

Factors Affecting the Consumption of Inland Fish: An application of the Theory of Planned Behaviour

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ABSTRACT

The aim of this study was to investigate the factors influencing inland fish consumption of consumers in Sri Lanka using the conceptual framework of the theory of planned behaviour. The data were collected from 219 consumers through a well-structured questionnaire administered in two districts. The study analysed the relationships between inland fish consumption, purchase behaviour, intention, attitudes, subjective norms and perceived behavioural control. Pearson correlation coefficient was used to identify the variables having significant impact. The results indicated that buying inland fish was significantly ($p < 0.01$) influenced by intention of consumers. Attitudes, subjective norms and perceived behavioural control were positively and significantly ($p < 0.01$) correlated with the intention of the respondents. The consumption of inland fish was highly associated with the intention and perceived behavioural control of consumers. The study highlighted the importance of designing and implementing appropriate policies to educate people and enhance the consumption of inland fish with a view to improve their protein intake.

KEYWORDS: Inland fish consumption, Intention, Purchase behaviour, Theory of planned behaviour

Introduction

Fish is a major source of providing important nutrients of human diets. Fish is highly demanded food in Sri Lanka as approximately 50% of the total animal protein intake of the population is obtained from fish (FAO, 2014). In 2016, marine fishes contributed 86% to the total fish production (530,920 Mt) while inland and aquaculture fisheries derived the remaining amount (73,930 Mt) (NARA, 2016). Tilapia (*Oreochromis niloticus*) and Catla/ Rohu (*Labeo* spp) were the two main species in the inland fisheries and contributed 59% to the total inland fish production in 2016.

The taste and personal preferences are the primary determining factors in food choice (Pieniak et al., 2008; Verbeke and Vackier, 2005). In the case of fish, Brunso et al. (2009) showed that the texture, flavor, and satiety affect consumers' choices. The color, fresh smell, and moist appearance are indicators of quality and freshness of fish and

consumer prefers to select the best quality fishes. People choose fish species that are familiar and easy in preparing (Verbeke and Vackier, 2005). It has been reported that contextual factors such as price and convenience routinely influence purchase decisions beyond their personal preferences (Devadawson et al., 2015b; Pieniak et al., 2008). A study completed in the eastern part of Sri Lanka where both sea and inland fish are commonly available, revealed that fish consumption was determined by many factors, however, socio-demographic factors played a major role in choosing fish (Devadawson et al., 2015a). Therefore, the intention to buy inland fish may be affected by many factors. Clear identification of these factors as well as their level of influence would provide useful information to policy makers.

The relationship between the consumers' purchase behaviour and their intention to buy has explained by the Theory of Planned Behaviour (TPB), which was introduced by Ajzen (1991). It has been widely used in investigations of decisions and behaviours of consumers on food such as purchasing novel foods (Olsen et al., 2008; Patch et al., 2005), use of food supplements (Conner et al., 2001), use of genetically modified foods (Zhang et al., 2018), consumption of dairy products (Kim et al., 2003), consumption of fish (Khan et al., 2018; Murray et al., 2017; Verbeke and Vackier, 2005), purchase of green products (Sreen et al., 2018, Paul et al., 2016), ethical food choices (O'Connor et al., 2017), fast food consumption (Dunn et al., 2011), fruit and vegetable consumption (Jung et al., 2017), beverage consumption (Riebl et al., 2016, Tipton, 2014) and consumption of organic foods (Scalco et al., 2017).

In Sri Lanka, consumption of inland fish has been restricted by certain factors such as lack of availability, muddy taste, fish variety preferences, and inconvenience in preparation and safety concerns. A very little is known about consumer attitudes and factors affecting on intention and purchase behaviour toward consumption of inland fish. In developing the inland fisheries industry, research is needed to identify factors underpinning consumers' attitudes and their levels of influences toward consumption. Such research would help advances in communication efforts by policy makers and designing production and marketing plans for the development of inland fish sector. The objective of this research was to identify the nature, strength, and relative importance of the factors affecting on the intention of consumers to purchase inland fish in Kandy and Anuradhapura districts in Sri Lanka.

