

The effect of moral and subjective norms, perceived behavioural control and habitual restrained attitudes on intentions to buy local food.

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Climate change affects many areas of life, including the ability to accurately produce food. Therefore, more sustainable food systems are increasingly emphasized nowadays. Nonetheless, most consumers buy food in conventional food systems. This paper investigates behaviour in local food systems by combining the theory of planned behaviour with moral norms and the social practices approach to account for rigidity in behaviour. To do so, this paper applies two-step structural equation modelling. Results indicate that perceived behavioural control and moral norms influence the intention to buy local food positively. Results also provide evidence for the impeding effect of habits on attitudes. Further, a novel, detailed conceptualisation of intention is offered.

INTRODUCTION

The primary determinant of agricultural production is the local climate (Adams, Hurd, Lenhart & Leary, 1999; Nelson et al., 2014). Climate change, including warming and shifts in precipitations patterns, have significant implications for fluctuations in agricultural production (Fedoroff et al., 2010; Lunt, Jones, Mulhern, Lezaks, & Jahn, 2016). For example, during the summer of 2003, the temperature in Europe was 3.5 °C above the average of the previous century (Battisti & Naylor, 2009). During this period, grain and fruit agriculture witnessed a frightening decrease of 20-36% in production.

As a response, policy makers are increasingly emphasizing the need to develop more sustainable forms of agriculture (Nousiainen, Pylkkänen, Saunders, Seppänen, & Vesala, 2009). One recognized solution by the EU is the transformation from centralization and productivist policies towards local agriculture (Gray, 2002; Lowe, Buller, & Ward, 2002). Local food systems (LFS) are conceptually different from the current system based on the spatial dimension in relation to production and consumption of food (Adams & Adams, 2011; DuPuis & Goodman, 2005). Contrary to global food systems, which are spatially dispersed and disembedded, LFS are locally embedded (Nousiainen et al., 2009). Additionally, LFS also deliver environmental, (Brain, 2012; Feenstra, 1997; Nousiainen et al., 2009), social (Hinrichs, 2000) and health benefits (Peters, Bills, Wilkins, & Fick, 2009; Martinez et al., 2010).

Given these benefits, it is surprising that the vast majority of consumers in the Netherlands remain consumers of the global food system. The spending on sustainable food increased from 8% in 2015 to 11% in 2018 (CBS, 2017; Logatcheva, 2018). Although this increase seems promising, the governmental reports on sustainable food do not take into account the location where the food is produced. This means that food with long food miles is also included, for example biological food from Spain. Contrary to this promising increase, local food initiatives state that the “*share of local food is barely growing*” (van Rossum, 2018, n.p.).

To clarify this dynamic in consumption patterns, growing sustainable food consumption but lagging growth in buying local food, a better understanding of consumer behaviour is essential. The adaptation of LFS in a capitalist context is dependent on its market potential, which is determined by the market demand (Ferguson, 2008). Market demand again is determined by several factors including consumer characteristics. The field of environmental psychology has deeply investigated consumer characteristics that contribute to one's intention to buy certain products (Ajzen, 1991) which forms potential market demand. Based on this, this

study applies the theory of planned behaviour (TPB) (Ajzen, 1991) which states that subjective norms, perceived behavioural control (PBC) and attitudes explain one's intention to engage in a certain behaviour. This theory offers a framework to investigate the factors that drive and inhibit market demand in LFS.

Hence, to establish a more holistic understanding of consumer behaviour in LFS, this study aims to answer the following research question: *What is the effect of moral and subjective norms, perceived behavioural control and habitual restrained attitudes on intentions to buy local food?* To answer this question, this study applies the TPB (Ajzen, 1991). The original model has received criticism for its inability to fully capture behavioural dynamics (Shin & Hancer, 2016). Therefore this paper complements the TPB with moral norms. Furthermore, attitudes are not constructed in isolation (Verplanken & Roy, 2014). Therefore, this paper states that attitudes are restrained by habitual behaviour, thereby influencing the strength of attitudes on one's intention to buy local food. Habitual behaviour reduces rationality in decision making by applying mental-maps from previous behaviour (Aarts & Dijksterhuis, 2000; Verplanken & Orbell, 2003), thereby limiting the reassessment of behavioural outcomes. This reasoning builds upon social practice approaches which states that change is intentionally impeded by society based on habitual behaviours (Hinrichs, 2014).

This study contributes to the current literature in several ways. First, research on TPB in regional food chains has previously included moral norms (Shin & Hancer, 2016). This paper aims to further enhance validity of the TPB by combining the TPB with the social practices approach which accounts for the rigidity of one's ability to reassess behavioural outcomes. Secondly, habitual behaviour is a complex, psychological construct which currently is understudied in environmental psychology (Verplanken & Orbell, 2003). This paper aims to enhance understanding of how the rational, cognitive process of attitude establishment is affected by habits. This will provide future research with an illustration of how habits could potentially constrain reassessment of new, sustainable behaviours. Thirdly, this paper offers a novel, detailed conceptualisation of the intention concept. Thereby adding value to the environmental psychology literature which currently views intentions as a homogeneous concept. Lastly, this study resolves critique surrounding the TPB which states that predictive models fail to present real life reasoning (Northcote, 2011). Therefore, this study integrates qualitative data on why or why not people buy local food with the original quantitative tested model. This provides more detailed insight in the behavioural intentions to buy local food.

Further, this paper contributes to practice by providing insights to sustainable entrepreneurs who are starting or running local food initiatives. By uncovering the underlying customer behaviour, this paper sheds light on the reasoning why people intend to buy local food. This is especially valuable for local food initiatives that are designing intervention mechanisms to foster consumer's intentions to buy local food. Additionally, these insights are valuable for policy makers who wish to enhance local food consumption. Revealing underlying consumer behaviour is relevant for setting policy directions. Based on the impediments found in this paper, policy makers and municipalities can design initiatives to promote the buying of local food.

To answer the research question, this paper will first provide a theoretical background followed by the methodological framework. After this the results are discussed and implications for practice and research are given. Lastly, improvements for future research will be outlined.

THEORY

Local Food Systems

Although much difference exists in what constitutes LFS due to variance in regions, the current literature commonly agrees on the smaller spatial dimension of LFS (Adams & Adams, 2011; Brain, 2012; DuPuis & Goodman, 2005; Feagan, 2007). The spatial dimension is often compared to the current mainstream food systems which operate at a global level in a specialized manner (Lyson, 2004; Peters et al., 2009). Further, LFS are labelled as resisting capitalism, with a lesser focus on increasing scale (DuPuis & Goodman, 2005; Holloway & Kneafsey, 2004). From an economic perspective, LFS offer new opportunities of value-added generation as producers are stimulated to shorten industrial chains by generating new associational networks and different consumer relations (Marsden, Banks, & Bristow, 2002). Furthermore, contrary to global food systems, which essentially possess a race to the bottom logic, LFS allocate economic value in a more sustainable manner across actors (Allen, 2010).

