Explaining fish consumption in Sri-Lanka

The role of consideration set size, attitude, knowledge, convenience orientation, price consciousness, and variety seeking tendency

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Abbreviations and Acronyms

CFI-   Comparative Fit Index

CSI-   Change Seeker Index

FAO-   Food and Agriculture Organization

GFI-   Goodness of Fit Index

OSL-   Optimal Stimulation Level

RMSEA-   Root mean square error of approximation

SD-   Standarded Deviation

SEM-   Structural Equation Modeling

TPB -   Theory of Planned Behaviour

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Abstact

Purpose - The primary purpose of this study to to understand how the consideration set size affect for consumption frequency of fish in Sri-Lanka. Consideration set size of fish is considered to be affected by consumer attitude, convenience orientation, and consumer knowledge in Sri-Lankan context. Thus, the second objective was to investigate how consumer attitude, knowledge, convenience orientation, variety seeking tendency and price consciousness affect the formation of consideration set size. Based on that, it aimed to suggest a marketing strategy implication for food marketers, in addition with strategy implication for increasing fish consumption.

Theoritical frame work - The proposed conceptual frame work was used to achieve the objectives in this study. Thus, the proposed model consisted with the constructs of attitude, knowledge, convenience orientation, variety seeking tendency and price consciousness. This thesis was an extension of Rortveit and Olsen (2007: 2009) study with the inclusion of additional antecedents of variety seeking tendency and price consciousness.

Methodology/sample - The questionnary survey was carried out in *Galle* district in Sri-Lanka with the convenience sample of 250 respondents. The measurement scales used here were adopted from previous studies found in literature. The confirmatory factor analysis and structural equation modelling in Amos 16.0 were used as statistical analysis tool.

Results - It was found that significant positive relationship between consideration set size and fish consumption frequency as a main hypothesis. Further, this study has found significant positive relationships between knowledge and consideration set size, between variety seeking related to personality and variety seeking related to food and between conveience orientation and consideration set size, while having insignificant relationships between knowledge and fish consumption frequency, and between variety seeking related to food and consideration set size. Surprisingly, attitude has an insignificant effect on both consideration set size and the consumption frequency of food. The main reason for this problem is skewneess of the data set. The study found that that belief of sensory aspects, health and conveience were significant predictors of attitude toward fish. Further this study revealed that price consciousness related to food has a negative significant impact on consideration set size.

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Mnagerial and Theoritical Implications - These findings indicated that from a marketing point of view, being choosen is effected by the size of the consideration set size, food markerters should advocate that consumers consider many kind of fish products in choice occation. As shown by the study, set size can be increased through the consumer knowledge variable. In such a condition, manufacturer must tend to put in to consumer education which will lead to have a positive impact on consideration set size. From the theoritical point of view, this research contributed to fill the gap in the consumer consideration literature in general, but also to the literature trying to explain fish consumption in Sri-Lanka.

Limitations - A limitation of this study is that the relationship between the consideration set size and the consumption was only tested for the size dimension of the consideration set. Further more, sample is relatively small and they are not statistically representative to the total population in *Galle* district or Sri-Lanka. Therefore, the results could not be generalized to Sri-Lanka.

Keywords: Consideration set size, attitude, convenience orientation, knowledge, and varietyseeking tendency and price consciousness, fish consumption, Sri-Lanka.

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1.0 Introduction

Fish are particularly important in Asian context where they contribute significantly to human food needs, particulary to those individuals in densely populated countries at risk of under-nutrition and malnutrition conditions. Among those Asian countries, Sri Lankans have a huge appetite for fish (http:// www. fao.org) accounts for the average per capita fish consumption off 22kg/ year which accounts for nearly 55 percent of the animal protein intake of the average in Sri-Lanka (over percent in some sectors of the population). As fish is important and indispensable in the meal, local consumption is gradually increasing in Sri-Lanka (www. asiantribune.com/news). Major caught vital fish and seafood species in Sri- Lanka are yellow-fin tuna (*Thunnus albacares*), Spanish mackerel (Scomberomorus *commersoni*), trevally (*Caranx ignobilis*), skipjack tuna (*Katsuwonus pelamis*), other tuna species (ex: *Thunnus abesus*), sharks (*Isurus* spp., *Alopias* spp. etc), skates (*Dasyatis* spp. etc), rockfish (ex: *Lathrinus olivaceus*), shore seine species (ex: *Amblygaster sirm*, *Stolephorus* spp) (FAO, 2004). Sri Lankans are expert in preparing various types of fish dishes using different variety of fish and have their own distinguish style of cooking fish curries. One of the very popular dishes is "*Ambul Thiyal*" in Sri- Lankan context.

Several theories and factors are used to explain the food or fish consumption or choice in past studies (Olsen, 2004; Shepherd, 1989; Steptoe, Pollard and Wardle, 1995). Most empirical studies use theory of planned behaviour (TPB) (Ajzen, 1991; Fishbein and Ajzen, 1975) as a theoretical framework to explain fish or seafood consumption behaviour (Bredahl and Grunert, 1997; Olsen, 2001; Scholderer and Grunert, 2001; Verbeke and Vackier, 2005). Within such a framework, attitudes or preferences are the most important predictor of fish consumption, even though social norms (Fishbein and Ajzen, 1975; Olsen, 2004), perceived behavioural control (Ajzen, 1991; Olsen, 2004; Pawlak and Malinauskas, 2008) price (Honkanen *et al.,* 1998; Leek *et al.,* 2000; Olsen, 2004) or risk (Bredbenner *et al.,* 2007; Conchar *et al.,* 2004; Frewer *et al.,* 1994; Saba and Messina, 2002) are important antecedents of intention to consume or consumption. However, this study focus on how and why consumers vary, know and consider different kind of alternatives of fish in their diet, a somewhat different conceptual framework is considered. Thus, consideration set size and knowledge (Rortveit and Olsen, 2009) are considered to be main concern in this study.

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It is argued the number of considered alternatives in a product category influences to which degree products from this category will be chosen (Alba and Chattopadhyay, 1985). Thus, the size or relative size that the brand category occupies in a person's consideration set is important for the likelihood of the given brand to be chosen. The relative size of the set is called as the consideration set size (Desai and Hoyer, 2000) which is found important for explaining consumer's choice as well as consumption. In this study, it is argued that the same arguments should hold true for considering alternatives within a product category such as food, in my case fish.