Methodology

The Theory of Planned Behaviour (TPB)

The TPB describes the factors influencing the intention of an individual to perform a certain action. Intention has explained as the conscious plan to carry out a particular behaviour and the motivation to perform it. The theory illustrates that the intention is derived from three conceptually independent constructs namely attitudes, subjective norms and perceived behavioural control. Ajzen (1991) described attitude of an individual as to the degree to which a person has a favorable or unfavorable evaluation of the behaviour. Attitudes are determined by a behavioural belief about performing a particular behaviour in combination with the belief that performing a particular

behaviour will result in the outcome (outcome evaluation). The perceived social pressure to perform or not to perform a particular behaviour is referred to as subjective norm (a social factor). Subjective norm is determined by the social pressure and beliefs held by others who are important for the individual (normative beliefs) combined with the motivation of the individual to comply with social pressure (motivation to comply). The ease or difficulty perceived by an individual to perform the behaviour is referred as perceived behavioural control (Ajzen, 1991). Perceived behavioural control is determined by the likelihood of factors outside direct control to perform (facilitate or inhibit) a certain behaviour. Accordingly, consumers who have a positive attitude toward a particular behaviour, accept social pressure to perform the behaviour, and believe that they have a greater control over their decision to perform the behaviour, are more likely to engage in that behaviour. Ajzen (1991) showed that when these three constructs are more favorable, the stronger the intention of an individual to perform the behaviour. Figure 1 shown below is a schematic representation of the TPB.

Research Hypotheses

The TPB (Figure 1) suggests that there is a positive relationship between the behaviour and intention to eat inland fish. Scholderer and Grunert (2001) showed a significant impact on the consumption frequency of fish by the availability of fresh fish and intention to buy fish. Verbeke and Vackier (2005) studied the relationship between fish consumption frequency and intention to eat fish. In this study, the behaviour was consumption frequency of inland fish, which was defined as per Ajzen (2006) in terms of its target, action, context, and time elements. This study analyzed the relationship between the consumption frequency of inland fish and intention of the consumers.

Olsen (2001) who studied about the consumer involvement in seafood in Norway reported a positive relationship between intention and frequency of seafood consumption. Moreover, he reported a positive correlation between the attitudes and intention. Consumption of shellfish and other aquatic products is positively influenced by consumer attitudes (Verbeke and Vackier, 2005). Scholderer and Grunert (2001) found that the social norm from the family contributed significantly towards intention to eat fish among consumers in Denmark. Moreover, Myrland et al. (2000) reported that the social norm from the family has a significant impact on fish consumption.

Based on Ajzen (2006) the intention was defined as the consumers' intention to consume inland fish frequently in the forthcoming month. With respect to the determination of behavioural intention, it was assumed that the intention of consumers to eat inland fish frequently in the forthcoming month is positively correlated with the direct measures of attitude (A), subjective norm (SN) and perceived behavioural control (PBC). The intention of an individual to purchase inland fish frequently in the forthcoming month can be affected by direct (A) as well as indirect (bixei) measures of attitudes. Similarly, intention of an individual to purchase inland fish can be affected by direct as well as indirect measures of subjective norms and perceived behavioural control. Therefore, it was hypothesized that the intention of consumers to purchase inland fish frequently in the forthcoming month is positively correlated with the sum of direct (SN)

and indirect measures (n_{i,xm_i}) of subjective norms and direct (PBC) and indirect (c_{k,xp_k}) measures of perceived behavioural control. Moreover, the relationships between direct and indirect variables were also investigated.

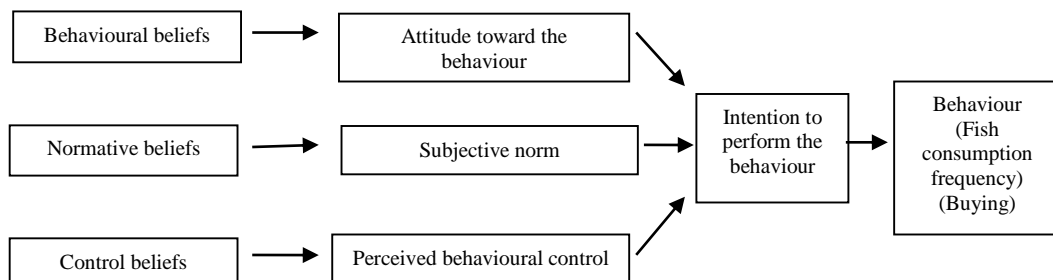


Figure 1: The theory of planned behaviour (Ajzen, 1991)