In this study, locally produced food is not restricted to a certain mode of production such as organic or biologic. Hence, the essence of LFS in this study relies on the geographical component that is conceptually alternative to the global, specialized system. Conceptually LFS resemble the notion of civic agriculture (i.e. community agriculture and gardens), however LFS are less alternative in a sense that active consumer participation is not required (Lyson, 2004).

Behaviour in local food systems

Current research has investigated consumer behaviour in LFS in both terms of drivers and barriers. Consumers are driven to buy local food due to product related properties, such as better quality and freshness (Martinez et al., 2010; Megicks, Memery, & Angell, 2012) as well as a person's priorities in relation to buying food such as supporting the local community (Feagan, 2007; Nousiainen et al., 2009), reducing food-miles (Brain, 2012; Megicks et al., 2012) and as an authentic food alternative to regular food options (Adams & Salois, 2010). Furthermore, buying local food is driven by the overall shopping experience which is led by hedonic shopping motives and the contextual setting in LFS (Arnold & Reynolds, 2003; Babin, Darden, & Griffin, 1994)

Few barriers have, however, been identified in the current literature, including the inconvenience of the location to buy local food (Stephenson & Lev, 2004) and the unwillingness to incur higher searching costs (Jekanowski, Williams, & Schiek, 2000). These factors can be associated with ones PBC in relation to buying local food, such ones perceived monetary ability to afford local food (Vermeir & Verbeke, 2008; Weatherell, Tregear, & Allinson, 2003)

To investigate behavioural intentions, researchers often apply the TPB. This also holds for behavioural activities in relation to alternative food options, such as organic food (Aertsens, Verbeke, Mondelaers, & van Huylenbroeck, 2009; Arvola et al., 2008; Scalco, Noventa, Sartori, & Ceschi, 2017; Shepherd, Magnusson, & Sjöden, 2005) and fair-trade products (de Leeuw, Valois, & Houssemand, 2011). These studies found that the TPB was a sound theoretical framework in predicting behaviour. However, scant effort has been devoted towards the implications of the TPB in relation to buying local food, with exception of Shin and Hancer (2016). Shin and Hancer (2016) investigated the behaviour in LFS in the U.S. by applying the TPB extended with moral norms. However, the spatial component in American LFS is conceptualised at a larger scale than in Europe (Feagan, 2007). Hence, this study investigates the TPB in a European context. Additionally, this study includes habitual behaviour. This enhances the validity of the TPB by accounting for rigidity in behaviour. Given that habitual behaviour is a novel concept in relation to this theory, this paper will address habitual behaviour in more detail.

Theory of planned behaviour applied to buying local food

The TPB states that behaviour can be predicted by one's intention to engage in this behaviour. The intention is formed based on one's attitude towards this behaviour, the subjective norm associated with the behaviour and the perceived behavioural control (PBC) to engage in this behaviour (Ajzen, 1991; Montaña & Kasprzyk, 2015). TPB offers a framework to investigate reasons that motivate or discourage certain behaviours among individuals and groups. Additionally, it offers a foundation from which interventions can be designed to guide behaviour (Montaña & Kasprzyk, 2015). Previously, Shin & Hancer (2016) applied the TPB to local food consumption and found that the model served as a good predictor for the intention to buy local food. They also incorporated moral norms and found it as a significant contributor to one's intention to buy local food.

To further enhance the validity of the model, this study combines TPB with the social practices approach. The TPB has been criticised for its inability to fully capture behavioural dynamics (Ajzen, 2011). To account for rigidity in reassessment of behavioural outcomes in relation to attitudes, this study includes habitual behaviour (Aarts & Dijksterhuis, 2000; Anable, Lane, & Kelay, 2006). This is based on the social practices approach which states that society intentionally acts to construct a sustainable movement due to habits (Hinrichs, 2014). Following previous research, this paper includes moral norms as these enhance the TPB ability to capture customer dynamics (Shepherd et al., 2005; Vindigni, Janssen, & Jager, 2002; Shin & Hancer, 2016).

Subjective norm

Normative beliefs influence the likelihood that important others accept or rejects one's engagement in a behaviour (Ajzen & Driver, 1991). This leads to the establishment of subjective norms, which constitutes the social pressure a person perceives to engage in a behaviour (Aertsens et al., 2009; Ajzen, 1991). Frequently, people adhere to social norms as this provides guidance on what behaviour is appropriate (Bamberg, Hunecke, & Blöbaum, 2007; Jager, 2000). In terms of sustainable food consumption, Vermeir & Verbeke (2004) stated that the intention to buy sustainable products can be explained by one's desire to comply with the belief of other people to do so. Buying local food is classified as a sustainable food alternative (Megicks et al., 2012) hence, this paper hypothesises that a positive subjective norm stimulates intentions to buy local products:

Hypothesis 1: a positive subjective norm towards buying local food, enhances one's intention to buy local food.

Perceived behavioural control

Control beliefs influence one's PBC based on past experiences in a given behaviour (Ajzen & Driver, 1991). Greater experience reduces the perceived difficulty to engage in this behaviour (Ajzen & Driver, 1991). PBC hence reflects one's perceived ability to engage in a certain behaviour (Ajzen, 1991). This perception is based on the presence of factors that either facilitate or impede a certain behaviour (Aertsens et al., 2009). The PBC has the potential to explain the behavioural gap between one's attitudes and the behaviour one engages in (Aertsens et al., 2009).

In relation to buying food, monetary resources have been found to play a significant role in explaining organic food consumption (Durham & Andrade, 2005; Li et al., 2007). Additionally, behavioural intentions are influenced by the perceived availability of alternative foods (Krystallis & Chryssohoidis, 2005; Vindigni et al., 2002). The availability of information about LFS in terms of location and benefits also plays a role in determining one's PBC in relation to buying local food (Jekanowski et al., 2000). Henceforth, this paper hypothesises the following:

Hypothesis 2: greater PBC enhances one's intention to buy local food.

Moral norms

Moral norms refer to an individual's beliefs about the correctness and incorrectness of a certain behaviour (Rivis et al., 2009). The moral norm is activated when consequences of an action are known and one is willing to bear these consequences (Ajzen, 1991). Additionally, the predictive power of moral norms is the greatest when a given behaviour impacts others' welfare (Arvola et al., 2008; de Leeuw et al., 2011; Rivis et al., 2009).