Consequently, a deeper understanding of the antecedents to the consideration set size has been growing importance in explaining choice and consumption of food. As noticed, attitudes or preference are among some of the most important factors for explaining human behaviour and consumer choices in general (Armitage and Conner, 2001; Eagly, Kulesa, Chen, and Chaiken, 2001; Bagozzi, Gurhan-Canli, and Priester, 2002) included fish consumption (Rortveit and Olsen, 2009). Attitudes can be defined and measured both globally as a general evaluation, and/or based on different beliefs (Aikman and Crites, 2007). Therefore, it is important to discuss attitude in relation to the formation of consideration set size.

Knowledge is another very important construct for understanding the formation of the consideration set (Alba and Chattopadhyay, 1985). Since considered product alternatives can be brought to mind by both external cues such as ads, product placement and word-of-mouth, Alba and Chattopadhyay (1985) identified the consideration set as a smaller part of the competitive set. Thus, the relation between knowledge and the consideration set has been established as an important issue by some researchers (Alba and Chattopadhyay, 1985; Johnson and Lehmann, 1997; Wirtz and Mattila, 2003) included in a fish consumption context (Rortvedt and Olsen, 2009).

Buckley *et al.,* (2007) showed that changing lifestyles lead to increase demand for convenience foods. A general lack of time, knowledge, skills and abilities to prepare home meals (Gofton, 1995) influences our global food attitudes and choices in the direction of more convenience food. Convenience is seen as a personal characteristic or individual difference variabla such as convenience orientation (Candel, 2001), or as an aspect with the product (Gofton, 1995). In case of meal preparation methods related to the time taken to

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prepare a meal; perhaps the consumer is more convenience oriented and does not have any interest in cooking. Thus, identification of the degree to which consumers strive for convenience is useful to understanding consumer behaviour towards fish products in general (Olsen *et al.,* 2007) and in combination with consideration set size in particular (Rortveit and Olsen, 2009).

Variety seeking is an important determinant of consumer choice and receives much attention in consumer behaviour literature (Baumgartner and Steenkamp, 1996; Inman, 2001; McAlister and Pessemier, 1982; Ratner and Kahn, 2002; Van Trijp *et al.,* 1996). As variety is a normal part of food choice behaviour (McAlister and Pessemier, 1982; Hoyer and Ridgway, 1984), and may be caused by external factors such as availability, but also by internal causes such as the individual's intrinsic need for variety which is called as variety seeking tendency (McAlister and Pessemier, 1982; Raju, 1980) of the consumer. Therefore, exploring the effect of variety seeking tendency of the consumer is another interesting area to look upon.

Price and price consciousness may impact consumers' consideration sets because price conscious individuals only consider brands that are cheaper than their competitors (Hayley, 2005). In low income countries it is found that economic determinants such as income and price are crucial in forming food choice (Olsen, 2004). Thus, the study of how and why the consumer's choices are affected by price consciousness of the consumers has been a major focus of interest, especially in the context of developing countries.

Based on facts I have a growing interest of studying the consumer decision-making and choice/consumption in case of fish, thereby the goal of this research is to understand how consumers make purchasing decisions by mainly focusing about consumer consideration set formation. This information can be used to help marketers to make decisions about how to market their products to ensure that consumers will consider and purchase their products. And also this study will lead to understand the consumer's fish consumption pattern in the context of Sri-Lanka.

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1.1 Research questions and objectives

Fisheries are of major importance to Sri Lanka where fish contributes about fifty five percent of all animal protein consumed in the country. The local fish consumption is gradually increasing in Sri-Lanka (www. asiantribune.com/news). Interest in this issue emerged because I observed market competition has increased with booming fish consumption. Thus, Sri Lankan food fish marketers tend to supply variety products that can be applied to the consumer's situational goals to meet consumer expectations. In my point of view understanding the consumer behaviour towards fish consumption seems to be important in case of increasing fish consumption as well as for the marketers to be success in Sri-Lanka.

In case of evaluating consumer behaviour, I found the concept of consideration set is very important and is shown to be a necessary precondition of choice (Aurier *et al.*, 2000). Airier *et al.,* (2000, p. 307) also expressed that "If being considered constitutes a necessary condition for being purchased, the set size plays a crucial role on consumer behaviour, choice probabilities and then on marketing strategy". Thus, fist objective of this thesis to is to understand how the consideration set size affect for consumption frequency of fish in Sri-Lanka.

Consideration set size of fish is considered to be affected by consumer attitude, convenience orientation, and consumer knowledge (Rortveit and Olsen, 2007: 2009). This thesis is an extension of Rortveit and Olsen (2007: 2009) study with the inclusion of additional antecedents of variety seeking tendency and price consciousness. Thus, the second objective is to investigate how consumer attitude, knowledge, convenience orientation, variety seeking tendency and price consciousness affect the formation of consideration set. I expect that inclusion of consideration set size contributes to explain more about the consumer consideration and fish consumption in the context of Sri Lanka.

The focus on consideration set size is expected to yield insights into diverse marketing phenomena including marketing strategies (Aurier *et al.,* 2000), such as consumer education, successful brand extensions, comparative advertising, the causes of marketing pioneer advantage (Ratneshwar, Pechmann, and Shocker, 1996), brand loyalty, market share (Kardes, Kalyanaram, Chandrashekaran, and Dornoff, 1993; Swaminathan, Fox, and Reddy, 2001) and

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the marketing mix (Roberts and Lattin, 1997). Thus, the contribution of this study to help marketers to make decisions about how to develop new products, supply different kind of fish, market their products to ensure that consumer will consider and purchase their products. Based on that, the third objective is to suggest a marketing strategy implication for food marketers, in addition with strategy implication for increasing fish consumption in Sri-Lanka.

The precise research objectives of this thesis are as follows,

i.   To understand how the consideration set size affect for consumption frequency of fish in Sri-Lanka.

ii.   To investigate how consumer attitude, knowledge, convenience orientation, variety seeking tendency and price consciousness affect the formation of consideration size and consumption of fish in Sri-Lanka.

iii. To suggest a marketing strategy implication for food marketers as well as strategy for increasing fish consumption in Sri-Lanka.