Measuring the TPB Construct

A structured pre tested questionnaire as detailed by Ajzen, (2006) and D’Ardenne, et al., (2011) was developed to identify the purchase behaviour of inland fish and their intention, attitudes, subjective norms and perceived behavioural controls towards purchase behaviour. Actual purchase behaviour of inland fish by the respondents was measured using the question “In the course of the past month how often you purchased inland fish for consumption?” Three statements were used to measure the intention of consumers to purchase inland fish and another 11 statements were included to directly measure the constructs attitude (5), subjective norm (3) and perceived behavioural control (3) as presented in Table 1 and 2 below. The TPB constructs were measured using seven- point scale as suggested by Ajzen (2006).

Sampling and Procedure for Data Collection

Two districts namely Anuradhapura and Kandy were selected for the study. Anuradhapura district is located in the North Central province of Sri Lanka in which a large number of tanks/ reservoirs are available with cultivated inland fish. Kandy district is located in the Central province to which both sea fish and inland fish are supplied by surrounding districts. Both districts are away from the sea with limited access to fresh sea fish. Four major cities from Anuradhapura district and three major cities from Kandy district were randomly selected. In each selected city, supermarkets with fish outlets and fish stalls in general market were identified. Finally, for the survey, 4 supermarkets and 19 fish stalls were randomly selected from the identified list of fish stalls in seven cities.

Table 1: Statements and Scales Used to Measure Intention (INT), Attitude (ATT), Subjective Norm (SN) and Perceived Behavioural Control (PBC)

Variable	Measure	Scale (1 to 7)
Intention		
INT ₁	I intend to purchase inland fish frequently (three or more times a week) in the forthcoming month.	Strongly disagreed to Strongly agreed
INT ₂	I will try to buy inland fish frequently in the forthcoming month.	Extremely unlikely to Extremely likely
INT ₃	For me to purchase inland fish for my family frequently in the forthcoming month is:	Extremely difficult to Extremely easy
Attitude (A)		
ATT ₁	Consumption of inland fish frequently by me is:	Pleasant to Unpleasant
ATT ₂	Consumption of inland fish frequently by me is:	Enjoyable to Un- enjoyable
ATT ₃	Consumption of inland fish frequently by me is:	Good to Bad
ATT ₄	Consumption of inland fish frequently by me is:	Bad for health to Good for health
ATT ₅	Consumption of inland fish frequently by me is:	Expensive to In- expensive
Subjective norm (SN)		
SN ₁	My spouse thinks that we should buy inland fish.	Less to More
SN ₂	How much pressure do you have from your spouse to buy inland fish?	Not at all to Very high
SN ₃	My children think that inland fish tastes:	Unpleasant to Pleasant
Perceived behavioural control (PBC)		
PBC ₁	How easy or difficult is for you to find inland fish in your local shops?	Easy to Difficult
PBC ₂	How easy or difficult is for you to afford to eat inland fish frequently?	Easy to Difficult
PBC ₃	How much control do you believe you have over purchasing inland fish frequently in the following month?	Complete control to No control

Table 2: Statements and Scales Used to Measure Behavioural Beliefs (BB), Outcome Evaluation (OC), Normative Beliefs (NB) and Control Beliefs (CB)

Variable	Measure	Scale (1 to 7)
BB1	Consuming inland fish frequently in the forthcoming month will provide high level of nutrition.	Extremely unlikely to Extremely likely
BB2	Purchasing inland fish frequently in the forthcoming month is cheap.	Extremely unlikely to Extremely likely
OC	Getting high level of nutrition is	Extremely bad to Extremely good
NB	My spouse thinks that I should purchase inland fish frequently in the forthcoming month.	Extremely unlikely to Extremely likely
MC	When it comes to eating fish how much do you want to do what your family thinks you should do?	Not at all to Very much
CB	I expect that availability of inland fish in my area would restrict my purchase in the forthcoming month.	Strongly disagreed to Strongly agreed.

