# Gender Differences in Psychosocial Determinants of University Students' Intentions to Buy Fair Trade Products

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## Abstract

This study examined gender differences in university students' intentions to buy fair trade (FT) products through the lens of the moral-norm-extended theory of planned behaviour (TPB). Data were obtained from 782 students at the University of Luxemburg. Results of structural equation analysis indicated that the inclusion of moral norms increased the explained variance in behavioural intentions from 62% to 68%. Compared to men, women reported more favourable attitude, higher moral obligation, and stronger intentions toward buying FT products. Moderating analyses showed that the attitude–intentions relationship was stronger for men, whereas the perceived behavioural control–intentions relationship was stronger for women. The implications of the moderation analysis are that sustainability professionals seeking to encourage university students' intentions to buy FT products should develop gender-targeted interventions: for men, more emphasis should be placed on attitude toward buying FT products (i.e., the advantages of adopting this behaviour), and for women, more emphasis should be placed on perceived behavioural control (e.g., factors that facilitate the purchase of FT products).


*Keywords:* theory of planned behaviour, moral norms, fair trade, gender, invariance testing

**INTRODUCTION**

In recent decades, fair trade (FT) consumption has increased (e.g., Andorfer and Liebe 2012; Griffiths 2012; Özçağlar-Toulouse et al. 2006; Steinrücken and Jaenichen 2007; Wheeler 2012; Wilkinson 2007), largely due to growing consumer concerns about social aspects of products and ethical shopping (Andorfer and Liebe 2012; Barham and Weber 2012). Some see the FT movement as a way to improve producers' livelihoods and well-being (Moore 2004). The FT movement may also help protect human rights by promoting social justice, sound environment practices, and economic security (Redfern and Snedker 2002). Although there is no clear consensus to date among researchers on the positive and negative impacts of FT practices on equity and economy in international trade (e.g., Griffiths 2012; Steinbrücken and Janinchen 2007; Walton 2013; Willett 2010), overall, the FT concept appears to provide an additional incentive to support better working and living conditions in the Third World (Barham and Weber 2012; Raynolds, Murray, and Taylor 2004). Accordingly, universities are encouraged to create more opportunities for students to buy FT products, for instance by offering a variety of FT products on the campus, such as coffee, tea, chocolate, fruit, and rice (Engineers without borders 2008). Moreover, university students are in a period of life called emerging adulthood, during which they are likely to leave their parental home and take on new responsibilities of independent living which includes daily consumer behaviours and decisions (Arnett, 2000). Hence, it appears critical to understand predictors and processes leading to ethical consumer decisions during this period of life where a significant part of consuming habits will be formed.

University students have significantly increased their FT behaviours in recent decades (d'Astous and Mathieu 2008; Jin Ma et al. 2012; Wells 2004). However, demographic differences in FT consumption have been established in the literature (e.g., De Pelsmacker

et al. 2006; Diaz Pedregal et al. 2011; Ma and Lee 2012; Sunderer and Rössel 2012), including gender, although its impact remains unclear. Some studies found that gender had no influence on FT consumer behaviour (De Pelsmacker et al. 2005; Doran 2008), whereas others found that women were more likely than men to engage in such behaviours (Loureiro and Lotade 2005; Roberts 1996). Therefore, the purpose of the present study was to examine gender differences in university students' intentions to buy FT products and the extent to which these differences may be attributable to gender differences in psychosocial factors according to the theory of planned behaviour (TPB; Ajzen 2005).

We drew on the TPB because the majority of TPB-based studies showed, as postulated by the theory, that when a demographic characteristic such as gender is associated with a behaviour, the effect is mediated by proximal psychosocial determinants. Thus, when female and male students experience buying FT products differently, they may form different behaviour-related beliefs. Moreover, the TPB can effectively explain various moral behaviours, such as general pro-environmental behaviour (Bamberg and Möser 2007; Kaiser and Scheuthle 2003), volunteering behaviour (Greenslade and White 2005; Warburton and Terry 2000), blood donation (Armitage and Conner 2001; France et al. 2008), conservation behaviour (Kaiser 2006), transport mode choice (Bamberg and Schmidt 1998), cheating behaviour (Stone et al. 2010), music and software piracy (d'Astous et al. 2005; Goode and Kartas 2010), visiting a green hotel (Han et al. 2010), charitable giving (Knowles et al. 2012; Smith and McSweeney 2007; van der Linden 2011), risky riding (Chorlton et al. 2012), and fair trade consumption (Robinson and Smith 2002; for more details, see Andorfer and Liebe 2012, who reviewed and assessed 14 FT consumption articles based on Ajzen's TPB or extended versions).

As more explicitly explained throughout the following section, the present study makes two important contributions to the literature. First, it tests whether the effect of past

behaviour is completely mediated through a moral-norm-extended TPB model. Second, it verifies whether male and female student's intentions to buy FT products are based on the same or different reasons.

**Theory of Planned Behaviour**

Since its introduction 27 years ago, the TPB has become one of the most influential psychosocial models for predicting human social behaviour, as suggested by Nosek et al. (2010), who examined various scientific impact indices related to citation counts of 611 scientists from 97 U.S. and Canadian social psychology programs (Ajzen 2011). According to the TPB (Ajzen 2005, 2012), the most immediate determinant of behaviour is the individual's intentions to perform the behaviour, or the cognitive representation of the individual's readiness to perform a given behaviour. Intentions are in turn postulated to be determined by three major predictors: favourable or unfavourable evaluation of the behaviour (i.e., attitude toward the behaviour), perceived social pressure to perform the behaviour (i.e., subjective norms), and perceived ability to perform the behaviour (i.e., perceived behavioural control). Generally, the more favourable the attitude, the stronger the subjective norms, and the greater the perceived control, the stronger the individual's intentions to perform the behaviour.

Although the TPB has been effectively applied to predict a wide variety of behaviours, researchers have frequently attempted to increase the amount of explained variance in intentions or behaviours by adding one or more predictors (Ajzen 2011), such as moral considerations (e.g., Harland et al. 1999; Manstead 2000; Matthies et al. 2012; Sparks et al. 1995) and past behaviours (e.g., Kor and Mullan 2011; Norman and Cooper 2011; Norman and Smith 1995), which are proposed as potentially more significant precursors to FT consumption over the TPB constructs (for a review, see Andorfer and Liebe 2012). In the

present study, we considered the potential additive impact of moral norms and past behaviour (see Bamberg et al. 2003).