Several conceptual theories and models are used to explain food and fish consumption such as Theory of Planned Behaviour (TPB).This study will combine such models with a focus on Rortveit and Olsen's (2007:2009) framework about explaining how consideration set size influence in fish consumption. Most of the relevant studies in examining the food / seafood consumption behaviour based on the context of either European or American countries. A little work had been done in the context of Asia as well as other developing countries (Tuu *et al.,* 2008). To date, there appear to be no published studies of which I am aware that have investigated how the consideration set size of a food product category, in my case fish, influences the consumption of fish in Sri-Lanka. Thus, I suppose this research will contribute to filling the gap in the consumer consideration literature in general, but also to the literature trying to explain fish consumption in Sri-Lankan as well.

1.2 Method

To test the relationships among the constructs in conceptualized model, the survey was conducted in the *Galle* District in Sri Lanka. The sample size was 250. The questionnaire was

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designed to measure the main constructs of the consumer's attitude both globally and beliefs based, consideration set size, consumer's knowledge, and convenience orientation, variety seeking tendency and price consciousness. Items to measure the constructs were used or adopted from the previous studies found in the literature. To test the reliability convergent and discriment validity of the measurements, this study has applied the confirmatory analysis which was conducted using 16.0 software. Then the hypothesized relationships were tested by Structural Equation Modeling (SEM).

1.3 Structure of the thesis

After this introduction chapter, in the Chapter 2 the theoretical and conceptual frame work of the research has discussed. Chapter 2, briefly introduces the conceptualized model, and then discusses the aspects of the constructs within the framework. Data collection and method is discussed in the Chapter 3 focusing on the measures, techniques for testing reliability and validity, factor analysis and equation modeling. Chapter 4 represents the result of data analysis and model establishment. Finally, Chapter 5 discusses issues related to the results, practical implications and suggestions for future researches.

2.0 Conceptual framework

The relationships between the concepts are placed in a theoretical framework related to each constructs with a simplified model are addressed in Figure 2.1. Consumption frequency measure is analogous with several studies testing how often or frequently individuals or households consume a given food item (Raats, Shepherd, and Sparks, 1995). In this study, consumption frequency is used as a dependent variable and can be considered as similar as the final choice in a decision making framework.

This is in accordance with some of the earlier studies on consideration set (Nedungadi and Kanetkar, 1992; Priester, Nayakankuppam, Fleming, and Godek, 2004). Consideration set size is examined as an outcome variable or as a mediator between different independent variables and consumption frequency. The research assumptions of this study have built on the past studies (Rortveit and Olsen, 2007: 2009; Olsen *et al.,* 2007) in according to better understanding of relationships among main constructs which affect for consideration set size such as attitude (Paulssen and Bagozzi, 2005; Rortveit and Olsen, 2007), knowledge (Alba and Chattopadhyay, 1985; Rortveit and Olsen, 2007), convenience (Aurier *et al.,* 2000; Olsen *et al.,* 2007; Rortveit and Olsen, 2007) , variety seeking (Sivakumaran and Kannan, 2002; Kim Anh,2010) ,and price consciousness(Hayley, 2005) Thus, this thesis is an extension of Rortveit and Olsen (2007:2009) study with the inclusion of additional antecedents of variety seeking tendency and price consciousness. Overall, the formation of the consideration set and how it relates to consumption is the main purpose of this thesis. Even though it is possible to argue about different direct effects between all variables in this conceptual framework, my focus is mostly limited to argue for some of those effects (see Figure 2.1). The different constructs and proposed relationships are discussed in the following discussion. At the end of the discussion, I suppose to illustrate the proposed conceptual framework with proposed relationships and their directions among main constructs.

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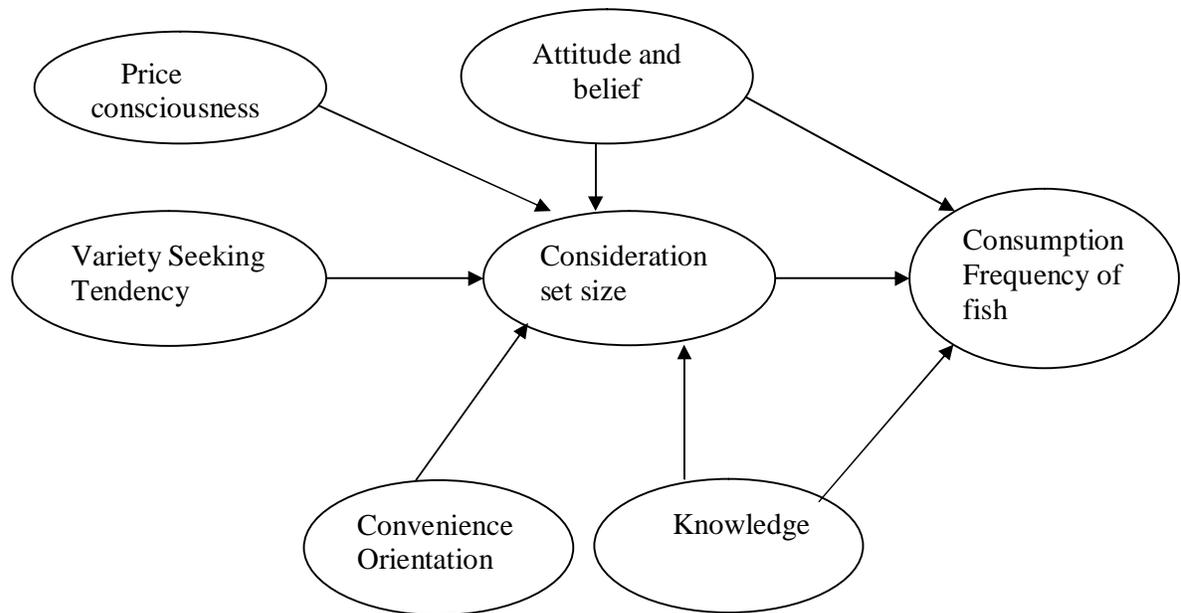
Figure 2.1: The simplified model

2.1 The consideration set

The term "evoked set" (Howard and Seth, 1969) which was defined as the set of alternatives that is cognitively available within a product category because a part of the marketing vocabulary in the 1960s (*ibid*). Today, the evoked set is more often called as the consideration set (Nedungadi, 1990), and is a construct with a strong empirical support through many years of research (for an excellent revies, see Roberts and Lattin, 1997). This means the early stages of this field, the concept of evoked set can be seen and identified as the precursor of the consideration set.