Customers who came to buy fish from supermarkets and fish stalls were randomly approached and requested to provide information using the self-administered questionnaire. Therefore, the purposive sampling technique was used to select the respondents. The total number of respondents was 219. In Anuradhapura district, there were 115 respondents and there were 104 respondents in Kandy district. Data were collected in the weekdays and weekends from 9 a.m to 6 p.m.

Data Analysis

SPSS Version 21 was used for the analysis. The reliability of the test items used to measure the TPB constructs was measured by means of Cronbach's alpha coefficient. Hypotheses were tested by estimating the Spearman rank correlation coefficient.

Results and Discussion

Although Sri Lanka has been experiencing an increase in ownership and importation of fish (NARA, 2016), the per capita consumption level of 46.7g is lower than the nutritional recommendations. This study provides an insight about the intention of the consumers and their inland fish consumption behaviour, which can be used to promote inland fish consumption in Sri Lanka. Of the 219 respondents, 21% were males and 79% were females. Approximately 46% of the respondents were at the range of 18-24 years and 30% were at 25-34 years. Only 24% of the respondents have completed GCE (O/L) examination while 15% passed GCE (A/L) examination. Respondents from Kandy district showed higher levels of education qualifications than respondents from Anuradhapura district. In general, respondents from Anuradhapura district have poor level of education compared with the respondents from Kandy district. Approximately,

53% of the respondents' monthly household income was in between Rs. 15,000- 30,000 (1 US\$=155 Rs.). However, monthly household income of about 95% of the respondents in Anuradhapura district was less than Rs. 30,000. The mean household size of the sample was 4.3.

Analysis of actual inland fish buying behaviour of the respondents during the previous month revealed that 26% of the respondents purchased inland fish 3-4 times per week while another 24% purchased 4-6 times per week. Moreover, 19% of the respondents had bought inland fish every day. Results show that as a source of animal protein, inland fish has been highly accepted by households in two districts. Comparing respondents buying behaviour scores in two districts revealed that respondents in Anuradhapura district used to buy more inland fish than the respondents in Kandy district; this may be due to high availability and affordable price.

Literature showed that the theoretical framework of TPB has been adopted by number of researchers to understand the food consumption behaviour. TPB has been identified as a relevant model to explain consumer behaviour of fish consumption through three constructs: attitudes, perceived social pressure and perceived behavioural control (Tomic, et al., 2016). The intention to purchase inland fish frequently (three or more times a week) in the forthcoming month was measured by calculating the mean score of three intention statements. Intention of respondents to purchase inland fish frequently was high, as the mean score of the three intention statements was above 5 (ranged from 5.2 – 5.9) (Table 3).

This result was also supported by the high percentage (61%) of respondents who answered 6 and 7 on the scale of intention statement. The Cronbach's alpha coefficient for the three intention statements was 0.83, which was above the recommended minimum of 0.6 (Table 3). Therefore, results for three intention statements have higher level of internal consistency, and the sum of three constructs can be used to represent the intention of consumers.

The results of this study revealed that as hypothesized, the buying behaviour of respondents was positively and significantly influenced by the intention. The consumer intention to eat inland fish was found to be a positively significant predictor of inland fish purchase decision and fish consumption. According to the results, the frequency of inland fish consumption increases with increasing intention of inland fish consumption. This result is consistent with other studies of Kassem et al. (2003) on soft drink consumption, Wong and Mullen (2009) on breakfast consumption and Tomic et al. (2016) on predicting fresh fish consumption, where the analytical frameworks were the TPB. Examining the fish consumption in Vietnam, Thong and Olsen (2008) showed that the intention to consume fresh fish is a significant predictor of consumption of fresh fish. A study conducted in Denmark, found a significant impact of intention to buy on consumption frequency of fresh fish (Scholderer and Grunert, 2001). Olsen (2001) who studied Norwegian consumers' involvement in seafood reported a positive relationship between intention and consumption frequency of seafood. Scholderer and Grunert (2001) reported that intention to buy fish is a significant determinant of consumption frequency.