Buying local food has the ability to enhance local farmer's welfare through fair prices as well as greater embeddedness in society, thereby enhancing appreciation for farmers (Brain, 2012; Feenstra, 1997; Nousiainen et al., 2009). Furthermore, buying local food enhances one's own welfare in terms of better health (Martinez et al., 2010) and mental empowerment through active support for, and participation in LFS (Hinrichs, 2000). Hence, this study hypothesises that positive moral norms about buying local food enhance one's intentions to buy local food:

Hypothesis 3: positive moral norms towards buying local food enhance one's intention to buy local food

Attitudes

Behavioural beliefs form the basis of one's attitudes by distinguishing between beliefs about costs and benefits (instrumental beliefs) as well as positive and negative feelings (affective beliefs) related to a certain behaviour (Ajzen & Driver, 1991). This in turn establishes one's attitudes, which constitute the subjectively weighted evaluations of the perceived outcomes or attributes of engaging in a certain behaviour (Ajzen, 1991; Montaña & Kasprzyk, 2015). Hence, when one holds positive affective and instrumental beliefs about the outcomes resulting from a certain behaviour, he or she will create a positive attitude towards this behaviour. This positive evaluation will in turn positively influence one's intention to engage in a certain behaviour.

In relation to buying local food, positive affective feelings can be created due to hedonic shopping experiences (Arnold & Reynolds, 2003; Babin et al., 1994) and supporting and engaging with local communities (Feagan, 2007; Nousiainen et al., 2009). This establishes positive attitudes towards buying local food. Hence, this paper hypothesises the following:

Hypothesis 4: positive attitudes towards local products will increase one's intention to buy local food.

Habitual behaviour

Attitudes are however not constructed in isolation (Verplanken & Roy, 2014). Evaluation of outcomes is subject to rationality. This rationality is reduced over time when habits are formed (Anable, Lane, & Kelay, 2006). When a certain behaviour is habitual, reassessment of alternatives have lower chances of being evaluated (Chen & Chao, 2011; Eriksson, Garvill, & Nordlund, 2008). The greater the strength of an habit, the less conscious the behaviour (de Bruijn, 2010; Verplanken & Orbell, 2003). This indicates that habits can be classified as a psychological construct rather than conscious, cognitive behavioural repetition (Verplanken & Orbell, 2003). Habits are hence constructed through frequent execution of an act in response to a stimuli (Hull, 1944). This association between stimuli and act creates a mental map which stimulates a certain behaviour (Aarts & Dijksterhuis, 2000; Verplanken & Orbell, 2003). This behaviour is goal directed whereby the stimuli causes someone to act in order to reach a certain goal (Verplanken & Orbell, 2003).

In relation to sustainability, habitual behaviour has been found to be impeding as habits are goal directed and rely on one's mental stimuli-act map (Verplanken & Roy, 2014). This implies that goals related to one's habits are not necessarily associated with sustainability but rather with other goals such as efficiency (i.e. pre-packaged food), reducing costs (i.e. race to the bottom for farmers) or enhancing comfort (i.e. all food available in one store, pre-packaged). As habitual behaviours reduce deliberate evaluation of outcomes, the chance that one's attitudes change in relation to the intention to buy local foods is impeded (Verplanken & Roy, 2014).

Buying local food can be classified as sustainable, which deviates from one's mental map and habitual behaviour to buy regular food. This indicates that, although, one might have positive attitudes towards buying local food, his or her habits impede the assessment of alternative options and subsequent outcomes (Chen & Chao, 2011; Eriksson et al., 2008). Hence this paper hypothesises that habits will weaken one's attitudes towards one's intention to buy local foods:

Hypothesis 5: the relationship between attitudes and one's intention to buy local food will be weakened when strong habitual behaviour exists in buying regular food.

RESEARCH DESIGN

Data collection and sample

Data was collected through online, self-administered questionnaires, first asking for demographic information, an open question asking why or why not respondents buy/would buy local food and after that items related to the latent variables were asked. The measurement items related to latent variables were borrowed from previous research (Armitage & Conner, 2010; Francis et al, 2004; Lemmens et al., 2005; Robinson, Masser, White, Hyde, & Terry, 2008). Reliability of these measures have previously been established with Cronbach Alpha.

Participants were residents of Friesland, who self-selected to participate in this study. These participants were recruited through online social media platforms and Frisian organisations. Participants received the online questionnaire, accompanied with an introductory statement outlining the purpose of the survey, confidentiality and anonymity, an invitation to enter into a prize draw and the option to receive further information about the findings of the study. Responses were collected in April 2020 and May 2020. In total 216 respondents filled out the questionnaire. After deleting non-responses and cases with missing data, the final sample consists of 184 respondents of which 26% is male and 74% is female. The respondents are aged between 17 and 79, with an average age of 47 (SD=13.32). Net monthly income of the

sample was normally distributed: less than €1.000 (6%), €1.000-€1.999 (12%), €2.000-€2.999 (22.8%), €3.000-€3.999 (22.8%), €4.000-€4.999 (15.8%), €5000 or more (8.7%).

Measures

TPB construct measures are based on guidelines by Francis et al (2004). In addition to the TPB constructs, moral norms and habitual behaviour were included in the questionnaire. Moral norms are measured based on the proposed items by Shin & Hancer (2016) and Robinson, Maser, White, Hyde and Terry (2008). Habitual behaviours are measured in accordance with the Self-Report Habit Index of Verplanken and Orbell (2003).

Intention

Intention to buy local food was measured using three items: 1: *‘I expect to buy local food in the next 3 months’*, 2: *‘I would like to buy local food in the next 3 months’* on a five-point Likert scale scoring 1: strongly agree and 5: strongly disagree. Lastly, 3: *‘I will buy local food in the next 3 months’* was asked on a five-point Likert scale, scoring 1: very likely and 5: very unlikely ($\alpha = 0.87$).

Subjective norm

Three items were used to measure the subjective norm: 1: *‘People who are important to me would recommend me to buy local food’*, 2: *‘People who are important to me would think that I should buy local food’*, on a five-point Likert scale scoring 1: strongly agree and 5: strongly disagree. Lastly, 3: *‘If I bought local food, people who are important to me would’* on a five-point Likert scale scoring 1: strongly approve and 5: strongly disapprove ($\alpha = 0.71$).

PBC

PBC was measured based on four items: 1: *‘I have complete control whether I buy local food or not in the next 3 months’*, 2: *‘It would be easy for me to buy local food in the next 3 months’*, 3: *‘I am confident that I could buy local food if I want to’* and lastly 4: *‘It is easy for me to purchase local food’*, on a five-point Likert scale scoring 1: strongly agree, 5: strongly disagree ($\alpha = 0.86$).