The consideration set is defined as the set of alternatives retrieved from memory or brought to mind by external cause on a particular choice occasion for consumers (Nedungadi, 1990, p.264). This definition emphasizes that formation of a consideration set is reliant on the occasion, the environment, and the consumer's knowledge or ability to retrieve alternatives. Furthermore, Rortveit and Olsen (2007) argued that the definition of Nedungadi (1990) has been widely used by many researchers even through there are many conception of consideration set have been given.

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It was suggested that the consideration set is consisted of four different dimensions: stability, variety, preference dispersion, and size (Desai and Hoyer, 2000). It is described as "stability, or how consistent the set is across similar situations; size, or how large the set is; variety, or how distinct the products within the set are; and preference dispersion, or how equal the preferences are toward the set products" (Desai and Hoyer, 2000, p.309). Above mentioned Desai and Hoyer's holistic view of the consideration set is an important contribution to this field of research.Their descriptive view was given a deeper and more complete understanding of the processes that may occur in the mind of the consumer as the consideration set is formed. However, in my review of the literature, most studies investigating the consideration set do not address the different characteristics of the concept. The consideration set literature has shown that consideration set size is the main dependent variable used in most of the studies (Brisoux and Cheron, 1990; Brown and Wildt, 1992; Crowley and Williams, 1991; Lapersonne *et al.,* 1995; LeBlanc and Herndon, 2001; Levin, Huneke, and Jasper, 2000; Mitra, 1995). According to my view, consideration set size, or how large the set is, is probably the important and the easiest characteristics of the consideration set to both define as well as measure. This is also possibly the reason why most studies used the set size characteristic. Thus, this study defines consideration set size as number of alternatives considered by the consumer in choice occation, in case of fish for a meal.

Miller's (1956) theory supports the purpose of consideration sets because it explains why humans must reduce the number of alternatives that they can consider at one time when making purchasing decisions in choice. Furthermore, Wallace (1961) argued that all humans, regardless of their social and technical development, have cognitive limitations with regard to the complexity and amount of information they may possess at one time. Research continued to ensure that they are making the most efficient and beneficial purchasing decisions, however, there are too many available brands in a product category to be able to directly think about and compare all brands as number of alternatives to choose from in a marketplace is often larger than consumers are able to process cognitively. In order to reduce the cognitive effort and negative feelings associated with the consumer decision making and choice (Bettman, Luce, and Payne, 1998), consumers tend to use heuristics or situational goals to form a set of alternatives that can be applied to the situation (Desai and Hoyer, 2000). The industry probably tries to meet this phenomenon by supplying the market with a variety of products and brands that can apply to the consumers' situation goals. Therefore, the field of

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marketing research pays more attention to understand the consumers' final choice among the alternatives in their consideration set (Rortveit and Olsen, 2007).

Rortveit and Olsen (2007) explained that the relative size that the brand category occupies in an individual's consideration set is therefore of major for the likelihood of the given category to be chosen. Furthermore, as early mentioned researchers have mentioned "if being considered constitutes a necessary condition for being purchased, then set size plays a crucial role on consumer behavior, choice probabilities and then on marketing strategy" (Aurier, Jean, and Zaichkowsky, 2000, p. 308). Therefore, I found the importance of consideration set size to consider more attention. As based on the definition of the consideration set regarding the particular choice occasion, the unit of analysis in this study is the daily lunch meal, because it indicates a time or situation in which the food is eaten (Ross and Murphy, 1999; Rortveit and Olsen, 2007). Based on above discussions, I bring the same argument to my study and concentrate on the set size of a food product category, in the case fish / seafood in a particular choice occasion, affect the choice / consumption frequency fish.

2.1.1 The influence of consideration set size towards consumption frequency

The consideration set size (Desai and Hoyer, 2000) has been revealed to have a direct effect on behavior (Aurier *et al.,* 2000; Paulssen and Bagozzi, 2005; Priester *et al.,* 2004). The consideration set is a precursor of choice (Robert and Lattin, 1997), and previous studies have indicated that the relationship between consideration set size and choice is positive (Priester *et al.,* 2004). Furthermore, the positive effect between consideration set and choice has been shown in many studies over a long period, and Nedungadi (1990, p.264) expressed it as follows: ''it is by now a truism of marketing that brand awareness is a necessary precondition for choice''. This relationship has been shown in earlier studies by confirming that a brand or a product needs to be a part of the consideration set in order to be chosen (Desai and Hoyer, 2000; Erdem and Swait, 2004; Nedungadi, 1990; Priester *et al.,* 2004).This argument is complied with brand extension theory, which advocates that successful brand extensions have a positive effect on the parent brand and consequently on market share (Swaminathan *et al.,* 2001). Adopting this within food choices, in the light of the theoretical arguments and empirical findings, Rortveit and Olsen (2007) and Olsen *et al.,* (2007) have shown the results,

that consideration set size is positively related to the consumption frequency of fish. Based on the above discussion, the following hypothesis is proposed in this thesis;

H1. Consideration set size has a positive effect on the consumption frequency of fish

Therefore, I argue that person consume a particular category of food, in this case fish with high frequency if it is to be considered more alternatives within this product category (fish). This is suggested to be the case in Sri-Lanka.

2.2 Attitude

Attitude is considered as one of the most important antecedents to behavior and behavior intention in general contexts included consumer behavior (Ajzen, 1991; Armitage and Conner, 2001; Eagly and Chaiken, 1993; Eagly, Kulesa, Chen, and Chaiken, 2001; Fishbein and Ajzen, 1975). In many studies, positive or negative attitudes have also been shown to explain variation in the consumption or intention to consume food (Shepherd and Raats, 1996). Thus, attitude has been shown to be the vital variable that contributes most to variation in fish consumption (Olsen, 2003; Olsen *et al.,* 2007; Rortveit and Olsen, 2007; Verbeke and Vackier, 2005).