The present study demonstrates that the intention to perform a certain behaviour (to purchase inland fish frequently in the forthcoming month) leads to that behaviour (buying inland fish). This study revealed a high positive correlation between intention and inland fish consumption. On the other hand, individuals may be reluctant to consuming fish because of the perceived difficulty in purchasing, preparing, unpleasant physical properties (e.g. small bones and smell) of some varieties of inland fish. Even though thilapia fish carries an unpleasant smell, due to the high availability in the central part of the country and lower price than sea fish, consumers used to buy them.

Respondents showed a highly positive attitude towards purchasing inland fish in the forthcoming month as the mean scores of the three statements used to measure attitudes were in between 1.06 to 1.92 (Table 3). About 96% of the respondents agreed that consumption of inland fish frequently was enjoyable (ATT₂). Approximately, 70% of them stated that frequent consumption of inland fish was pleasant (ATT₁) and 72% as good (ATT₃). Almost 97% of the respondents agreed that eating inland fish was healthy (scale 6 & 7 together). Of the respondents, approximately 74% agreed that inland fish was in- expensive. The Cronbach's alpha coefficient for the measurement of attitudes was 0.71 (Only ATT₁, ATT₂ & ATT₃ were included and other two were removed due to poor consistency), which was above the recommended minimum. Therefore, the internal consistency of these three attitudinal variables was acceptable.

Results revealed that respondents perceived a high pressure from the spouse and children to purchase inland fish. The mean scores of three statements for subjective norm were close to 4 (ranged from 3.7- 4.3) (Table 3). Around 36% of the respondents (percentage of scores 5 to 7) agreed with the statement that their spouses think they should buy more inland fish (SN₁). Only 23% of the respondents (percentage of scores 5 to 7) agreed with the statement that their spouses apply high pressure on them to purchase inland fish (SN₂). Moreover, children of the respondents were identified as an important group as 45% of the respondents (percentage of scores 5 to 7) agreed that children eat inland fish due to its pleasant taste (SN₃). The Cronbach's alpha coefficient for the measurement subjective norm was however, 0.38, which was below the recommended minimum. Omitting some of the items for subjective norm did not positively change Cronbach's alpha coefficient. Therefore, the results for three SN statements were added to represent the SN construct.

The mean scores for statements PBC₁ and PBC₂ were above five, while PBC₃ recorded a mean score of nearly 4 (Table 3). Fifty eight percent of the respondents agreed that it was difficult for them to find inland fish in their local shops (PBC₁). In addition, 53% agreed that eating inland fish frequently was difficult to afford (PBC₂). Only 30% stated that they hold a complete control over purchase decisions of inland fish (PBC₃). The Cronbach's alpha coefficient for the measurement of PBC was 0.86, which was above the recommended minimum. Therefore, these three PBC variables were summed up to use for further analysis. As per the expectations, attitudes, subjective norms, and perceived behavioural control were significant predictors of the respondents' intention to consume inland fish. Consumer attitudes towards food have been found to be an important factor influencing food consumption behaviour in general (Hearty et al.,

2007) and fish consumption behaviour in particular (Tomic et al., 2016; Verbeke et al., 2005).

Table 3: Mean, Median, Mode Standard Deviation and Cronbach's Alpha Values for the Statements Used to Measure TPB Constructs

Variable	Mean	Median	Mode	Standard deviation	Cronbatch's alpha
INT ₁	5.30	6	7	1.80	
INT ₂	5.92	7	7	1.50	
INT ₃	5.21	6	6	1.69	0.83
ATT ₁	1.92	2	1	0.88	
ATT ₂	1.06	1	1	0.41	
ATT ₃	1.87	2	1	0.81	0.71
ATT ₄	6.53	7	7	0.54	
ATT ₅	5.47	6	6	1.78	
SN ₁	4.26	4	4	1.15	
SN ₂	4.23	4	4	0.97	
SN ₃	3.67	4	3	1.33	0.38
PBC ₁	5.92	7	7	1.50	
PBC ₂	5.71	7	7	1.64	
PBC ₃	3.93	6	1	2.81	0.86

With a view to test relationships between different variables of the conceptual model, relevant statistical tests were conducted to check the assumptions of linear regression analysis.

