

# **The influence of food involvement on fish consumption**

## **Abstract**

The purpose of this paper is to investigate the influence of food involvement as a means of understanding differences in fish consumption levels. This study presents the findings of an online survey of 899 Australian consumers which investigated drivers and barriers to fish consumption among regular, light and very light fish consumers. The findings reveal that higher food involvement leading to increased fish consumption is associated with reduced perceived risk, higher perceived hedonic and symbolic value, and increased product importance. Regular fish consumers are less likely to perceive risk with selecting fish and recognising if fish is fresh than lighter fish consumers. Moreover, regular fish consumers are more likely to perceive higher levels of hedonic value (liking fish and feeling satisfied after eating fish), higher symbolic value (the extent to which people consider eating fish says something about them as a person) and greater product importance (greater interest in food traceability and looking for authentic foods to cook) than lighter fish consumers. Based on these findings, recommendations for increasing food involvement as a means of stimulating seafood consumption through marketing interventions such as consumer information and education, promotional strategies and product development are provided.

**Keywords:** Fish, food involvement, hedonic value, symbolic value, perceived risk, product importance

**Paper type:** Research paper

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## Introduction

Given the acknowledged health benefits of seafood, it is important to consider how seafood consumption can be increased in ways which are sustainable including increased consumption of sustainably farmed fish and underutilised species. Previous studies of fish consumption have revealed that key drivers are taste, health, convenience and diet variety, while key barriers include price, lack of availability of fresh fish, and consumers' lack of knowledge and confidence in selecting, preparing and serving fish (Birch & Lawley, 2012; Brunsø, Verbeke, Olsen, & Jeppesen, 2009; Danenburg & Mueller, 2011; Myrland, Trondsen, Johnston, & Lund, 2000; Verbeke, Vermeir, & Brunsø, 2007). However, a rich understanding of fish consumption requires investigation beyond the evaluation of intrinsic and extrinsic drivers and barriers such as taste and price to an exploration of psychological dimensions influencing fish consumption including food involvement and lifestyle factors (Cullen & Kingston, 2009; Foxall & Goldsmith, 1994; Tarkiainen & Sundqvist, 2009).

Involvement is a multidimensional construct comprising product importance (personal interest), hedonic value (affect and pleasure), symbolic or sign value and perceived risk (Juhl & Poulsen, 2000; Laurent & Kapferer, 1985; Verbeke & Vackier, 2004). Food involvement concerns the extent to which a person cares about, and is interested in, a particular food product and its personal relevance or importance to the person (Olsen, 2001). Food involvement influences the extent to which a person consumes a particular food and the extent of cognitive processing during the buying and consumption decision making process (Bell & Marshall, 2003; Zaichkowsky 1985). Unlike many food products which are associated with routine or habitual decision making, fish is not necessarily a low involvement product (Verbeke & Vackier, 2004). Indeed, a positive correlation has been found between greater food involvement and fish consumption frequency and purchase intention (Juhl & Poulsen, 2000; Olsen, 2003; Verbeke & Vackier, 2005).

Food involvement is influenced by a range of factors including perceptions of hedonic value product utility, brand risk, and symbolic or sign value (Juhl & Poulsen, 2000; Mittal & Lee, 1989; Verbeke & Vackier, 2004). Hedonic value associated with liking the taste of fish and finding fish consumption pleasurable and satisfying, as well as, product utility including the perceived health benefits associated with eating fish have been found to influence food involvement and drive fish consumption (Brunso et al., 2009). However, food involvement is also influenced by perceived risk with many consumers experiencing functional risk when purchasing fish arising from a lack of knowledge and confidence in selecting, storing, cooking and serving fish, and in particular concerns about freshness for both reasons of safety and taste (Birch & Lawley, 2012; Verbeke et al., 2007).