Moral norms can be defined as the individual's perception of the moral correctness or incorrectness of performing a given behaviour (Ajzen 1991), or "feelings of moral obligation to perform specific actions" (Schwartz and Howard 1981). We decided to include moral norms in our model because the results of a recent meta-analysis by Rivis et al. (2009) found that it captures "a significant and substantial increase in the variance explained in intentions after TPB variables have been taken into account," and that "moral norms are most likely to enhance the predictive validity of the TPB when the behaviour of interest has important consequences for the welfare of others" (p. 3011). FT consumption is often referred to being part of the moral economy. According to Goodman (2004), "Constructing this moral economy is an attempt to facilitate a sense of 'solidarity in difference' in the experiences of global economic inequalities" (p. 891), and "Fair trade is born out of the choice of the consumer who feels a committed responsibility to the producers growing fair trade commodities" (p. 902). In the same vein as Rivis et al. (2009), Fishbein and Ajzen (2010) argue that when the behaviour has a clear moral dimension, formative research using a reasoned action approach should consider moral norms in addition to social norms. Moreover, an examination of 14 empirical studies that analysed FT consumption in light of Ajzen's (2005) TPB or an extended version (Andorfer and Liebe 2012) showed that the TPB had greater explanatory power for FT consumption mainly when the concept of ethical obligation or moral norms is added.

In the case of past behaviour, the manner of its inclusion in the TPB model (i.e., as a proximal or distal variable) and the interpretation of the results are controversial. Previous research indicates that past behaviour, which refers to the operation of all factors - internal and external - that controlled the performance (or nonperformance) of the

behaviour in the past, can increase the explained variance in behavioural intentions over and above the TPB variables (e.g., Conner and Armitage 1998; Rise et al. 2010). For consumer intentions, higher past purchase behaviour was associated with stronger purchase intentions for the upcoming weeks (e.g., Dean et al. 2011; Nenci et al. 2008; Smith et al. 2008). van der Linden (2011) and others (e.g., Carrus et al. 2008; Conner and Armitage 1998; Knussen et al. 2004; Rosen and Sims 2011) suggest that moral behaviours (e.g., charitable behaviour, recycling household waste) are likely to be learned and habituated behaviours, and that consequently, the implications of past behaviour should not be ignored. However, Bamberg et al. (2003) conclude that although human behaviour may contain automatic elements, it is based mainly on reason. If past behaviour is associated with future behaviour, even after attitudes, social norms, and perceived behavioural control are included in the model, other components might need to be measured as well (see also Rhodes and Courneya 2003). This suggests that unexplained variance in behaviours would not be attributed to random error alone, but also to unmeasured systematic factors. In the present study, we tested the hypothesis that the effects of past behaviour on intentions are mediated by attitude, subjective norms, and perceived behavioural control. Thus, the finding of no direct effect (i.e., complete mediation) of past behaviour on intentions would support the TPB model. Conversely, an independent effect of past behaviour on intentions would indicate that the cognitive constructs of the tested model were insufficient to explain behavioural intentions (Ajzen 1991; Bamberg et al. 2003). Consequently, past behaviour was added to the TPB variables to test the adequacy of the model. If the model was found to be inadequate, it would justify testing the additional role of moral norms in the model.

**The Effect of Gender**

In the explanation of intentions to buy FT products, gender and TPB constructs may be related in in two ways. First, gender differences in TPB constructs may explain gender

differences in intentions to buy FT products. Thus, TPB constructs may mediate the association between gender and intentions to buy FT products. Fishbein and Ajzen (2010, p. 235-236) summarized empirical results demonstrating that gender tends to influence intentions and behaviour only indirectly through TPB constructs. They argue that gender does not adequately explain intentions or behaviour, and that more substantive information about the roles of these variables is obtained by examining the underlying mechanisms of attitude, social norms, and perceived behavioural control.

Second, TPB constructs may differentially predict intentions to buy FT products for males versus females. That is, gender may moderate the association between TPB constructs and intentions to buy FT products. To our knowledge, no studies to date have examined these questions. Although one study (Robinson and Smith 2002) examined whether TPB constructs and gender were associated with consumer intentions to purchase sustainably produced food, it did not test the mediated or moderated effects of gender on intentions through TPB constructs.

**The Present Study**

The present study examined gender differences in students' intentions to buy FT products through the lens of an extended TPB model. We tested a mediational model to examine whether gender differences exist within extended TPB constructs, and whether these differences explain observed gender differences in intentions to buy FT products. The second model tested moderation by examining whether extended TPB constructs were differentially predictive of intentions to buy FT products for men compared to women.

This study contributes to the literature in three ways. First, it is the first application of the TPB to explore university students' intentions to buy FT products. Considering the efforts made by numerous universities (see http://www.fairtradeuniversities.org) to encourage students to consume FT products rather than conventionally imported products,

it appeared relevant to investigate the factors that contribute to students' FT buying intentions. Second, it provides useful information about the role of moral motives in ethical behavioural choices. The contribution of moral concepts to rational choice theories such as the TPB remains controversial, but it should be especially prominent in behaviours that have a clear moral dimension. Third, this study also provides useful information about the role of gender in university students' intentions to consume FT products, which may be used to develop more effective FT educational interventions.

## METHOD

### Participants and Data Collection

In 2010, the University of Luxembourg implemented significant efforts to encourage students to buy FT products and asked us to conduct a research on the predictors of their intentions to consume them. The participants in this study were 782 undergraduate, graduate, and postdoctoral students attending the University of Luxembourg (413 females, 369 males). All participants were volunteers aged from 17 to 37 years ($M$ = 23.00, $SD$ = 3.64). Data were gathered at three university faculties: the Faculty of Science, Technology, and Communication ($n$ = 216; 27.6%), the Faculty of Law, Economics, and Finance ($n$ = 280; 35.8%), and the Faculty of Language, Literature, Humanities, Arts, and Education ($n$ = 279; 35.7%). Seven respondents did not indicate their faculty (0.9%). Of the participants, 562 (71.8%) were enrolled in a bachelor's program, 131 (16.8%) in a master's program, 77 (9.8%) in a doctoral program, and 5 (0.6%) in a postdoctoral fellowship. Seven participants did not report their program.

The three faculties are located in different campuses. To ensure sufficient variation across the analysed components, respondents were recruited from the three campuses. Data were collected at the beginning or ending of classes, in cafeterias, and in residence halls. Participants were asked if they would be interested in completing an anonymous survey on

FT purchasing. Those who agreed to participate completed the six-page self-report questionnaire on site and took approximately 10 to 20 minutes per questionnaire.

**Questionnaire**

The questionnaire was designed to assess the TPB constructs and two additional variables, *moral norms* and *past behaviour*. Column 3 in Table 1 presents the Cronbach's alpha coefficients for all the predictors used and the construct *behavioural intentions*, showing adequate values ranging from .80 to .92. The correlation between the two items measuring past behaviour was acceptable at .60, indicating that the two items were significantly interrelated but captured slightly different aspects.

*Intentions to buy fair trade products.* Behavioural intentions were rated on a seven-point Likert scale with three items: "You plan to buy fair trade products on a regular basis in the next 12 months" (ranging from 1, *strongly unlikely* to 7, *strongly likely*), "You will make an effort to buy fair trade products on a regular basis in the next 12 months (1, *definitely not* to 7, *definitely yes*), and "You intend to buy fair trade products on a regular basis in the next 12 months" (1, *strongly disagree* to 7, *strongly agree*).