Moral norms

Four items served to measure the construct moral norms: 1: *‘I believe I have a moral obligation to buy local food’*, 2: *‘It is in line with my moral principles to buy local food’*, 3: *‘My personal values encourage me to buy local food’*, and lastly 4: *‘I have a moral*

responsibility to buy local food'' on a five-point Likert scale scored 1: strongly agree and 5: strongly disagree ($\alpha = 0.90$).

Attitudes

To measure attitudes, seven 5-point semantic differential items were assessed in relation towards buying local food, including: *unpleasant/pleasant*, *bad/good*, *unsatisfying/satisfying*, *pointless/worthwhile*, *unrewarding/rewarding*, *harmful/beneficial* and *stressful/relaxing* ($\alpha = 0.89$)

Habitual behaviour

Habitual behaviour is measured according to the Self-Report Habit Index (Verplanken & Orbell, 2003), asking respondents whether buying regular food is something: 1) *I do frequently*, 2) *I do automatically*, 3) *I do without having to consciously remember*, 4) *that makes me feel weird if I do not do it*, 5) *I do without thinking*, 6) *that would require effort not to do it*, 7) *that belongs to my daily/weekly routine*, 8) *I start doing before I realise I am doing it*, 9) *I would find hard not to do*, 10) *I have no need to think about doing*, 11) *that is typically "me"* and 12) *I have been doing for a long time* ($\alpha = 0.91$). The items are accompanied with a 5-point response scale ranging from 1: strongly agree, 5: strongly disagree. Regular food here is defined as food bought in supermarkets which was not specifically labelled as locally produced.

Methods

This study applies structural equation modelling (SEM) to analyse the proposed model. Analysis is conducted in AMOS 2015. SEM is applied as it offers the potential to assess relationships among manifest and latent variables (Jöreskog, 1978; Martens, 2005; Schumacker & Lomax, 2010). This is especially relevant for measuring complex psychological constructs which cannot be observed directly (Martens, 2005; Schumacker & Lomax, 2010). Additionally, SEM is well suited to test complex models that are subtracted from theory (Martens, 2005). As this study aims to investigate unobservable, psychological constructs, characterized by a complex interplay, SEM is believed to be an appropriate framework for analysis.

Following Gerbing & Anderson (1988), a two-step approach to SEM is applied where first measurement models are estimated separately after which simultaneous estimation of the structural models is performed. This two-step approach offers the advantage of accounting for increased goodness of fit due to additional paths while not compromising for the ability to establish meaningful causal inferences (Gerbing & Anderson, 1988). In the first step, confirmatory factor analysis (CFA) was applied to test the measurement model. In this model

manifest and latent constructs (i.e. intention, subjective norm, PBC, moral norms, attitudes and habitual behaviour) are linked. The first indicator of each latent variable was set to 1 to create its metric. The second step consisted of the path analysis of the defined measurement models. Four models were tested based on the aforementioned hypotheses. Model 1 serves as a baseline value against which the other models can be compared.

Results

Descriptives

The descriptive and correlation statistics are given in Table 1.

Table 1 Descriptive statistics and correlations

	Mean	SD	1	2	3	4	5
1 Intention	3,26	1,03					
2 Subjective norm	2,73	0,77	0,318**				
3 PBC	4,75	2,15	0,633**	0,304**			
4 Moral norms	2,43	0,93	0,533**	0,404**	0,370**		
5 Attitudes	4,22	0,69	-0,466**	-0,284**	-0,335**	-0,534**	
6 Habits	2,73	0,80	-0,284**	0,030	-0,174**	-0,144*	0,149*

n = 184 for all variables, **p* < 0,1, ***p* < 0,05, (1-tailed test)

Measurement model

The initial measurement model provided an insufficient fit to the data $\chi^2(205) = 700,35$, NFI = 0,76, CFI = 0,82, RMSEA = 0,11. Investigating the factor loadings indicated that there were two factor loadings < 0,40. Subjective norm had one factor loading of 0.31 (nr. 3) and that PBC had one factor loading of 0.31 (nr. 1). Removal of these items resulted in an improved model fit close to the thresholds: data $\chi^2(155) = 477,87$, NFI = 0,83, CFI = 0,88, RMSEA = 0,10. As all Cronbach Alpha's passed the threshold of 0,6, all factors are included for the latent variables in the structural model.

Structural model

The structural model was tested by applying SEM. The fit of the model with the data proved to be good $\chi^2(1) = 1,49$, NFI = 0,99, CFI = 0,99, RMSEA = 0,05. A summary of the model is provided in Table 2 and Figure 1.

Hypothesis 1 predicted that a positive subjective norm towards buying local food, enhances one's intention to buy local food. Results support the positive path coefficients, however these are not significant ($\beta = 0,049$; ns). Thus, the subjective norm does not significantly relate to one's intention to buy local food.

Hypothesis 2 predicted that greater PBC enhances one's intention to buy local food. In support of this hypothesis, the path coefficients are positive and significant ($\beta = 0,383$; $p < 0,01$). Thus, when one perceives greater behavioural control, he or she is more likely to buy local food.

Hypothesis 3 stated that positive moral norms towards buying local food enhance one's intention to buy local food. The path coefficient from moral norms towards the intention to buy local food are positive and significant ($\beta = 0,206$; $p < 0,01$) and hence support hypothesis 3. This indicates that indeed positive moral norms enhance the intention to buy local food. The qualitative data indicated that moral grounds included support for local entrepreneurs, lower carbon footprint, freshness and the overall shopping experience.

Hypothesis 4 predicted that positive attitudes towards local products will increase one's intention to buy local food. Results do not lend support for this hypothesis. The path coefficient from attitudes to intention to buy is negative and insignificant ($\beta = -0,062$; ns). Indicating that this study did not find a significant link between attitudes and intention. This is interesting given that previous research has well-established this relation (Shin & Hancer, 2016; Vermeir & Verbeke, 2008). However, this could indicate an attitude-intention gap as previous research found that attitudes do not always align with behavioural intentions (Shaw, McMaster, & Newholm, 2016; Vermeir & Verbeke, 2004).

Hypothesis 5 focused on the interaction of habitual behaviour on attitudes. It stated that the relationship between attitudes and one's intention to buy local food will be weakened when strong habitual behaviour exists in buying regular food. Results shows that this is supported ($\beta = -0,030$; $p < 0,01$).