Symbolic or sign value is the extent to which "the product is related to the expression of an individual's self-concept" (Verbeke & Vackier, 2004, p. 161). Higher involvement is associated with food products which have a greater potential to reflect on one's self-image. Research has shown there is a degree of status attached to fish consumption, with Brunsø et al. (2009) finding that Belgians consider cooking fish to be "chic" and an opportunity to "show off" one's cooking skills, while some consumers consider cooking fish to be adventurous. Fish consumption has been also found to be related to a person's lifestyle or way of life (Brunso, et al. 2009; Juhl & Poulsen, 2000; Myrland, Trondsen, Johnston & Lund,

2000). Triggered by a greater interest in home cooking, spurred on by lifestyle and reality cooking shows such as *Master Chef* and *Come Dine With Me* and an increasing number of food-related magazines, many consumers are becoming increasingly interested in sourcing and preparing authentic food products and creating the restaurant experience when dining at home. Moreover, today's more mindful consumers are also showing greater interest in traceability; that is, where the food they eat comes from and how it is produced (Brom, Visak, & Meijboom, 2007; Megicks, Memery, & Angell, 2012). In particular, ethical consumers are interested in purchasing sustainable and more responsibly sourced and harvested seafood (Juhl & Poulsen, 2000).

In this paper, food involvement associated with fish is investigated to provide insights into levels of fish consumption in Australia. An analysis of these psychological dimensions of fish consumption will assist the Australian seafood industry to gain a deeper understanding of the ways in which Australian consumers view fish and thus how to stimulate fish consumption. Unsurprisingly, barriers to seafood consumption are more evident with lighter or less experienced seafood consumers than with regular or more experienced seafood consumers (Olsen, 2004; Pieniak, Verbeke, Vermeir, Brunsø, & Olsen, 2008; Sogn-Grundvåg & Ostli, 2009). Hence, based on the literature regarding involvement with fish as a food, we hypothesise that regular fish consumers are more likely than lighter fish consumers to perceive:

H1: less risk with selecting the right fish (perceived risk);

H2: higher symbolic value associated with fish consumption;

H3: higher hedonic value associated with fish consumption; and

H4: higher product importance associated with fish consumption.

## **Methodology**

A national online survey of 899 Australian fish consumers was conducted to measure drivers and barriers to fish consumption. Participants were screened for industry affiliation, participation in recent seafood research in the past six months, age (18 years and older), whether they are either the main or joint grocery shopper in the household, and for having consumed fish in the past three months. Participants were classified as being either regular ( $n=296$ ), light ( $n = 303$ ) or very light ( $n=300$ ) fish consumers. Regular fish consumers are those who purchase and eat fish 2-3 times per week to at least once a week. Light fish consumers purchase and eat fish about once per fortnight, while very light fish consumers purchase and eat fish once per month.

Females represent 66% of the sample, and 73% of respondents identify as the main grocery shopper. The majority of the respondents are in the 55 years and older age bracket (34%), with the next largest age bracket being 45-54 years (30%), while respondents under 25 years of age comprise the smallest age group in this survey (3%). The sample is well educated with the majority being tertiary educated (48%), with the next largest group being technically trained (27.3%), followed by people educated to secondary school level (24%). The respondents represent a range of annual household income categories. Chi-Square analysis reveals that older consumers (55 years plus) are more likely to be regular consumers of fish than younger consumers (18-24 years). Previous studies of seafood consumption have also revealed a positive relationship between age and seafood consumption (Myrland et al., 2000;

Olsen, 2003, Trondsen et al., 2003; Verbeke & Vackier, 2005). Other demographic differences on the basis of income, education and income are not evident across the consumption groups. Likewise, Trondsen et al. (2003) and Verbeke and Vackier (2005) did not find any relationship between income and education with actual consumption frequency.

Items used to measure aspects of food involvement are measured on a 6-point agreement scale (with 6 being strongly agree and 1 being strongly disagree) and statements were based on previous studies of fish consumption investigating food involvement and symbolic value (e.g. Brunsø et al. 2009; Juhl & Poulsen, 2000; Verbeke & Vackier, 2004). Data is analysed using principal components factor analysis with a varimax rotation. Cronbach's alpha is used to assess internal reliability and consistency of the multi-item scales. Analysis of variance has been conducted to identify differences across fish consumption segments (regular, light and very light).