*Attitude.* Attitude was measured with a common stem statement: "For you, buying fair trade products on a regular basis in the next 12 months would be…," rated on three seven-point semantic differential scales: (a) *unimportant* to *important*; (b) *useless* to *useful*; and (c) *worthless* to *worthwhile*.

*Subjective norms.* Three questions assessed subjective norms, rated on a seven-point Likert scale ranging from 1 (*extremely unlikely*) to 7 (*extremely likely*): "How likely or unlikely would your family (item1) / friends (item 2) / university (item 3) be to advise you to buy fair trade products regularly in the next 12 months?"

*Perceived behavioural control (PBC).* PBC was measured by three items rated on a seven-point scale: "For you, buying fair trade products on a regular basis in the next twelve

months would be:" (1, *very difficult* to 7, *very easy*), "You are confident that if you wanted to, you could buy fair trade products regularly in the next 12 months" (1, *totally false* to 7, *totally true*), and "For you, buying fair trade products regularly in the next 12 months would be:" (1, *totally impossible* to 7, *totally possible*).

*Moral norms.* The items measuring moral norms assessed favourable self-evaluation due to anticipated compliance with one's own moral principles (Schwartz 1977). Following the stem: "Considering the behaviour of buying fair trade products on a regular basis in the next 12 months," participants were asked to rate three items on a seven-point scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*): (a) "You feel a strong moral obligation to do so," (b) "You would be disappointed with yourself if you chose non-fair trade products instead of fair trade products," and (c) "It is important for you to set an example of personal integrity."

*Past behaviour.* We measured past behaviour with two items: (a) "I have bought fair trade products like flowers, clothes, or toys in the previous semester," and (b) "I have consumed fair trade food products (e.g., bananas, chocolate, juice) in the previous semester." Items were rated on a five-point scale ranging from 0 (*never*) to 4 (*always*).

**Missing Data**

Of the 782 participants, 551 (70.5%) completed all questionnaire items, while 231 had at least one missing value on one of the six scales: 1 missing value ($n$ = 177; 22.6%); 2 to 5 ($n$ = 32; 4%), 6 to 9 ($n$ = 9; 1.2%), 11 to 20 ($n$ = 13; 1.7%). To adjust for missing data, we used a multiple imputation procedure (Allison 2001), which takes full advantage of the available data and avoids some of the bias in standard errors and test statistics that can accompany traditional ad hoc methods such as listwise or pairwise deletion or mean-substitution (Peugh and Enders 2004). Starting from simple random values, imputation proceeds by iterating over the conditionally specified models (van Buuren 2010). We used

a fully conditional specification method in an R programming environment (R Development Core Team 2011) as the multivariate imputation chained equation (MICE) package (van Buuren and Groothuis-Oudshoorn 2011).

**Statistical Analysis**

Before testing how the interaction of the gender and TPB constructs may explain FT buying intentions, we first tested the usefulness of including the measure of moral norms to improve the prediction of intentions to buy FT products over and above the basic TPB predictors. To attain this objective, we tested three contrasting models. In Model 1, the direct effects of attitude, subjective norms, and perceived behavioural control on intentions were tested in accordance with the TPB. We then introduced the variable past behaviour into Model 1 as a background factor, and tested its indirect and direct effects on intentions. In order to determine the significance of the direct effect of past behaviour, we compared a model in which the direct effect of past behaviour on intentions was allowed to be freely estimated (Model 2a) with a model in which this path was constrained to be zero (Model 2b). Based on Ajzen's proposal, if the comparison between Model 2a and Model 2b revealed a significant residual effect of past behaviour on intentions that remained significant over and above the effects of the TPB variables, then the next step would be to introduce moral norms into the model to test (a) whether moral norms has a direct effect on intentions (Model 3a), (b) whether it significantly increases the explained variance in intentions, and (c) whether it makes the direct residual effect of past behaviour disappear. The significance of the direct effect of past behaviour on intentions in the extended model including moral norms was verified by comparing two models: one in which its direct effect was allowed to be freely estimated (Model 3a) and another in which this path was constrained to be zero (Model 3b). The best model of the previously tested models was

then retained and used to examine the role of gender as either a distal (mediated) predictor or moderator.

In the second phase, we tested a mediation model with gender specified as the most distal variable in the model (Model 4), where the effect of gender on behavioural intentions was specified as fully mediated by the TPB constructs (Ajzen 2005 2012), using a Multiple-Indicator Multiple- Cause (MIMIC) model (Hauser and Goldberger 1971; Jöreskog and Goldberger 1975). The distinguishing feature of an MIMIC model is that at least one observed variable is included in the model as a predictor of at least one latent variable.

In the third phase, we examined whether gender moderates the association between behavioural intentions and any of the TPB predictors (and moral norms, depending on the results of previous analyses). An important prerequisite to enable unambiguous interpretation of moderation effects and latent mean differences according to gender is that the measurement of the latent constructs forming the model is invariant (equivalent) across gender groups, that is, the measured latent constructs are comparable across groups (Byrne 2012; Gardner and Qualter 2011; Vandenberg and Lance 2000). Measurement invariance testing involves assessing the reasonableness of sequentially added constraints (Lee et al. 2011), in which the measurement model is progressively constrained to be the same across subgroups of participants. A sequencing technique based on Meredith (1993, see also Millsap 2011) was used, in which parameters in the measurement model were successively constrained to invariance across groups (men vs. women) in a series of hierarchically related (nested) models to ensure that the measurement and meaning of the latent constructs remained the same for both groups, an important prerequisite for group-based comparisons. First, all measurement model parameters were freely estimated for both groups (baseline models; models 5a and 5b), followed by configural invariance, meaning

that the same model was estimated simultaneously for the two groups, with no added constraints (Model 5c). The factor loadings were then constrained to be the same for both groups (weak invariance; Model 5d), followed by the factor loadings and item intercepts (strong invariance; Model 5e), and finally the factor loadings, item intercepts and item uniquenesses (strict invariance; Model 5f). In each step of the sequence, the preceding model served as a referent (Maïano et al. 2013; Morin et al. 2011b). Whereas the establishment of weak invariance is a prerequisite for meaningful comparisons of relationships between latent variables across groups, strong invariance is a prerequisite for latent mean comparisons between groups, and strong invariance is also required in order to compare group latent means (Lee et al. 2011). However, if the latent variable models include a natural control for measurement errors, strict invariance is not a necessary requirement for group comparisons. However, it is a useful addition that makes for a more parsimonious multiple-group model.