Alternative model

The non-significant and negative finding for attitudes on intention suggests that there could be an attitude-intention gap. To find the nature of this gap, the intentions to buy local food are further investigated. Recent research has found that attitudes related to shoe attributes, caused significant differences in one's intention level to buy shoes (i.e. high or low intention to buy shoes) (Wang, 2014). Hence, this study proposes a distinction in the initial factor intention:

desired intention and planned intention. The desired intention can be classified as an intention, where one hopes to buy local food in the future but has not explicitly planned to do so. Contrary to planned intention where a commitment to intend to buy local food is made.

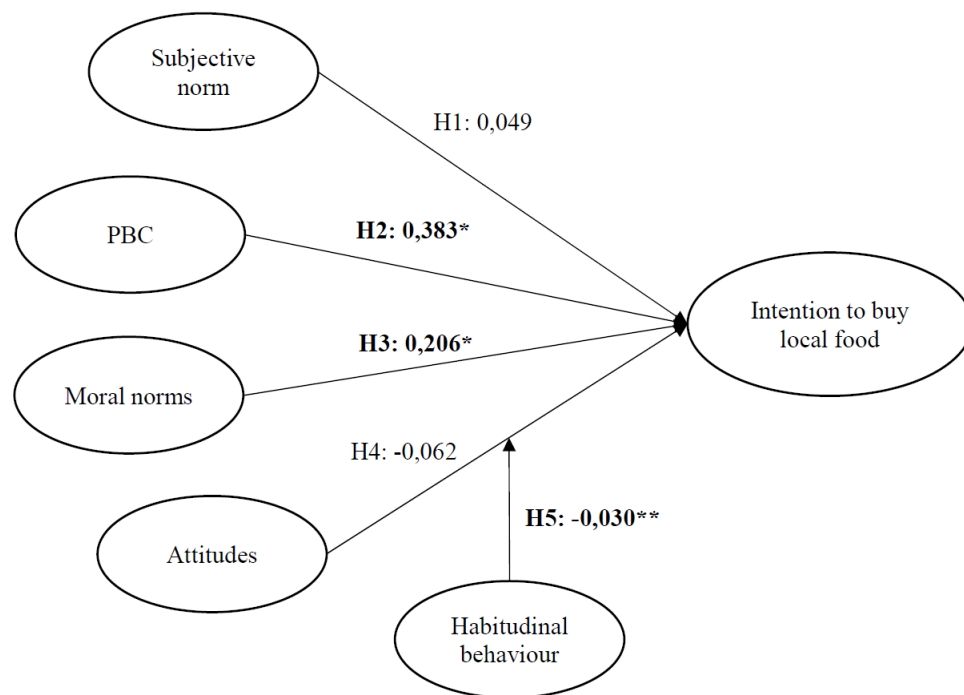


Figure 1 Structural diagram of the hypothesized model. Hypotheses in bold were supported. * $p < 0,1$, ** $p < 0,05$, *** $p < 0,01$. $n = 184$

To distinguish between desired and planned intention, the original three-item factor intention was separated. Desired intention was measured by the item “*I would like to buy local food*” in the original survey and planned intention measured by the other two items from the original survey “*I expect to buy local food*” and “*I will buy local food*”. Data shows that respondents with a high desired intention ($x = 1,684$)¹ to buy local food, scored low on the actual planned intention ($x = 3,222$) to buy local food. Further, these respondents bought local food less than once a month or had never bought local food. On the contrary, respondents with a high planned intention ($x = 1,222$) buy local food more than 2-3 per month or at least once a week.

¹ Scales ranged from 1: strongly agree to 5: strongly disagree

Table 2 Summary of structural equation modelling results.

	Intention (overall)	Desired intention	Planned intention
Subjective norm	0,049 (0,066)	-0,042 (0,063)	0,146 (0,097)
PBC	0,383* (0,052)	0,173* (0,050)	0,597* (0,076)
Moral norms	0,206* (0,062)	0,315*** (0,060)	0,151*** (0,096)
Attitudes	-0,062 (0,095)	-0,179** (0,091)	0,013 (0,139)
Habits x attitudes	-0,030** (0,014)	-0,029** (0,013)	-0,037*** (0,020)

Standard errors are reported below regression coefficients in parentheses.

* $p < 0,1$, ** $p < 0,05$, *** $p < 0,01$. $n = 184$

To investigate this attitude-intention gap of people with positive attitudes who do not buy local food, the qualitative question why/why not people buy/would buy local food was investigated based on three-step theoretical coding as suggested by Strauss (1984). The program Atals.ti was applied to conduct the coding (version 8; Paulus & Lester, 2015). This provides insight in the factors that refrain individuals who hold positive attitudes towards local food and who have a desired intention to buy local food, from actually buying it. The data indicated that people who showed a high desired intention had a positive view of local food however did know where to buy it. Further, people with a high desire often lacked the motivation to put in more effort to buy local food and perceived buying local food as demanding. Lastly, people perceive a lack of information on local food and find it more expensive (Table 3). The following quote nicely summarizes the factors location, effort and price: *“I do not often buy local food as I do not have enough time to go to special stores, like Jouw dagelijkse kost. On top of that, my husband thinks it is expensive. When my local supermarket has more local products, I would buy it”*.

Based on this, two new models were constructed in AMOS (Appendix A). The model fit remained constant when differentiating between desired and planned intention. The path coefficients are however interesting. Attitudes significantly influence the desired intention to

buy local food negatively ($\beta = -0,179$; $p = 0,05$). Whereas attitudes positively influence the planned intention, however this is insignificant ($\beta = 0,129$; ns) (Table 2). The quotes in Table 3 illustrate the attitude intention gap in relation to the desired intention.

Robustness check

To validate the robustness of the model, a robustness tests was conducted by estimating the model with the ordinary least squares (OLS) estimation approach. First, the initial proposed model was tested. Results indicate that by using OLS the negative effect of attitudes on intention to buy local food becomes significant ($\beta = -0,548$; $p = 0,06$). Based on this, the alternative models were also tested by applying OLS. In this case, similar results regarding the hypothesis were found. The path coefficients in the model for desired intention and planned intention resulted in the same estimations.