## Results

Respondents were asked the extent to which they agreed or disagreed with a number of items designed to measure aspects of food involvement. Factor analysis confirms four factors with Eigenvalues greater than 1.0 (Table 1).

**Table 1** Factor Analysis and Reliability Testing of Food Involvement Items

Construct/Items	Variance Explained	Factor Loadings	Cronbach Alpha
<i>Perceived Risk</i>	51.6%		
I do not know how to select fish		- 0.95	0.89
I do not feel confident to select the right type/variety of fish		- 0.95	
I cannot recognise if fish is fresh		- 0.83	
<i>Symbolic Value</i>	19.3%		0.79
My choice of food gives other people an image of me		0.86	
It says something about a person if he/she eats fish		0.86	
When I cook fish, I feel like an accomplished cook		0.75	
<i>Hedonic Value</i>	10.4%		0.72
I like eating fish		0.84	
I feel satisfied after eating fish		0.77	
Eating fish is usually an unpleasant experience		- 0.75	
<i>Product Importance</i>	9.1%		0.74
I am interested in where the food I eat comes from		0.88	
I look for authentic foods to cook		0.85	
Making the right decision when choosing fish is important		0.66	

(KMO = 0.79,  $\chi^2 = 5308.0$ , d.f. = 78,  $p = 0.00$ ).

**Perceived Risk.** The first factor accounting for 51.6% of explained variance reflects 'perceived risk' associated with not knowing how or not being confident to select the right type or variety of fish or not being able to recognise if fish is fresh. Just less than one-third of the respondents (29.3%) agree that they do not know how to select fish, with regular fish consumers ( $\mu = 2.6$ ) being less likely to agree than either light ( $\mu = 2.9$ ) or very light ( $\mu = 3.0$ ) consumers ( $F(2,896) = 10.5$ ,  $p = 0.00$ ). Likewise, just less than one-third of respondents (28.8%) agree that they do not feel confident to select the right type/variety of fish, with

regular fish consumers ( $\mu = 2.6$ ) being less likely to agree than light ( $\mu = 2.9$ ) or very light fish ( $\mu = 3.0$ ) consumers ( $F(2,896) = 11.2, p = 0.00$ ). Of greatest concern, 40.6% of respondents agree they cannot recognise if fish is fresh with regular fish consumers ( $\mu = 3.0$ ) being less likely to agree than light ( $\mu = 3.3$ ) or very light ( $\mu = 3.3$ ) fish consumers ( $F(2,896) = 8.2, p = 0.00$ ). Hence, H1 is supported with regular fish consumers perceiving less risk associated with selecting the right fish and recognising if fish is fresh than lighter fish consumers.

**Symbolic Value.** The second factor accounting for a further 19.3% of explained variance reflects the symbolic or sign value associated with food consumption, in terms of the extent to which people consider the food they eat and cook expresses their self-concept. Almost half of the respondents (48.9%) agree that their choice of food gives other people an image of them and just over half of the respondents (55.1%) agree that they feel like an accomplished cook when they cook fish; however, there are no statistically significant differences across the three consumption groups on these statements. Almost half of the respondents (46.6%) agree 'that it says something about a person, if he/she eats fish' with regular fish consumers being more likely to agree ( $\mu = 3.6$ ) than either light ( $\mu = 3.3$ ) or very light ( $\mu = 3.3$ ) fish consumers ( $F(2,896) = 4.7, p = 0.01$ ). Hence, H2 concerning higher symbolic value associated with fish consumption is partially supported.