The different models were tested by structural equation modelling (SEM) using Mplus 6.0 (Muthén and Muthén 1998–2010). Given the known oversensitivity of the chi-square to sample size, minor deviations from normality, and minor model misspecifications, model fit is usually assessed with sample size-independent fit indices which were the comparative fit index (CFI), the Tucker-Lewis index (TLI), and the root mean squared error of approximation (RMSEA). According to conventional rules of thumb (Hu and Bentler 1999; Kline 2011), acceptable and excellent model fit is indicated by CFI and TLI values greater than .90 and .95, respectively, and by RMSEA values smaller than .08 and .06, respectively. Moreover, we report two information theoretic indices, the Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC). There are no rules of thumb to estimate how well the model fit the data, the values depend on actual dataset and the model. It is recommended to retain the model with lower AIC/BIC values,

indicating a better trade-off between fit and complexity (Kline 2011). However, when used with a sufficiently large sample size, as in the present study, these indicators will always support the more complex alternative (Marsh et al. 2009; Morin et al. 2011a; Petras and Masyn 2010).

For the model comparisons, "There has been an increasing tendency to argue for evidence of invariance based on a more practical approach involving one, or a combination of two, alternative criteria: (a) the multi-group model exhibits an adequate fit to the data, and (b) the ΔCFI (or its robust counterpart) values are negligible" (Byrne 2012, p. 256). According to Cheung and Rensvold (2002) as well as Chen (2007), the imposition of additional constraints is justifiable if it results in a ΔCFI of 0.01 or less and a ΔRMSEA of 0.015 or less between a more restricted model and the preceding one in the case of sample larger than 300.

## RESULTS

### Descriptive Statistics

Means and standard deviations for each measure are reported in Table 1. Participants ($n$ = 782) reported moderate intentions to buy FT products ($M$ = 4.11, $SD$ = 1.37), a neutral attitude toward buying FT products ($M$ = 3.91, $SD$ = .99), and neutral perceived social pressure ($M$ = 3.69, $SD$ = 1.48) and moral obligation ($M$ = 3.60, $SD$ = 1.34) to buy FT products, but high perceived behavioural control ($M$ = 4.75, $SD$ = 1.23). In terms of actual behaviour, participants reported that they bought FT products rarely to sometimes in the last semester ($M$ = 1.42 and $SD$ = .91). Moreover, the $t$-test results indicated that men and women differed significantly on intentions, attitude, and moral norms toward buying FT products on a regular basis in the next twelve months. On average, women had stronger intentions (women: $M$ = 4.21, $SD$ = 1.38; men: $M$ = 3.95, $SD$ = 1.35; $t$ = 2.64, $dl$ = 763, $p$ < .01), a more positive attitude (women: $M$ = 3.99, $SD$ = 0.97;

men: $M$ = 3.79, $SD$ = 0.99; $t$ = 2.88, $dl$ = 759, $p$ < .01), and felt stronger moral obligation to buy FT products (women: $M$ = 3.68, $SD$ = 1.28; men: $M$ = 3.48, $SD$ = 1.35; $t$ = 2.08, $dl$ = 760, $p$ < .05). No difference was found in perceived social pressure to buy FT products, perceived behavioural control, or past FT buying behaviour. Results of correlations revealed that the TPB variables, moral norms, and past behaviour correlated significantly and strongly (all $r_s$ > .40, $p$ < .01) with behavioural intentions (see Table 1).

**Test of the Usefulness of Including Moral Norms**

Model 1 proposes that students' intentions to buy FT products is predicted by the TPB variables. Results showed that the three TPB constructs explained 62% of the variance in behavioural intentions (see Figure 1), indicating a positive association between students' intentions to buy FT products and their attitude toward FT products (β = .504, $SE$ = .041, $p$ < .001), perceived control over FT buying behaviour (β = .257, $SE$ = .034, $p$ < .001), and subjective norms (β = .199, $SE$ = .041, $p$ < .001): $R^2$ = 0.62, $p$ < .001. According to Cohen (1988), attitude has a strong effect, whereas PBC and subjective norms have moderate effects. The fit indices indicated that the classical TPB model (Model 1) provided a good data fit: $\chi^2$ = 192.952; $df$ = 48 CFI = .971; TLI = .960; RMSEA = .062 (*90% CI* = .053–.071).

In the second model, the variable past behaviour was introduced into the classical TPB (Model 1) as a background factor and the direct and indirect effects on intentions were examined. In a first step, the direct effect of past behaviour on intentions was set to be free (Model 2a, Figure 2). Results indicated that Model 2a provided a good data fit: $\chi^2$ = 228.890; $df$ = 67; CFI = .970; TLI = .959; RMSEA = .056 (90% *CI* = .048–.064; AIC = 32916.135; BIC: 33093.286). This model explained 65% of the variance in behavioural intentions, with past behaviour showing a direct but moderate effect on students' intentions to buy FT products (β = .215, $SE$ = .045, $p$ < .001). Moreover, intentions were positively

associated with attitude (β = .434, *SE* = .043, *p* < .001), perceived control (β = .224, *SE* = .034, *p* < .001), and subjective norms (β = .152, *SE* = .041, *p* < .001).

Model 2b, in which the direct effect of past behaviour on intentions was set to zero, also provided good data fit, although slightly less than Model 2a: $\chi^2$ = 255.825; *df* = 68; CFI = .965; TLI = .953; RMSEA = .059 (90% *CI* = .052–.067); AIC = 32941.070; BIC = 33113.559.

When moral norms were included in the model (Model 3a), the results provided good data fit ($\chi^2$ = 295.867; *df* = 104; CFI = .970; TLI = .961; RMSEA = .049 [90% *CI* = .042–.055]; AIC = 41039.876; BIC = 41268.307), but not substantially better than Model 2a. Model 3a explained 70% of the variance in intentions. Compared to Model 2a, the direct effect of past behaviour decreased but remained significant (β = .180, *SE* = .043, *p* < .001). The effects of moral norms (β = .319, *SE* = .048, *p* < .001), attitude (β = .283, *SE* = .050, *p* < .001) and perceived control (β = .247, *SE* = .033, *p* < .001) were all significant and moderate, whereas the effect of subjective norms was non-significant (β = .059, *SE* = .041, *p* = .151). In Model 3b (see Figure 3), where the path between past behaviour and intentions was set to zero, the explained variance decreased slightly from 70% to 69%, but both the TPB variables and moral norms showed significant effects on behavioural intentions (moral norms: β = .355, *SE* = .049, *p* < .001; attitude: β = .332, *SE* = .050, *p* < .001; perceived control: β = .279, *SE* = .032, *p* < .001; subjective norms: β = .085, *SE* = .041, *p* < .05). The data fit for this alternative model (Model 3b) was almost as good as for Model 3a ($\chi^2$ = 316.043; *df* = 105; CFI = .967; TLI = .957; RMSEA = .051 [90% *CI* = .044–.057]; AIC = 41058.052; BIC = 41281.821). The variables included in Model 3b capture most of the remaining residual effect of past behaviour, although some minor

determinants of intentions might still be missing. Therefore, we did not retain past behaviour for subsequent analyses.