Table 3 Investigation of the attitude-intention gap between positive attitudes and desired intention to buy local food

Location	[1] <i>"I would like to buy more local food in the city, however I think there is not enough supply in the stores here. I buy my daily groceries in the supermarket but there is not local food offered here. I am however a great supporter for buying local."</i> [2] <i>"It is unclear to me where I can buy local food here"</i> [3] <i>"I like to buy local food, however the location where to buy it is unknown to me"</i>
Motivation	[1] <i>"I am just too lazy, I pass by a local vegetable store everyday however the ease of buying everything in one store always attracts me"</i> [2] <i>"I have bought potatoes at a local farmer once, however I find it time consuming to drive to the farmer"</i> [3] <i>"I can buy everything at once at the AH, which is easier. Although the Streekboer gives more satisfaction, I still prefer the AH as they have pre-washed spinach and kale"</i> [4] <i>"The reason why I have not bought local food yet is, I think, laziness. The intention to buy local food is present. But I just have not yet taken action to find out more about local food and where to buy it"</i>
Information	[1] <i>"There is no clear webpage [on local food]"</i> [2] <i>"We have just moved here, however it is hard to find out where to buy local food"</i> [3] <i>"I buy my food in the supermarket, I would like to know where local food is sold"</i>
Price	[1] <i>"I have bought food at the Streekboer for a while, however it got too expensive in my opinion"</i> [2] <i>"I like to buy local food to support local farmers, however it is often times very expensive"</i> [3] <i>"...it is often more expensive and I have to watch my expenditures"</i>

Quotes were translated from Dutch to English.

DISCUSSION

To further promote sustainable food initiatives, of which local food systems are one, it is crucial to gain understanding in what drives and inhibits people from buying local food. Hence, this paper aimed to investigate the intention to buy local food based on the TPB complemented with moral norms and habitual restrained attitudes. This study contributes to the field of environmental psychology by enhancing the understanding of consumer behaviour in local food systems. Further, this study provides valuable practical insights for both policy makers and sustainable entrepreneurs.

Theoretical implications

First, contrasting the hypothesized relation that the subjective norm positively influences one's intention to buy local food, the results indicate an insignificant relationship between the subjective norm and the intention. This finding is in line with previous research that typically finds the subjective norm as a weak predictor of intention (Chatzisarantis, Hagger, & Smith, 2007). The non-significant finding in this study can partially be explained by the fact that buying food requires low purchase involvement and hence the opinion of significant others is less important (Mittal, 1989). This low purchase involvement reduces the length of the consumer decision making process and hence the consideration of other's opinions is less important (Mittal, 1989).

Additionally, this can be explained from a cultural and contextual perspective. The Netherlands is characterized by an individualistic culture (Hofstede, 2020; Rodriguez Mosquera, Manstead, & Fischer, 2000; Sheida, Rieffe, & Mo, 2010). This individualism leads to more autonomous decision making and a lower tendency to compare oneself to others (Ajzen, 2011). Further, the context in which interpersonal relationships are formed plays a significant role in relation to the subjective norm. In accordance with the self-determination theory, this context is completely autonomous when choice, acknowledgement and rationale is provided by significant others (Ryan & Deci, 2000). This establishes a non-pressuring contextual setting where the decision maker experiences little influence or pressure of others (Kor & Mullan, 2011; Ryan & Deci, 2000). This type of interpersonal relations are also influenced by the individualistic Dutch culture and establishes a context where freedom of choice is accepted.

In relation to local food, this indicates that culture and context play an important role. The contextual and cultural setting in this study leads to autonomous decision making on the intention to buy local food. Implying that the respondents perceive little pressure from significant others to intend to buy local food. Significant others accept the intention of others

to buy local food, even when their own behaviour and opinions deviate. Based on this insight, this study contributes theoretically by establishing the importance of context in local food systems. This indicates that local food systems should not be evaluated in isolation, but rather in relation to their wider context.

Second, moral norms and PBC both positively influenced the intention to buy local food. These predictors are the largest determinants in terms of effect size on intention. In terms of moral norms this indicates that people who perceive buying local food as a moral good, are more intended to buy local food. This is consistent with previous findings in relation to buying local food (Shin & Hancer, 2016). Explanations for this range from pro-environmental behaviour to supporting local entrepreneurs and better quality for the products.

By including moral norms as a predictor variable, this study contributes to the understanding the complexities of modern human behaviour. Given that moral norms is the second largest predictor variable, a theoretical affirmation is provided to recent studies that incorporated moral norms as well (de Leeuw, Valois, Morin, & Schmidt, 2014; Shin & Hancer, 2016). Additionally, the nature of the moral grounds were found in this study based on the qualitative data gathered. This reduces ambiguity surrounding the moral reasoning of consumers (Shin & Hancer, 2016). The qualitative data indicated that moral grounds included support for local entrepreneurs, lower carbon footprint, freshness and the overall shopping experience.

Greater PBC also enhanced the intention to buy local food. Implying that when people perceive higher controllability, they are more likely to buy local food. The positive effect of PBC on intention has previously been found in relation to buy sustainable food (Vermeir & Verbeke, 2008). Although in line with previous research, this study found that PBC is the strongest predictor on the intention to buy local food whereas past research indicated it as one of the weakest predictors (Kor & Mullan, 2011; Shin & Hancer, 2016). One possible explanation for this is the fact that approximately half of this study's sample earned €3000 or more per month. This is above the average Dutch monthly income of €2600 (CBS, 2019). Hence, this study's sample might perceive less financial constraints to the intention to buy local food. Additionally, previous experience in buying local food can explain this strong prediction. Experience has been found to shape beliefs about the difficulty to perform a certain behaviour (Conner & Norman, 2006). When one has previously engaged in a certain behaviour, perceived difficulty will be lower and hence the intention to engage in this behaviour will be higher (Conner & Norman, 2006). In relation to this study, only 12,8% of the respondents had never bought local food and 18,9% bought it less than once a month. This indicates that most of the

respondents had at least some experience with buying local food and hence might have perceived high controllability.

Third, this study contributes to the theoretical understanding of one's intention. In contrast to the positive expected relationship between attitudes and intention to buy local food, no relationship was found. This was interesting due to the prevalence of contradictory findings in current literature (Arvola et al., 2008; de Leeuw et al., 2011; Shin & Hancer, 2016; Vermeir & Verbeke, 2008). Nonetheless, this finding offers potential interesting insights in the different types of intention. Previous literature has investigated the attitude-behaviour gap from the perspective that caring about something does not necessarily lead to care giving (Shaw et al., 2016). However, the factors accounting for this gap are less clear.

By clarifying why customers with positive attitudes towards local food do not necessarily intend to buy local food, this paper offers a more detailed conceptualisation of intention. The planned intention is one where people actively and explicitly plan to buy local food. Contrary to desired intention where there is a desire but no concrete plans to buy local food. In case of desired intention, an attitude-intention gap is found. Several underlying factors have been found that contribute to the attitude-intention gap in buying local food, namely location, information, effort and price. Due to this, cognitive dissonance arises in the mind of consumers, indicating that attitudes are not aligned with their intentions (Festinger, 1962).