**Hedonic Value.** The third factor accounting for 10.4% of explained variance concerned hedonic value associated with fish consumption. The vast majority of respondents (96.9%) agree that they like eating fish, with regular fish consumers ( $\mu = 5.4$ ) being more likely to agree than either light ( $\mu = 5.2$ ) or very light ( $\mu = 5.1$ ) fish consumers ( $F(2,896) = 13.2, p = 0.00$ ). Only 8.9% of respondents agree that eating fish is usually an unpleasant experience, while 89.1% agree that they feel satisfied after eating fish. Regular fish consumers ( $\mu = 4.9$ ) are more likely to agree that they feel satisfied after eating fish than either light ( $\mu = 4.6$ ) or very light ( $\mu = 4.5$ ) fish consumers ( $F(2,896) = 10.4, p = 0.00$ ). Hence, H3 concerning higher perceived hedonic value being associated with higher levels of fish consumption is also supported.

**Product Importance.** The fourth factor comprised three items reflecting product importance. The vast majority of respondents (93.1%) agree that making the right decision when choosing fish is important, however no differences are found across the three consumption groups on this item. The majority of respondents agree that they are interested in traceability and originality of food with 84% agreeing that they are interested in where the food they eat comes from and 80.8% looking for authentic foods to cook. Regular fish consumers are more likely to agree that they are interested in where the food they eat comes from ( $\mu = 4.6$ ) than either light ( $\mu = 4.4$ ) or very light ( $\mu = 4.3$ ) fish consumers ( $F(2,896) = 6.9, p = 0.01$ ). Moreover, regular fish consumers are more likely to look for authentic foods to cook ( $\mu = 4.4$ ) than either light ( $\mu = 4.2$ ) or very light ( $\mu = 4.1$ ) fish consumers ( $F(2,896) = 7.3, p = 0.01$ ). Hence, H4 concerning higher levels of fish consumption being associated with higher product importance is partially supported.

## **Discussion, implications and future research**

In line with previous studies of fish involvement, the findings indicate that more regular fish consumption is related to higher food involvement including perceptions of greater hedonic and symbolic value, greater product importance and reduced risk (Juhl & Poulsen, 2000; Mittal & Lee, 1989; Verbeke & Vackier, 2004). In particular, perceptions of risk associated

with not being able or confident to select fish and not being able to recognise if fish is fresh appears to reduce fish consumption (Juhl & Poulsen, 2000). Hence, provision of information and educating consumers using appropriate media on how to select fish and recognise if fish is fresh is critical for increasing fish consumption. Previous research has indicated that point of sale materials such as recipe cards and leaflets explaining how to select, store and prepare fish have proved most useful in terms of timeliness at the point of decision making (Lawley & Birch, 2013). Other useful media would include information on relevant websites and in food magazines or television cooking shows.

Symbolic value or the extent to which people consider the food they eat (e.g. fish) expresses their self-concept or says something about them as a person also appears to be associated with increased fish consumption (Brunsø et al., 2009). Further research could investigate whether Australian consumers are becoming more aware of how their eating habits, and in particular fish consumption, impacts personal image and status. Raising the profile of fish as a meal option through greater presence of fish on cooking shows, in gourmet food magazines and on restaurant menus will serve to build the perceived symbolic value of seafood consumption.

Perceived hedonic value of fish consumption in terms of liking to eat fish and feeling satisfied after eating fish is associated with higher levels of fish consumption (Verbeke & Vackier, 2004). Therefore, focussing on the pleasurable experience of fish consumption in promotional messages and developing fish products that deliver a satisfying and pleasant consumption experience will lead to increased fish consumption.

In terms of the importance of fish as a product, all consumption groups agree that making the right decision when selecting fish is important, however regular fish consumers report higher levels of interest in traceability (where the food they eat comes from) and are more likely to look for authentic foods to cook. Therefore, the seafood industry should provide information at the point of sale and in relevant media on where and how fish is caught or farmed and provide important traceability and provenance information (“the story behind the fish”). In particular, chefs are becoming increasingly interested in producer and product information as a means of improving food preparation and enhancing the dining experience. Further research could investigate the best methods for educating both chefs and consumers by providing traceability and provenance information both for out-of-home and at-home consumption occasions.

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