Irrespective of having a moderate sample size of 219, we found that data set violates the key assumptions of regression analysis. Therefore, Spearman rank correlation coefficients were estimated to test the relationships. The correlation between buying inland fish and three intention variables was 0.618 (Table 4). Correlation was significant at the 0.01 level. Spearman rank coefficient for the correlation between intention and measures of attitudes, subjective norm, and perceived behavioural control are given in Table 5.

Table 4: Spearman Rank Coefficient for the Correlation between Purchasing Inland Fish and Intention for All Respondents

Measures of TPB constructs	Buying inland fish
Intention	0.618**

***Significant correlations at $p < 0.01$.*

The attitudes of consumers towards the consumption of inland fish are positively and significantly affected the intention to consume inland fish and this result is consistent with previous studies of Olsen (2001) and Verbeke et al. (2005). This implies that an increase in favorable attitudes will result a significant increase in the intention of inland fish consumption. Tomic et al. (2016) identified that attitudes is the strongest predictor

of intention to consume fresh fish in Croatia. Verbeke et al. (2005) and Olsen (2001) stated that an increase in favorable attitudes would result in an increase in the intention of fresh fish consumption. A study conducted in Belgium revealed that there is a positive association of involvement in health issues and attitudes towards fish consumption (Altintzoglou et al., 2011).

Table 5: Spearman Rank Coefficient for the Correlation between Intention and Measures of Attitudes, Subjective Norm and Perceived Behavioural Control for All Respondents

Measures of TPB construct	Intention
Attitude	0.323**
Subjective norm	0.353**
Perceived behavioural control	0.819**
Attitude + Behavioural belief	0.685**
Subjective norm + Normative belief	0.606**
Perceived behavioural control + Control belief	0.813**

***Significant correlations at $p < 0.01$.*

Consumers who have perceived inland fish consumption be pleasant, enjoyable and good had a stronger intention to consume inland fish. More information about regular consumption of inland fish would further contribute towards positive attitudes of consumers. Intention and perceived behavioural control are two significant factors of fish consumption frequency (Verbeke and Vackier, 2005).

According to the results, the strongest predictor of intention to consume inland fish is the perceived behavioural control. This implies that purchase of inland fish frequently from local shops is easy (availability), affordable and respondents have greater control over purchase. Hence, the greater the perceived behavioural control the more their intention to eat inland fish. Previous studies of Tomic et al. (2016), Thong and Olsen (2008), and Verbeke and Vackier (2005) have found similar results of having a significant association between availability of fish and the perceived behavioural control.

The results of Spearman rank correlation coefficient showed that buying inland fish was positively and significantly ($p < 0.01$) correlated (0.618) with the intention of the respondents. Therefore, the hypothesis H1: The consumption of inland fish frequently in the forthcoming month is positively correlated with the intention, cannot be rejected. Table 5 shows that attitudes (0.323), subjective norms (0.353) and perceived behavioural control (0.819) were positively and significantly ($p < 0.01$) correlated with the intention of the respondents. Therefore, we failed to reject the hypothesis H₂: The intention of consumers to purchase inland fish frequently in the forthcoming month is positively correlated with the direct measures of attitude, subjective norm, and perceived behavioural control.

Both attitudes and subjective norm are significant and positive but their relationships are weak with the intention. Although the impacts of both attitudes and subjective norms are weak, it is very important because both have direct positive and

significant impact on the behaviour of consumers. However, their influences are important as both constructs have direct positive and significant effect on inland fish consumption behaviour. Our results are in line with the previous studies of Scholderer and Grunert (2001), Verbeke, and Vackier (2005). Subjective norms have a significant effect on the intention of consumers in Norway to consume fish (Olsen, 2001).

Examining households in Denmark, Scholderer and Grunert (2001) showed that the social norm from family members contributed significantly to the intention to eat fish in a post-campaign period of an advertising campaign. The perceived pressure from family members and friends is associated with intention to consume inland fish. According to Thong and Olsen (2008), the intention to eat fish is driven significantly by the family expectations and the people who are important to consumers (social pressure).