It is well agreed by most attitude theorist that evaluation is one of the fundamental aspects of attitude (Olson and Zanna, 1993). Examples for such kinds of definitions are: Attitude is an association in memory between an attitude object and an evaluation (Fazio, Powell, and Williams, 1989), or attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour (Eagly and Chaiken, 1993). Fishbein and Ajzen's (1975, p. 10) definition is also an example of this kind: ''Attitude is a learned predisposition to respond in a consistently favourable or unfavourable manner with respect to a given object''. Furthermore, Ajzen (2001) views attitude as a "summary of evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful–beneficial, pleasant-unpleasant, and likable-dislikeable". Thus, I can conclude that mostly above definitions of attitudes are incorporated with the some form of general evaluation of a specific object. The term "object", in fact, is used in a very expansive sense, covering social issues (poverty, violence, pollution), concrete objects (fish/seafood, persons),

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action (eating ,buying ,selling), sensory features (colour, odour), and situations (Olsen, 1999; Honkanen *et al.,* 2004).

2.2.1 Food beliefs

Attitudes can be defined and measured both globally as a general evaluation, and / or based on different beliefs (Aikman and Crites, 2007). Beliefs are similar to product-attributes in the marketing literature (Pertovici *et al.,* 2004). Olsen (2004) stated that in order to investigate antecedents of food attitudes, it is important to evaluate different beliefs associated with the food product. Several beliefs are suggested to have a significant effect on general attitude and seafood consumption in a number of past studies. For an example, Steptoe, Pollard, and Wardle (1995) identified nine food-related dimensions that people believe to be important as health, mood, convenience, sensory appeal, natural content, price, weight control, familiarity, and ethical concern.

Taste was most frequently mentioned as a criterion when food was described either positively or negatively. Some research stated that it is the only criterion used when deciding whether to buy a particular food or not (Holm and Kildevang, 1996). Several studies proved that taste is among the most important factors in explaining general attitudes and motivation for buying and consuming seafood (Bredahl and Grunert, 1997; Gempesaw *et al.,* 1995; Neuman *et al.,* 1995; Olsen, 2001). On the other hand, other studies suggested that taste and texture often play a minor role in determining consumers' associations with fish products (Leek *et al.,* 2000 for a recent review).Wardle (1993) also, found that taste was rated as significantly more important than health-related characteristics. Furthermore, Taste, distaste (negative affect) and nutritional value has suggested as the most salient food attributes forming attitude toward food (see Olsen, 2004 for a review). According to a study by Koivisto and Sjo¨den (1996), the main reason that family members reject foods, and the main reason for children's dislikes, was "distaste", while the main reason for liking was "good taste" of foods.

Health and nutritional beliefs about foods were two important components been found to be important determinants of food selection (Letarte *et al.,*1997; Roininen *et al.,*1999; Steptoe *et al.,* 1995). Food choice questionnaire developed and validated by Steptoe *et al.,* (1995) also linked the taste and health aspects of foods with a broader range of factors relating to the food

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choice in general. These authors found sensory appeal, health, to be the most important factors affecting food choice. They further noticed scales specifically concentrating on the health and taste aspects of foods would be useful for examining the types of consumers that value taste more than health, and vice versa. Similarly, Roininen, La hteenma ki, and Tuorila (1999) identified health-related and taste-related dimensions and developed a health and taste attitudes questionnaire that assessed the importance of these dimensions for a person's orientation towards food in general. However, nutrition is important in combination with health and healthy eating. Nutritional aspects are considered to be the second most important product feature after sensory aspects and taste in several studies as evidence (Letarte *et al.,* 1997; Roininen *et al.,* 1999). Because almost everyone perceives seafood as some of the most nutritious food you can eat as a dinner (Brunsø, 2003) or as a lunch.

In a recent study, Aikman *et al.,* (2006) investigated five dimensions that are important for determining food attitudes across a range of people in US. These dimensions included positive affect (e.g., calm, comforted), negative affect (e.g. guilty, ashamed), abstract cognitive qualities (e.g., healthy, natural), general sensory qualities (e.g. taste, smell), and specific sensory qualities (e.g., salty, greasy). Furthermore, it has been suggested that the formation of positive and negative effects towards fish involves different psychological mechanisms (Letarte *et al.,* 1997 for a review). Some attributes or beliefs contribute only negatively to the development of food attitudes. Unpleasant smell and bones are significant reasons for less motivation for or willingness to consume sea food across different uropean countries (Bredahl and Grunert, 1997; Leak *et al.,* 2000; Marshall, 1993; Olsen, 1989). Thus, unpleasant smell and bones contributes only negatively in forming food attitude (Olsen, 2004).

Salient beliefs associated with fish and fish consumption are mostly within the general food beliefs. For example, Kinnucan *et al.,* (1993) identified and used "evoked set" methodology and consumers were asked about the seafood products they would consider when making a purchase decision to identify the seafood products attributes that are most salient to consumers. Even there are few exceptions related to past, the key findings relating to attitudinal factors and the consumer thinks of fish as nutritious, convenient, costly, flavourful, healthy has little impact on preferences as measured by the evoked set.

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Past studies suggested that price and convenience are important attributes in food choice and consumption (Steptoe *et al.,* 1995; Pertovici *et al.,* 2004). Three beliefs towards convenience foods were identified as potential determinants for convenience food purchase; the perceived value for money aspect of convenience foods (Lindvall, 1999), the perceived health value of convenience foods (Jago, 2000), and the perceived time saving element of convenience foods (PROMAR International, 1997). Gofton, 1995 reported that inconvenience and scarcity are significant barriers to consuming fish.