**Test of the Mediational Model**

One of the aims of this study was to examine the effect of gender on students' intentions to buy FT products via a morally extended TPB mediation model (Model 4) with gender as the most distal variable (see Figure 4). Results indicated that Model 4 explained 68.3% of the variance in behavioural intentions and provided good data fit: $\chi^2$ = 286.592; *df* = 90; CFI = .967; TLI = .957; RMSEA = .053 (90% *CI* = .046–.060). Student's intentions to buy FT products was predicted by moral norms (β = .346, *SE* = .049, *p* < .001), attitude (β = .321, *SE* = .050, *p* < .001), perceived control (β = .279, *SE* = .032, *p* < .001), and subjective norms (β = .095, *SE* = .042, *p* < .05), whereas gender had no direct effect on intentions (*p* = .161), as postulated by the TPB. Figure 4 shows that the effect of gender on intentions was mediated by attitude (β = –.118, *SE* = .039, *p* < .01) and moral norms (β = –.089, *SE* = .041, *p* < .05).

Test of the Moderating Effect of Gender

Another aim of this study was to test whether gender moderates the association between the morally extended TPB predictors and behavioural intentions. In a preliminary analysis, the model was tested for men and women separately. Results showed that the model provided good data fit for the two groups separately (see single group solutions in Table 2). Consequently, we performed further analysis using formal tests of measurement invariance. Results showed that throughout the full sequence of invariance tests up to tests of strong invariance, all the increasingly restrictive models provided good data fit, with CFI and TLI >.95 and RMSEA <.06. Moreover, no ΔCFI exceeded –0.01 and no ΔRMSEA exceeded +0.015, indicating strong invariance, an important prerequisite for

unambiguous interpretation of latent mean differences, the next step in the sequential analysis. However, when strict measurement invariance constraints were included in the model, the decrease in fit exceeded the recommended cut-off for the CFI ($\Delta$CFI = –0.015), indicating non-invariance of item uniquenesses. A detailed examination of the model parameters and change indices suggested that invariance constraints needed to be relaxed for only two items (MN2, "You would feel guilty if you don't buy fair trade products regularly in the next 12 months," which showed higher measurement error for females than males, and item INT1, "You plan to buy fair trade products on a regular basis in the next 12 months," which showed the reverse pattern). We therefore re-estimated a partial invariance model in which the uniquenesses associated with these two items were allowed to be freely estimated across genders, and this model obtained partial strict invariance (Byrne et al. 1989). Although strict invariance is not a requirement for group-based comparisons of latent variables such as those used in this study (Meredith 1993; Millsap 2011), it is useful to retain strict invariance constraints for a more parsimonious model, which can help stabilise the estimation process across multiple groups.

Starting from this model, we then used a method developed by Little et al. (2006) and used by Litalien et al. (2012) to conduct ANOVA-like latent means comparisons across groups of participants within a latent variable framework. The results are expressed as between-group deviations in standard deviations. Results confirmed the results of the previously conducted *t*-tests, notably that men had weaker intentions on average (*deviation* = –.19, $p < .01$) and a less positive attitude (*deviation* = –.24, $p < .01$), and felt less moral obligation to buy FT products (*deviation* = –.18, $p < .05$). No differences were found in perceived social pressure or perceived behavioural control.

We also examined the moderating effect of gender on the relationships between the constructs. The multi-group predictive model was estimated from the partially strict

invariance Model 5f, and was mathematically equivalent to that model in terms of fit indices ($\chi^2$ = 441.1, *df* = 193; CFI= .959; TLI = .956; RMSEA = .057 [90% *CI* = .050–.064]), as the four covariances between the predictors and outcomes were replaced by four regression paths to model the same associations. However, all the predictive paths were freely associated, in both subgroups. The relative strength of each predictive path across gender groups was then systematically compared with the multivariate delta method (Raykov and Marcoulides 2004) using MODEL CONSTRAINT (Mplus) to obtain a direct test of significance for each comparison. Results showed that whereas the INT on SN (Females: b = .110, β = .059, *n.s.*; Males: b = .205, β = .112, *n.s.*) and the INT on MN (Females: b = .785, β = .421; Males: b = .448, β = .271) paths did not significantly differ across gender ($p > .05$), the two other paths differed significantly across gender ($p < .05$). The INT on ATT path was substantially larger for males (Females: b = .384, β = .206; Males: b = .754, β = .435), whereas the INT on PBC path was substantially larger for females (Females: b = .687, β = .368; Males b = .402, β = .197).

## DISCUSSION

The first objective of this study was to test the usefulness of including a measure of moral norms to improve the predictive power of university students' intentions to buy fair trade (FT) products over and above the basic TPB predictors. Our results confirmed that attitude, subjective norms, and perceived behavioural control played significant roles in predicting behavioural intentions. Moreover, adding the moral component to these three predictors significantly increased the proportion of explained variance in intentions from 62% to 68%. This supports the notion of FT practices as "moral economies", because with ethical labelling, consumers are assumed to take moral responsibility for their economic actions (Goodman 2004).

Consistent with the study by Rivis et al. (2009), the results of the present study suggest that moral norms increase the predictive capacity of the TPB when the behaviour of interest has important consequences for the welfare of others. This finding is consistent with the meta-analysis by Andorfer and Liebe (2012), which showed stronger explanatory power for FT consumption when the concept of moral norms was included in the TPB.

According to Ajzen (2011), in order to demonstrate adequacy of the moral-norm-extended s TPB model, all the power of the background factor past behaviour on intentions should be mediated through the TPB variables and moral norms. In others words, past behaviour should have no direct effect on intentions. Our results indicated that the predictive power of past behaviour on intentions was largely mediated through attitude, moral norms, perceived behavioural control, and social norms, thus confirming the adequacy of the moral-norm-extended TPB model in explaining FT consumption. However, a small direct effect of past behaviour on intentions was still present suggesting that the moral-norm-extended TPB was insufficient to explain all the variance in student's fair trade buying intentions. In accordance with Bamberg, Ajzen, and Schmidt's (2003) assumption that the remaining unexplained variance in intentions may not be attributable to random error alone, we conclude that some other systematic determinants should be investigated in future research.

Another issue investigated in this study was how gender and TPB constructs and moral norms might interact to explain university students' intentions to buy FT products. We first examined whether TPB constructs and moral norms would mediate the association between gender and FT consumption intentions. The results indicated that gender had no direct effect on intentions, and that its effect on intentions was mediated through attitude and moral norms. These results are in line with the claim of the author of the TPB (Ajzen 2005) that his model is a genuine mediation model, in which gender is a distal factor.

Fishbein and Ajzen (2010) support the idea that demographic characteristics such as gender segment the population into subgroups with different life experiences, and that men and women would consequently form different beliefs about the likely outcomes of a given behaviour.

