Rothgerber, 2012). Specifically, the moderation effect of gender on two models of TPB was examined: the standard version and a competing version resulting from adding a construct related to 'general attitudes towards human-like attributes ascribed to animals' based on Herzog and Galvin (1997). No study, to our knowledge, has examined these questions.

The results of our study supports the standard TPB model. As proposed by Ajzen (1995), behavioural attitudes, subjective norms, and perceived behavioural control have positive and significant direct effect on the intention to adopt veganism. Paraphrasing Ajzen (2011), this means that the more favourable the attitude and subjective norm with respect to the adoption of veganism, and the greater the perceived behavioural control towards that adoption, the stronger should be the individual's intention to become vegan. In our case, data also suggests that social factors are more relevant than attitudinal and practical factors in forming the intention to adopt veganism. This finding is fairly unsurprising given the vast evidence regarding the major social implications of adopting veganism (Beardsworth & Keil, 1991).

Regarding gender influences in TPB model, the analyses revealed that there are no significant differences between women and men regarding the effect of attitudes towards veganism, subjective norms, and perceived behavioural control

on the intention of becoming ethical vegan. In other words, gender did not moderate the predictive relationships between the examined factors. This means that TPB explains gender differences that may exist in the composition of the constructs to predict behavioural intentions (Emmanuel *et al.*, 2012). While the findings contradict our hypotheses formulated in this paper, our results are in line with other research on ethical consumption (e.g. Emmanuel *et al.*, 2012; Wyker & Davidson, 2010). For further work in this area, it would be interesting to use a more heterogeneous sample as the homogeneous composition of our participants may have influenced the results.

The data from the extended TPB model fully supported the theory and partially supported the hypothesis in our research. As postulated by the theory, the inclusion of a new factor indirectly influenced the behavioural intention but did not improve the global predictive power of the model obtained by the standard TPB model. In future research, it would be interesting to examine if the inclusion of human-like attributes as direct predictor of the behavioural intention could lead to better results, which would indicate that those attitudes need to be salient in the messages, together with the other antecedents, to improve the intention to become vegan.

As hypothesized in this study, some gender differences regarding the predictive effect of human-like animal attributes on the TPB constructs were found. Specifically, analysis showed that the influence of human-like attributes in attitudes towards the adoption of veganism was significantly higher for women than for men. This finding is very relevant because it could explain, at least partially, the fact that veganism is a phenomenon more widespread among women than men; given the relevance that these attributes have had traditionally, and continues to have, in animal protection and veg(etari)anism campaigns. Future research could examine gender differences in the conceptualization of those human-like attributes given past evidence for gender differences in moral conceptualization (e.g., Gilligan, 1982) and in the ascription of animal capacities (e.g. Herzog & Galvin, 1997).

Interestingly, the predictive power of the two models we tested were higher for men than women. This finding gives rise to an important issue: the generalization of the validity of the TPB for both gender. In other words, is it possible that the TPB model itself is influenced by gender? According to some authors (e.g. Gilligan, 1982; Harnois, 2012) the domain of psychology is not free of gender-bias as it takes (or used to take) more into account the psychological characteristics men than women.

In any case, we need to bear in mind that the explanatory power of the variables of both models and for both gender on behavioural intentions was not large. This result raises the question of causality between the variables and also raises the question about which other constructs could also predict the intention of becoming vegan for both gender (Díaz, 2016).

Lastly, it is important to note that the gender influences studied in this paper have dealt with the relationships between high order, multidimensional or more abstract constructs. Future papers could focus on examining the moderating effect of gender at the first-order construct level, an approach that would allow for a better understanding of the effect of the different dimensions of the constructs for each group.

In summary, these results show the need for continued research on ethical behaviour and ethical consumption related to animals under the watchful eye of the gender issue. At the same time, they challenge researchers and other social agents to reflect on opportunities to overcome gender differences; for example, designing ethical consumption programs that do not contribute to perpetuating a gendered phenomenon and society.

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