The results of subjective norm towards the intention, which directly and positively influenced the inland fish consumption, are consistent with the previous studies of Scholderer and Grunert (2001); Verbeke and Vackier (2005). When there is a more positive attitude towards eating fish and higher social pressure, consumers will have a stronger intention to consume fish (Verbeke and Vackier, 2005). Brunso et al. (2009) indicated that health and taste are the main motives for eating fish.

Results of the Spearman rank correlation coefficients presented in the Table 5 showed that the attitude and behavioural beliefs were positively (0.685) and significantly ($p < 0.01$) correlated with intention. Results indicated that the hypothesis H₃: The intention of consumers to purchase inland fish frequently in the forthcoming month is positively correlated with the sum of direct (A) and indirect (b_{ixe}) measures of attitude cannot be rejected.

Moreover, the correlation coefficient of the sum of subjective norms and normative beliefs was positively (0.606) and significantly ($p < 0.01$) correlated with intention (Table 5). Therefore, hypothesis H₄: The intention of consumers to purchase inland fish frequently in the forthcoming month is positively correlated with the sum of direct (SN) and indirect measures (n_{ixm_i}) of subjective norm cannot be rejected.

The results of Spearman correlation of coefficient for the perceived behavioural control and control beliefs positively (0.813) and significantly ($p < 0.01$) correlated with the intention. Therefore, we cannot reject the hypothesis H₅: The intention of consumers to purchase inland fish frequently in the forthcoming month is positively correlated with the sum of direct (PBC) and indirect (c_{kxp_k}) measures of perceived behavioural control. The results of Spearman correlation of coefficient for direct construct of perceived behavioural control was positively (0.593) and significantly ($p < 0.01$) correlated with indirect measure of control beliefs (Table 6).

However, other two indirect constructs namely behavioural beliefs and normative beliefs were not significantly correlated with respective direct constructs namely attitudes and subjective norms. Therefore, the hypothesis H₆: The direct measure of attitude is positively correlated with the behavioural beliefs and, hypothesis H₇: The direct measure of subjective norm is positively correlated with the normative beliefs are rejected. The hypothesis H₈: The direct measure of perceived behavioural control is positively and, significantly correlated with the control belief cannot be rejected.

Consumers who perceived inland fish as expensive had a lower intention to eat inland fish. Trondsen et al. (2003) who analyzed Norwegian consumers revealed that lack of availability of fresh fish, poor quality, and high price as barriers for increased fish consumption. Examining the seafood consumption in Australia Blich and Lawley (2010) and Sioen et al. (2007) suggested that taste, convenience, diet variety and health benefits as the key drivers for seafood consumption. Therefore, increasing the availability of inland fish at lower price and knowledge dissemination about health aspects of inland fish consumption would help to improve the nutritional value of their meals.

The influence of the spouse and children to have inland fish for consumption has emphasized by the results. The result of our research is in line with the previous study by Thong and Olsen (2008) that the consumer intention is significantly influenced by the social pressure such as requirements of the family and people important for them.

Table 6: Spearman Rank Coefficient for the Correlation between Direct and Indirect Measures for All Respondents

Measures of TPB construct	
	Attitude
Behavioural belief	0.012
	Subjective norm
Normative belief	0.045
	Perceived behavioural control
Control belief	0.593**

***Significant correlations at $p < 0.01$*

Conclusions

This study is the first attempt to understand comprehensively the relationship between inland fish consumption and intention, attitudes, subjective norms and perceived behavioural controls of consumers in Sri Lanka. To understand the determinants of inland fish consumption behaviour, the theory of planned behaviour served as a useful framework. Consumers' intention is a significant determinant of the frequency of inland fish consumption. The attitude towards consumption of inland fish, subjective norm, and perceived behavioural control, all show a significantly positive influence on intention to eat inland fish. Consumers having more positive attitude towards eating inland fish, a higher pressure from family members and individuals ability to find and purchase inland fish result a stronger intention to eat inland fish. Of the direct control variables, perceived behavioural control demonstrates highly significant contribution towards the intention of eating inland fish. Less restrictions to buy inland fish in the locality (control beliefs) has a significant association with the consumers ability to find and buy (perceived behavioural control) inland fish. Finally, we propose to include additional variables in future research including past behaviour, moral obligation, and health involvement, and to draw a larger random sample representing the whole country.

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