Interestingly, the results of our mediation analysis and the latent mean comparison indicated that, compared to men, women had a more favourable attitude and felt more moral obligation toward buying FT products. More importantly, we found clear evidence that the gender difference in attitude and perceived moral norms significantly mediated the observed gender difference in intentions to buy FT products, with women compared to men reporting stronger intentions to buy FT products.

Another objective of this study was to investigate whether TPB determinants differentially predicted FT consumption intentions for men versus women. This raises the question: Does gender moderate the association between TPB predictors and FT consumption intentions? First, our results suggested that interventions that aim to increase women's as well as men's intentions to buy FT products should place the emphasis on attitude, perceived behavioural control, and moral norms, but not on perceived norms. Second, results of the moderation analyses showed that the relationships between attitude and intentions and between perceived behavioural control and intentions were moderated by gender. In others words, there was significant variation across gender in the relative contributions of the constructs attitude and perceived behavioural control to intentions to buy FT products. More specifically, the attitude–intentions relationship was stronger for men, whereas the perceived behavioural control–intentions relationship was stronger for women. The implications are that sustainability professionals who want to foster university students' intentions to buy FT products should develop male-targeted interventions that place more emphasis on attitude toward buying FT products (i.e., the advantages or

benefits of adopting this behaviour), because an attitude change should have a stronger impact on intentions for men than for women. Moreover, for male-targeted interventions, sustainability professionals should emphasize the development of moral responsibility, as our results showed that men tended to report a less strong feeling of moral obligation than women did. In contrast, female-targeted interventions should place more emphasis on perceived behavioural control (e.g., factors that could facilitate or encourage the purchase of FT products). An increase in perceived behavioural control should have a stronger impact on intentions for women than for men.

These results are in line with other investigations on sustainable consumption, suggesting that in addition to educational and informational efforts on the benefits of these products, policy makers should also consider structural changes to ensure that the "right" choice is also an "easy" choice to make (Thøgersen 2005). For educational interventions, more scientific results clarifying whether FT consumption can really effectively and consistently improve the living conditions of the producers in third world countries might be useful. Whereas, for the policy makers and shop holders, it might be important to make the products available within their stores, easy to find, and attractive to customers both in terms of appearance, and pricing relative to the adjacent products.

Despite the inherent strengths of the present study, some limitations need to be considered. First, the behavioural, normative, and control beliefs underlying the students' FT consumption intentions were not examined. In order to obtain a deeper understanding of the determinants for FT consumption by female and male students and to develop effective gender-targeted interventions, it would be useful to explore and compare the underlying behavioural, normative, and control beliefs of these two populations. Second, we used only an injunctive norm measure to capture social norms, which measures what significant others think the individual ought to do (Rivis and Sheeran 2003). However, due to the

notable lack of predictive power of the injunctive norm construct to predict intentions, it was recently suggested to include descriptive norm measures (Fishbein and Ajzen 2010; Smith et al. 2012) to additionally measure what significant others do (Rivis and Sheeran 2003). As suggested by Smith et al. (2012), the injunctive norm measure might not be sufficient to fully understand the norm–intentions relationship. In their study on pro-environmental behaviour, these authors highlight the need to consider the interplay between injunctive and descriptive norms to understand how norms influence behavioural intentions. Considering the fact that the injunctive norm–intentions relationship in our study was not a significant predictor of intentions, we recommend to follow the suggestion of different authors (Armitage and Conner 2001; Rivis and Sheeran 2003). This could broaden the conceptualization of the normative component in future TPB-based studies in order to better understand and predict intentions and behaviours. With respect to FT consumption, it might not be sufficient for individuals to reason about what others think they should do, and it might be more determining for them to witness positive examples of significant others in their environment (i.e., buying FT products). For teachers and social psychologists, this could involve not only teaching a desired behaviour, but also setting an example through personal integrity. We acknowledge that these interpretations of the normative component in FT consumption are speculative answers to still open questions. Finally, the limitations of this study included failure to prospectively predict the actual behaviour of FT product consumption and the use of a convenience sample of university students. To better understand the profiles of people concerned about FT issues and further promote FT consumption, other groups of consumers may be investigated as elderly people, specific working labour groups or even cultural comparisons may be conducted in the future.

Despite these limitations, this study demonstrated the usefulness of including a measure of moral norms to improve the predictive power of intentions to buy FT products over and above the basic TPB predictors. Furthermore, our results showed that gender partially explained intentions through attitude and perceived behavioural control. The latent mean comparison indicated that compared to men, women reported more favourable attitude and felt more moral obligation toward buying FT products. Our results also demonstrated that gender moderated the association between TPB predictors and FT consumption intentions.

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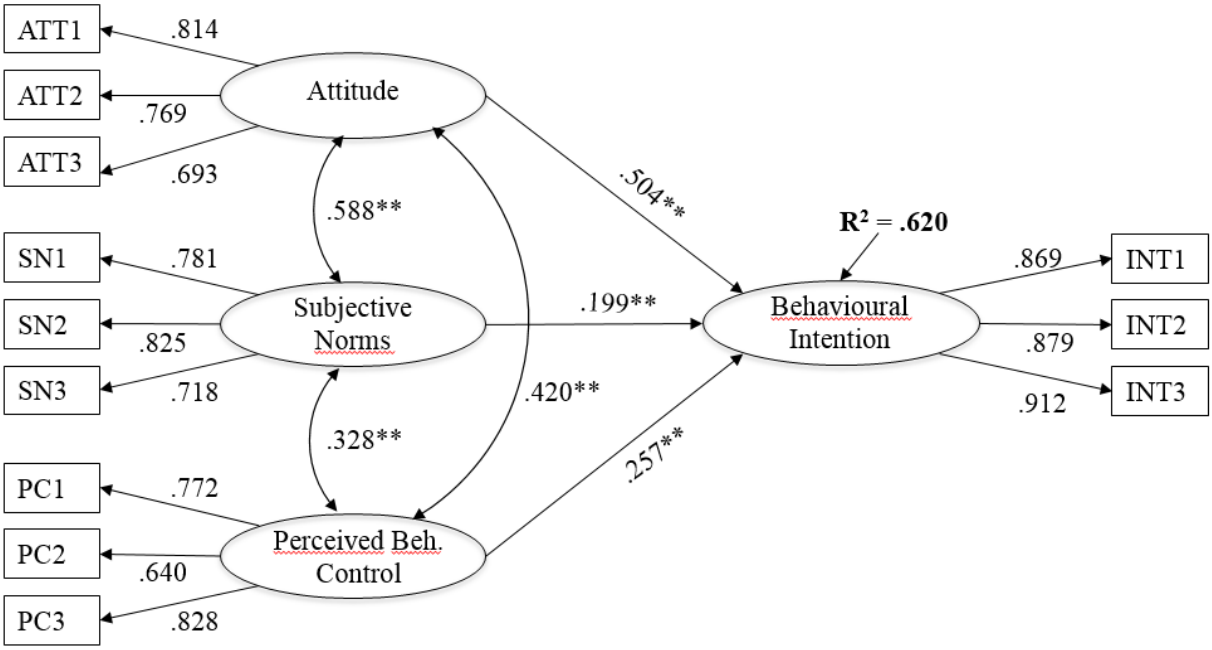
Table 1. Means, standard deviations, Alpha Coefficients, and Correlations between the TPB Variables, Moral Norms, and Past Behaviour