Price can be defined as an aspect of product as fish is considered as expensive as a belief (Olsen, 2004). Olsen (2004) found the most important control factors that influence consumers' seafood purchasing include price / cost and convenience/availability. Being a high valued product in many parts of the world, the intention of buying food / fish is affected by the price issue (Olsen, 2004; Verbeke and Vackier, 2005; Pertovici *et al.,* 2004). However, empirical researches in Finland, Norway and UK found to be that price and value is not always a significant factor in consuming seafood (Honkanen *et al.,* 1998; Leek *et al.,* 2000; Olsen, 2004). But in the context of low income countries it is found that economic determinants such as income and price are crucial in forming food choice (Olsen, 2004).

Because the general attitude does not give and information about the importance of the different benefits and cost associated with fish, this study will also measure the consumers evaluation of salient attributes of fish based on previous studies in the literature (see e.g., Olsen, 2004 for a review). Based on the above discussion, this study will define and assess attitudes as both a general evaluation of attitudes toward consuming fish and also will assess different beliefs about fish such as on specific sensory (e.g. taste, texture and smell), health (e.g. healthiness and nutrition), price and convenience as important beliefs associated with eating fish in the Sri-Lankan context. Because attitude theory suggested that assessing attitudes by beliefs or attribute evaluation and global evaluation are two different forms of definitions and assessments (Eagly and Chaiken, 1993; Fishbein and Ajzen, 1980), this study discuss belief evaluations as an addition to general attitude in my context.

2.2.2 Attitude and relationship toward set size and food choice

The relationship between attitude and set size has not been put under investigation until recently. Paulssen and Bagozzi (2005) showed that desired benefits or attitudes towards

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product attributes have a significant effect on the formation of consideration sets in their study on consideration set composition of cars. The mediating role of consideration set between attitude and choice has been established in one earlier study (Priester *et al.,* 2004). Their study showed that the direct effect between the relationship of attitude and choice is weakened when consideration set is included as a mediator in the model. Further, it has to be proven that there is a direct effect between attitude and consideration set. Although there are some research has established the relationship between attitude and set size (Paulssen and Bagozzi, 2005; Priester *et al.,* 2004), the influence of attitude on set size in fish consumption is rarer one. Recent years, Rorveit and Olsen (2007; 2009) investigated that there is a direct positive effect between attitude and consideration set size as well as indirect affect fish consumption frequency through consideration set size as a partial mediator. Several earlier study further confirmed a strong positive effect between attitude towards eating fish and the consumption frequency of fish (Olsen, 1999; Olsen, 2003). These findings are also consistent with more basic attitudinal research (Armitage and Conner, 2001; Eagly *et al.,* 2001) suggesting that attitude is a very effective predictor of behaviour.

Reviewing past literature, It is found that attitude affect choice / consumption frequency directly as well as indirectly through the mediator consideration set (Priester, Nayakankuppam, Fleming, and Godek, 2004; Rorveit and Olsen, 2007: 2009). Based on the above discussion, the general hypothesis of this relationship is stated as follows;

H2: Attitudes toward fish are positively related to consideration set size

H3: Attitudes toward fish are positively related to consumption frequency of fish in the Sri-Lankan context

I further suggest attitude is formed by specific sensory (e.g. taste, appearance, texture), health (e.g. healthiness and nutrition) price and convenience beliefs associated with attitude towards fish. Thus,

H3 (a) Attitude is positively related to attribute belief (specific sensory (e.g. taste), health-(e.g. healthiness and nutrition) price and convenience beliefs of fish

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2.3 Knowledge

The concept of knowledge has been extensively studied within the field of marketing, especially within the field of consumer behaviour (Alba and Hutchinson, 1987; Brucks, 1985; Cordell, 1997) as it is supported with the arguments of that memory and knowledge have an impact on people's values, attitudes, and behaviour, and the different types of memory and knowledge absolutely help us to make all kinds of decisions (Alba and Hutchinson, 1987; Medin *et al.*, 2005). Numerous researchers within many research disciplines investigated the concept of knowledge. One of the most influential theories about learning and knowledge is Piaget's theory, based on the constructs of assimilation and accommodation (Piaget and Inhelder, 1973).

Consumer knowledge is a multidimensional concept consisting of several dimensions (Aurier and Paul-Valentin, 1999; Brucks, 1985; Park *et al.*, 1994; Raju *et al.*, 1995; Schaefer, 1997). However, above all these dimensions are categorized in to two major knowledge components in terms of product class knowledge and procedural knowledge, which can be again divided into subjective knowledge (perceived knowledge) and objective knowledge (factual knowledge). Product class knowledge is information stored in the memory of the onsumer about attributes, facts, terminology, goals, effects, or evaluation criteria associated with a product class (Pillai and Hofacker, 2007). Procedural knowledge, by contrast, is the expertise or skills within a product class that the consumer possesses (Aurier *et al.*, 2000). In other words, product class knowledge concerns memory of everyday episodic or semantic life experiences, while procedural knowledge is action-based knowledge that one performs in order to obtain a particular goal, like driving a car, making a meal,in this case fish, getting dressed, and so on (Medin *et al.*, 2005; Wyer, 2008).

At the same time, product class knowledge and procedural knowledge can be divided into objective and subjective knowledge. Objective product class knowledge refers to the accurate information about a product or product class stored in the consumer's long-term memory, whereas subjective product class knowledge is the consumer's perception of what and how much consumer knows about a product or product class (Park *et al.*, 1994). Park and Lessig (1988) have claimed that subjective measures can better take hold of consumer strategies and heuristics because these are based on perception and self confidence. Furthermore, subjective

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knowledge is considered as a superior predictor of purchasing behaviour and also it is more critical for evaluation purposes than objective knowledge (McDougall, 1987; Raju *et al.*, 1993; Park *et al.*, 1994). In my study, I consider knowledge in respect to product class knowledge, an inclusive conceptualization of subjective knowledge. Thus, consumer's knowledge can be defined as the consumer's perception of what and how much he or she knows or familiar about a product or product class.

Knowledge within a product or brand category is important for the construction of the consideration set. Alba and Chattopadhyay (1985) identified the consideration set as a smaller part of the consumer's knowledge set by giving evidence to anticipate that (information and) knowledge affects the formation of the consideration set. It emphasized, the consumer has to be knowledgeable about it existence, in other words, it has to be a part of knowledge set in order for an alternative to be considered when chosen and consumption behaviour. Knowledge is also important because most people select food, because they are familiar with, know the quality of, and know how to prepare if brought home for preparation purposes (Grunert, 2002). Therefore, I also suggest knowledge as an important factor in forming a consideration set and towards consumption frequency of fish, because consumers need to learn about their alternatives before making their consideration and choice over time.