The distinguishing between planned and desired intention offers researchers more detailed insight in the nature of one's intention. This ensures that behaviour can be observed in a more detailed manner. Additionally, this provides insight in the different intention levels stemming from positive attitudes. This indicates that individuals with positive attitudes should not be considered as a homogenous group. This is interesting for researchers as they can aim to more specifically measure the within-group differences of people with positive attitudes.

Lastly, this study contributes to social practices literature by investigating the complex, psychological process of habits. This study has found that habits further impede the rational evaluation process in intending to buy local food for both desired and planned intention. Indicating that the evaluation of the intention to buy local food is limited by established mental maps in buying regular food. In case of desired intention, this might indicate that cognitive dissonance also feeds into habits. When individuals perceive mental discomfort due to inconsistency between attitudes and behavioural intentions, they might restore to habitual behaviour more easily as this feels comfortable and controllable (Verplanken & Roy, 2014). While these individuals might hold positive attitudes, the reevaluation of new behaviour is

blocked by previously established mental maps (Verplanken & Roy, 2014). This leads to a negative desired intention which is caused by the mental discomfort individuals perceive from their inability to buy local food while holding positive attitudes.

Hence, in relation to local food, habitual behaviour might be even more rigid when the factors causing cognitive-dissonance are present, including information, motivation, location and price (Table 3). This implies that individuals who perceive cognitive dissonance and have strong habits in buying regular food, restore to established mental maps to intend to buy regular food, more easily.

Practical implications

This study provides valuable information for policy makers and sustainable entrepreneurs in the field of local food. First, policy makers who aim to foster local food consumption can more precisely establish policies. Given that positive stances towards local food are no guarantee for intention to buy local food, market programs and policies can be established in a more targeted manner. These policies and programs should be established in such a way that the attitude-intention gap is overcome. This implies ensuring the right infrastructures and information to citizens. By applying a systems lens (Ford & Lerner, 1992; Boulding, 1956) to implement these initiatives, multiple stakeholders should be engaged to make this a success. For example, to reduce effort to buy local food, municipalities can cooperate with farmers, food outlets and supermarkets to offer local food.

Second, to reduce rigidity of behaviour, habitual behaviour should be targeted. This indicates that local food initiatives should move beyond promoting local food itself. Solely addressing the “new” behaviour may not be sufficient to change mental maps. More integrative processes are required that focus on switching barriers towards local food such as economic barriers (Woisetschläger, Lentz, & Evanschitzky, 2011). This could for example imply more fair pricing policies. Additionally, as it has been found that PBC is the strongest predictor for the intention to buy local food, policy makers should focus on enhancing the PBC of consumers. Most effective will be strategies and measures that aim to reduce cognitive dissonance and target the barriers in Table 3.

Third, sustainable entrepreneurs can benefit from these findings by evaluating opportunities that reduce effort for customers to buy local food. This is especially relevant for customers with high desired intentions. These customers perceive an attitude-intention gap based on location, motivation, information and price barriers. For example, customers believe

local food is more difficult to obtain. Consumers might expect that they have to drive to a local farmer outside the city or to a special store. When consumers have positive attitudes but perceive this as a barrier, sustainable entrepreneurs should aim to reduce these barriers. This can reshape the intention to buy local food as it is now perceived as less burdening. For example, it has been found that communication efforts that aim to reduce the perceived barriers for consuming sustainable products, can enhance consumption of these products (Vermeir & Verbeke, 2006). Hence, promotion of local food should also emphasize aspects of personal relevance, such as availability and background information.

Fourth, the promotion of local food should not solely rely on product aspects. This study found that moral norms are the second greatest predictor for the intention to buy local food. Hence, marketing campaigns and strategies should be devoted towards addressing the moral aspects of local food. These include the lower environmental impact, enhanced welfare for the local entrepreneurs and better health. By addressing the moral side of local food, consumer's interest might be sparked and can enhance the intention to buy local food.

Fifth, context matters. The isolated geographical scope of this study indicated the prevalence of an autonomous and non-pressured context. These factors influence the behaviour and influence consumers have on each other. This indicates that sustainable entrepreneurs in local food initiatives should not only focus on the direct relation they have with their customer, they should be aware of the contextual settings on how consumers interact and influence each other. This is dependent on the area the entrepreneur is active in and hence strategies should be based on the contextual setting he or she operates in.

CONCLUSION

The aim of this paper was to examine the factors influencing the intention to buy local food based on the TPB, extended by moral norms and attitudes that are impeded by habitual behaviour. In order to test the model, structural equation modelling was applied.

The original model of the TPB and previous research in relation to food partially aligned with findings of the current study. PBC and moral norms both positively influenced the intention to buy local food (Bissonnette & Contento, 2001; Scalco et al., 2017; Vermeir & Verbeke, 2008). Indicating that individuals who perceive high controllability and view buying local food as a moral responsibility, have a greater intention to buy local food. Moral norms

was added to the TPB and was found to be the second largest predictor. This indicates that a new meaningful concept was added.

Contrary to previous findings and the original TPB predictions, attitudes did not significantly influence the intention to buy local food. Hence, this paper proposed two new models which distinguish between desired and planned intention. In doing so, a novel, more detailed conceptualisation of intention is offered. This new conceptualisation offers interesting insights in consumer behaviour. First, attitudes positively influence the intention to buy local food when there is a planned intention. Contrary to a desired intention, which is negatively influenced by attitudes. This potentially indicates an attitude-intention gap. Based on qualitative data, this study found four factors that contribute to this gap, namely information, location, motivation and price.

This study also aimed to enhance understanding on the currently understudied, psychological concept of habitual behaviour (Verplanken & Orbell, 2003). Habits have been found to impede rational evaluation of new alternative behavioural options (de Bruijn, 2010; Verplanken & Roy, 2014). Findings indicate that this also holds for the intention to buy local food. The moderating effect of habits was negative and statistically significant and hence indicates that habits obstruct the intention to buy local food.

The findings of this study contribute both to theory and practice. First, theoretical implications indicate that the subjective norm is influenced by the cultural and contextual setting. The individualistic and autonomous setting of the study might have established a non-pressuring decision making context where the choice to intend to buy local food is freely accepted (Kor & Mullan, 2011; Ryan & Deci, 2000). Further, the theoretical relevancy of moral norms has been established in this study. Additionally, this study offers a more detailed conceptualisation of intention, thereby refining the understanding that although individuals hold positive attitudes a negative intention to buy local food is developed. Lastly, the novel insights on the impact of habits add to the theoretical understanding of reevaluation of alternative food options.