| Variable | Number of Items | α | *M* | *SD* | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Attitude[a] | 3 | .83 | 3.91 | 0.99 | – | .479 | .321 | .503 | .364 | .620 |
| 2. Subjective norms[b] | 3 | .83 | 3.69 | 1.48 | | – | .261 | .467 | .338 | .522 |
| 3. Perceived control[b] | 3 | .80 | 4.75 | 1.23 | | | – | .175 | .241 | .450 |
| 4. Moral norms[b] | 3 | .83 | 3.60 | 1.34 | | | | – | .341 | .570 |
| 5. Past behaviour[c] | 2 | .60[d] | 1.42 | 0.91 | | | | | – | .459 |
| 6. Intentions[b] | 3 | .92 | 4.11 | 1.37 | | | | | | – |

*Note*. [a]Theoretical range = 1 to 6; [b]Theoretical range = 1 to 7; [c]Theoretical range = 0 to 4; [d]Correlation coefficient between the two items used to measured past behaviour; All correlations are significant at the $p < .01$ level.

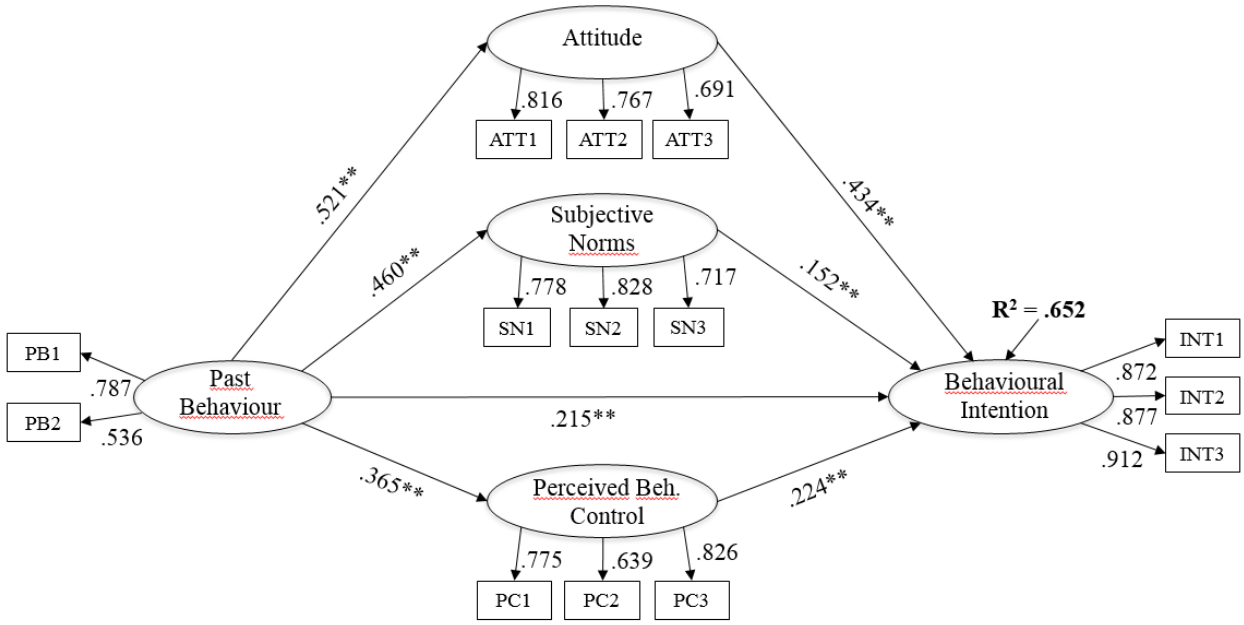
Table 2. Goodness of Fit Statistics for the Comparison of Measurement Invariance Models and Moderated Models

| Model | $\chi^2$ | *df* | CFI | TLI | RMSEA | 90% *CI* | Comparison | Δ |
|---|---|---|---|---|---|---|---|---|
| *Single group models* | | | | | | | | |
| 5a. Female (*n* = 413) | 166.865 | 80 | .975 | .967 | .051 | .040-.062 | | |
| 5b. Male (*n* = 369) | 192.142 | 80 | .958 | .945 | .062 | .051-.073 | | |
| *Multiple group measurement models* | | | | | | | | |
| 5c. Configural invariance | 359.007 | 160 | .967 | .957 | .056 | .049-.064 | --- | |
| 5d. Weak/Metric invariance (loadings) | 372.799 | 170 | .967 | .959 | .055 | .048-.063 | c | |
| 5e. Strong Invariance (loadings & intercepts) | 400.309 | 180 | .964 | .958 | .056 | .049-.063 | d | - |
| 5f. Strict Invariance (loadings, intercepts, & uniquenesses) | 497.606 | 195 | .950 | .946 | .063 | .056-.070 | e | - |
| 5f'. Partial Strict Invariance (loadings, intercepts, & uniquenesses, except for uniquenesses MO2 & INT1) | 441.119 | 193 | .959 | .956 | .057 | .050-.064 | e | - |