Researchers examining the effect of food and nutrition knowledge have found that such knowledge influences food preferences and selection (Axelson, Federline, and Brinberg, 1985; Crites and Aikman, 2005; Wardle, Parmenter, and Waller, 2000). Knowledge about how to prepare or use seafood in home-meals is identified as a barrier for seafood consumption. However, it requires further investigation (Olsen, 2004). But in Sri Lankan family structure in household, foods are prepared by women; and still in most of the families' women are housewives especially in rural areas. They have enough time to prepare foods. Thus, it is assumed that the procedural knowledge (preparing and cooking) might not be a barrier in consuming fish in most of the families. However, day by day the number of unit and working families are growing, in these families both the partners are busy; thus the impact of the knowledge of preparing and cooking fish as well as the convenience issue in consuming fish is further research area to exploration. However, in my opinion, product class knowledge will be play a more important role than procedural knowledge as people are more concerned about the familiarity, quality and the nutrient and health aspects. In this study

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knowledge will be tested the product knowledge of the consumer. The product knowledge will include knowledge about the quality of the product (e.g. fresh / not fresh); about the nutrient and heath aspects and familiarity.

2.3.1 Knowledge and relationship toward set size and food choice

The understanding of how knowledge or different dimensions of knowledge affect consideration set size and consumption frequency is an important issue that could contribute to a better understanding in the relation with consumer behaviour. Previous research showed that knowledge within product category has a positive influence on the likelihood of an alternative from this particular field or product category being chosen (Axelson, Federline and Brinberg, 1985; Crites and Aikman, 2005; Jayantil and Burns, 1998; Morman and Matulich, 1993; Wardle, Parmenter, and Waller, 2000). Furthermore, the positive relationship between knowledge and the consideration set has also been established in previous research (Alba and Chattopadhyay, 1985). Rortveit and Olsen, (2007) showed that the size of the consideration set contributed to the consumption frequency of fish as a partial mediator between knowledge and consumption frequency of fish.

Wirtz and Mattila (2003) argued that subjective and objective knowledge have unequal effects on the consideration set size. Some studies furter have argued that Procedural knowledge have a stronger effect on consideration and choice than product class knowledge (Bagozzi *et al.*, 2002; Park *et al*., 1994; Pillai and Hofacker, 2007). Furthermore, research in the area of health motivation has also found a positive relationship between health knowledge and health behaviour, but that these relationship may be moderated or mediated by other factors (Jayantil and Burns, 1998). Knowledge is expected to have a positive effect on both consideration set size (Aurier *et al.,* 2000; Johnson and Lehmann, 1997) and choice (Ajzen, 1991). A positive relationship between product category knowledge and consumption is also grounded in traditional attitude-behavioral theory and research (Armitage and Conner, 2001; Bandura, 1977; Notani, 1997). As an overall assumption, most of the studies have argued a positive relation between knowledge and the size of the consideration set (Alba and Hutchinson, 1987; Johnson and Lehmann, 1997; Rortveit and Olsen, 2007). Therefore, on the basis of on above discussion, the general hypothesis of this relationship can, therefore, be expressed as follows;

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H4: Knowledge is positively related to a consideration set size

H5: Knowledge is positively related to consumption frequency of fish in Sri-Lanka

Therefore I argue that person consumes a particular category of food, in this case fish with high frequency if it is to be considered more alternatives within their knowledge set in this product category.

2.4 Convenience orientation

Numerous attempts have been made to define convenience (Berry, Seiders, and Grewal, 2002; Candel, 2001; Yale and Venkatesh, 1986). Most studies that investigated convenience with regard to food consumption which has treated convenience as a psychological variable, regarding of the consumer's desire to save time and energy, mainly in food preparation (Berry, Seiders, and Grewal, 2002; Candel, 2001). Researchers argue that convenience is a multidimensional concept (Berry, Seiders, and Grewal, 2002) and it can be considered an important determining factor for consumer behavior towards food products (Anderson and Shugan, 1991; Eales and Unnevehr, 1988; Rappoport *et al.*, 1993). The former studies, it has argued convenience as a characteristic or property of the food itself (Steptoe *et al.,* 1995) and the latter addressed convenience in terms of the consumer characteristic (Candel, 2001). Convenience is seen as both a personal characteristic and individual difference variable such as convenience orientation (Candel, 2001), as well as a variable that can be described category features such as the occasional / situational demand dimensions of time and effort.

Gofton (1995) has suggested convenience is not simply an issue of saving time (p. 170) or labor (p. 177), but also regarding of ''how foods fit into provisioning practices, which were themselves part of a set of household arrangements to provide various sorts of services to household members'' (p. 158). In this setting, convenience is not an attribute of products as such, but an outcome of the ways in which these are used in household provision and production processes. By looking at this argument, household resources (e.g. microwave ovens), special skills and experience (e.g. cooking), or their combination with other ingredients (e.g. seafood and potatoes) are involved and contributed to the higher levels of convenience of some foods (Olsen *et al.,* 2007).

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Meal convenience is also suggested to be related to different stages in the consumption process (Candel, 2001; Gofton, 1995; Scholderer and Grunert, 2005) as planning, acquisition / purchasing, preparation, cooking, consumption / eating, and disposal. At each stage, convenience plays a role, and may differ in its importance between different situational contexts. Based on the discussion of saving time and effort at different stages of the consumption process, Candel (2001, p.17) has stated a domain specific definition of food convenience orientation as ''the degree to which a consumer is inclined to save time and money in regard to meal preparation''. He also further argued that the preparation stage seems to be the most time and energy-consuming process of foods.