Second, practical implications for both policy makers and sustainable entrepreneurs are made. The insights are especially relevant from a promotional and strategical level. Policies and promotion strategies should move beyond the simple promotion of local food initiatives. Instead, habitual behaviour should be targeted by addressing switching barriers (Woisetschläger et al., 2011). Further, sustainable entrepreneurs and policy makers should aim to reduce the attitude-intention gap by providing consumers with means to overcome the factors that cause

this attitude-intention gap (Table 3). Lastly, the promotion of local food should include moral aspects as these were found to be the second largest predictor of one's intention to buy local food.

FUTURE RESEARCH AND SUGGESTIONS FOR IMPROVEMENT

The present study can be improved in several areas. First, respondents of this study were self-selected and recruited through the internet. Although this method offers the potential to reach a high response rate, external validity may be limited (Couper, 2000). This can indeed be observed in the fact that most survey respondents had experience in buying local as well as that the average income was above the mean income of the Netherlands (CBS, 2019). This implies that one should be cautious when generalizing these results. To enhance the generalizability of these results, future research should aim to distribute the survey through more diverse channels.

Second, given that LFS have a distinct nature in different places, this study focused on one area where LFS are homogeneous and comparable. Hence, one should be cautious when generalizing results to other areas, even in the Netherlands. Future research could aim to implement this study in other areas. This would especially be valuable for investigating the contextual importance. Different consumer behaviours can be uncovered as well as different entrepreneur – consumer interactions.

Third, the distinction between desired and planned intention is based on the initial measure of intention. The distinction was only found after analysing the data and hence this study was not able to establish separate measures. The initial measure was based on Francis et al (2004) and well-validated in previous literature. The novel proposed distinction between desired and planned intention have, however, not been validated yet. Hence, future research should aim to validate this measure. Additionally, more items should be included for each factor to enhance reliability of the measurement construct.

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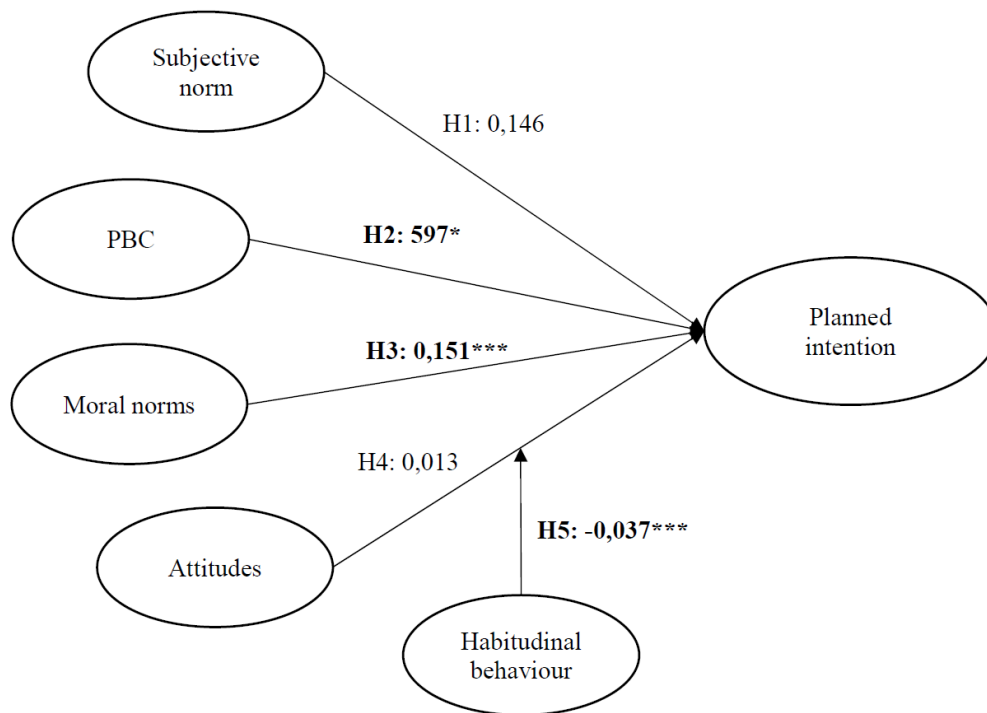
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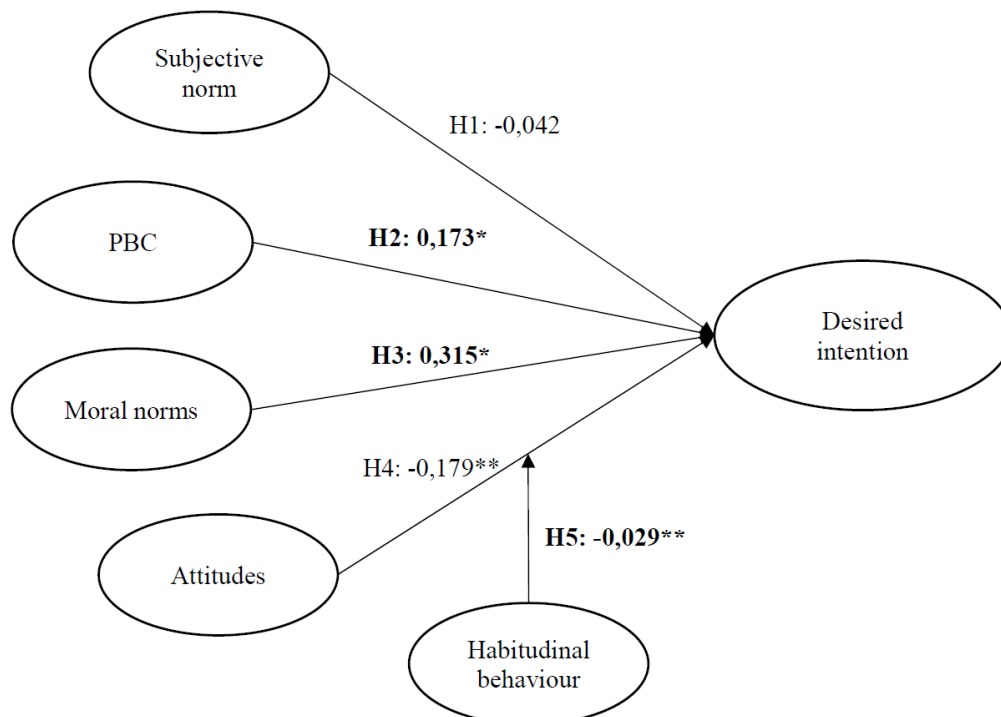
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Appendix A – Alternative models



Structural diagram of the alternative model with planned intention. Hypotheses in bold were supported.
 * $p < 0,1$, ** $p < 0,05$, *** $p < 0,01$. $n = 184$



Structural diagram of the alternative model with desired intention. Hypotheses in bold were supported.
 * $p < 0,1$, ** $p < 0,05$, *** $p < 0,01$. $n = 184$