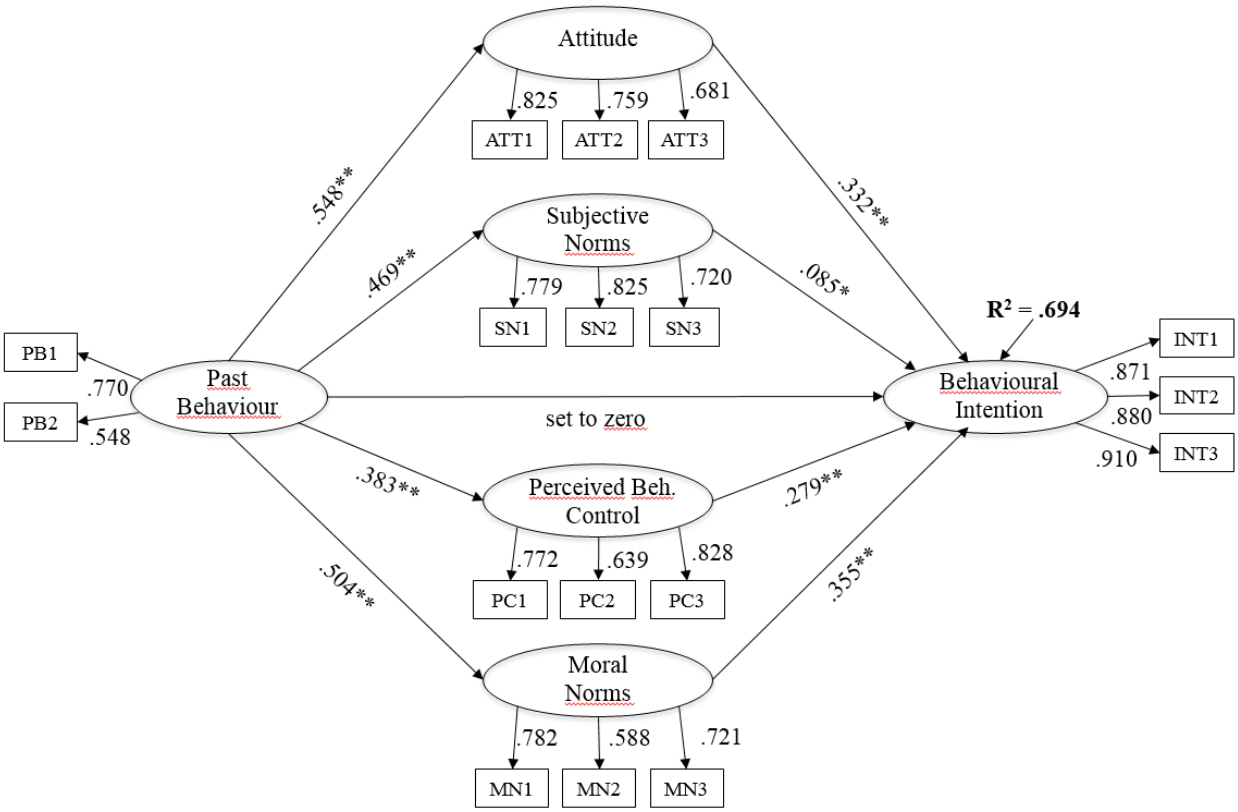

*$p$ < .01. **$p$ < .001.

Figure 1. The TPB determinant variables predicting student's intentions to buy fair trade products (Model 1).




*Note.* To avoid overloading the figure, the arrows between the predictor variables are not depicted. The correlations between the predictor variables were: .459** between attitude and subjective norms; .289** between attitude and PBC; and .194** between PBC and subjective norms.
*$p < .05$. **$p < .001$.

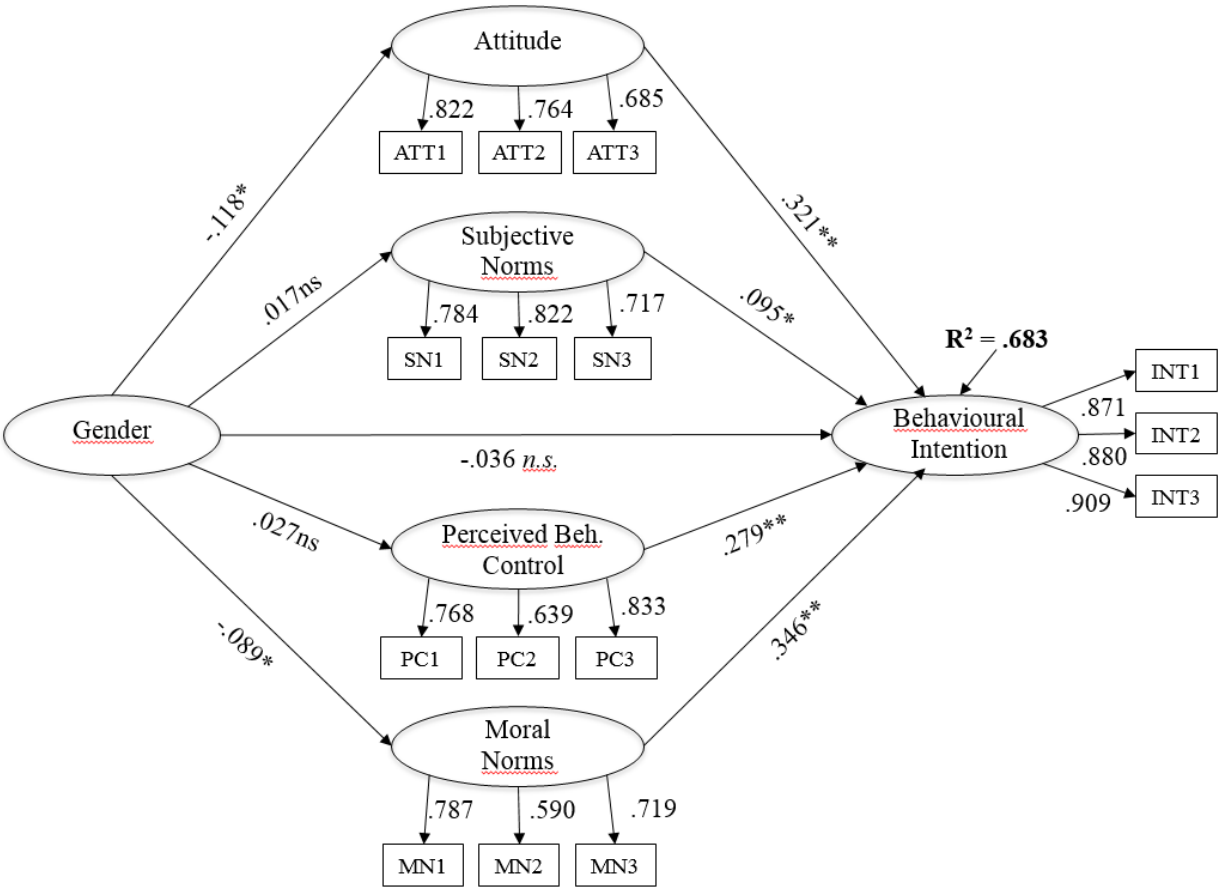
Figure 2. The effect of past behaviour in the TPB predicting student's intentions to buy fair trade products (Model 2a).




*Note*. To avoid overloading the figure, the arrows between the predictor variables are not depicted. The correlations between the predictor variables were: .449** between attitude and subjective norms; .272** between attitude and PBC; .554** between attitude and moral norms; .182** between PBC and subjective norms; .086ns between PBC and moral norms; and .473** between subjective norms and moral norms.

*$p < .05$. **$p < .001$.

Figure 3. The effect of past behaviour in the moral-norm-extended TPB predicting student's intentions to buy fair trade products (Model 3b).




*Note.* To avoid overloading the figure, the arrows between the predictor variables are not depicted. The correlations between the predictor variables were: .594** between attitude and subjective norms; .427** between attitude and PBC; .671** between attitude and moral norms; .328** between PBC and subjective norms; .266** between PBC and moral norms; and .601** between subjective norms and moral norms.

*$p < .05$. **$p < .001$.

Figure 4. The effect of gender in the moral-norm-extended TPB predicting student's intentions to buy fair trade products (Model 4).