The role that convenience orientation may play in understanding food consumption was illustrated by one vital finding reported in a number of studies (Dare, 1988; Darian and Klein, 1989; Darian and Tucci, 1992; Douglas, 1976; Kim, 1989; Reilly, 1982; Strober and Weinberg, 1980). Morganosky (1986) defined that person/consumer who seeks to "accomplish a task in the shortest time with the least expenditure of human energy" is a convenience oriented consumer. Anderson and Shugan (1991) and Kelley (1958) investigated the elements of manufactured goods such as; product size, preservability, packaging and design, which can reduce consumers' time and effort in purchasing, storage, use and choice, which have been related to convenience orientation. Convenience also measured as "fish is readily available in shop," is proved to be an insignificant item in predicting fish purchasing among a random sample of about 300 UK consumers (Leek *et al.,* 2000). However, in an American study showed that convenience was a main antecedent influencing the decision to purchase lobster, but not for catfish, shrimp or codfish (Kinnucan *et al.,* 1993). In addition, one study explored that Norwegian households would buy more fresh seafood if it is more available (Olsen and Kristoffersen, 1999). As the above definition, my thesis defines the concept of convenience orientation as the time, physical energy and mental effort savings and in connection to the consumer's food related activities.

2.4.1 Convenience orientation and relationships towards food choice and set size

Many studies have shown that a person's convenience orientation affects consumer's food choices (Costa, Schoolmeester, Dekker, and Jongen, 2007; Jaeger and Meiselman, 2004; Olsen, Scholderer, Brunso and Verbeke, 2007; Scholderer and Grunert, 2005).

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The relationship between convenience orientation and consumption of fish has, to my knowledge, been investigated in only few studies (Olsen *et al*., 2007; Rorveit and Olsen 2009). Olsen *et al*., (2003: 2007) found that the convenience orientation has indirect positive effect on fish consumption frequency while he did not find a direct relationship between convenience orientation and fish consumption (Olsen *et al.*, 2007) even though convenience is expected and seemed to be an important determinant for food choice. Rorveit and Olsen (2009) explored that the relationship between convenience orientation and fish consumption through a partial mediator of consideration set size. The result of their study found that convenience orientation has a direct negative influence on consideration set size.

In the light of the theoretical arguments and empirical findings of Rortveit and Olsen (2007) and Olsen *et al.,* (2007), my study suggests that convenience orientation can be crucial for food choice and consumption. Thus, I discuss the direct effect on consideration set size. Based on above discussion, I argued if the consumer is more convenience orientated; it will lead to smaller consideration set. The general hypothesis of this relationship can, therefore, be expressed as follows;

H6: Convenience orientation has a direct negative effect on consideration set size

2.5 Variety seeking

Variety seeking with respect to food products has paid considerable attention among agricultural economists (Theil and Finke, 1983; Jackson, 1984; Shonkwiler *et al.*, 1987; Lee, 1987; Lee and Brown, 1989) and marketers (McAlister and Pessemier, 1982; Pessemier and Handelsman, 1984; Wierenga, 1984; Givon, 1984; 1985). Khan (1995) has contributed his study to understanding the phenomena of variety seeking in retail and service management and he was defined variety-seeking in purchase behaviour as the tendency of individuals to seek diversity in their choices of services or goods (p.139).

McAlister and Pessemier (1982) classified varied behaviour as derived or direct / true. The distinction between true variety- seeking behaviour and derived varied behaviour are depended on whether observed switching behaviour is intrinsically or extrinsically motivated (Van Trijp *et al.*, 1995, p. 282). They mentioned that derived variety-seeking behaviour was the result of an extrinsic motivation which is not directly related to a desire for variety, but

for external factors. Khan (1995) has also stated that derived variety seeking can be seen if the external environment changes which resulting from a consumer's response to these changes, rather than emanating from internal provocation. As McAlister and Pessemier (1982) pointed out consumers seek variety in their choices when usage situations change (Huber and Reibstein, 1978; Laurent, 1978; McAlister and Pessemier, 1982). Usage situations could differ due to time of day, seasonality, vacation, presence of others, or presence or absence of other consumable products.

Direct variety-seeking behaviour was defined as resulting in intrinsic need from intra personal motives as variety-seeking that occurred because of the desire for change and / or novelty or because of satiation with product attributes. Variety-seeking is motivated because consumers experience satiation on attributes provided by specific brands and because of that they are less likely to choose same brand after it has recently been chosen (Jeuland, 1978; McAlister, 1979: 1982). In addition to that consumers may alternate among familiar items or switch to new items to satisfy a desire for novelty or complexity in brand consumption (Fiske and Maddi, 1961) or because of curiosity (Raju, 1980). Based on the above discussion, it can be clearly stated that true variety-seeking behaviour is intrinsically motivated by satiation with a product attribute leading to behavioural choice patterns such as alternation among familiar alternatives and the search for novelty which usually leads to choices of unknown or previously untried brands. In my opinion I argue that variety seeking behaviour refers to aspects of consumer behaviour that are motivated by the desire for change itself by the consumer intrinsicly.

According to the past studies, a number of personality and motivational factors (Individual difference characteristics) are potentially related to variety-seeking in purchase behaviour (Hoyer, 1984). In terms of motivational factors, it was indentified and clearly steted that need for change (Garlington and Shimota, 1964; Leuba, 1955; Penny and Reinehr, 1966; Mehrabian and Russell, 1974) need for uniqueness (Fromkin, 1968:1973, curiosity motive (Dember and Earl, 1957) and need for risk, danger and thrill (Bone, Cowling and Choban, 1974; Segal and Singer, 1976; Zuckerman; 1979) are more to be expected to engage in purchase exploration. Specifically, in terms of personality traits of consumers, it was confirmed that dogmatism and authoritarianism are negatively related to purchase exploration (Kish and Donnewerth, 1972; Mehrabian and Russell, 1974), while extroversion, liberalness,

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ability to deal with complex stimuli and creativity are positively related to purchase exploration (Farley and Farley 1967; Gorman, 1970; Kish and Busse 1968; Looft, 1971; Stock and Looft, 1969). Thus, variety seeking is seen as a general drive which is the result of several interrelated underlying motives which are, in turn of various personality characteristics.

Food is one of the product categories for which variety seeking may be especially important (Hoyer and Ridgway, 1984). In studying variety seeking in the consumption context, the distinction between the trait of consumers' variety-seeking tendency (Van Trijp, 1995) and variety-seeking behaviour is of great importance (Midgley and Dowling, 1978).

2.5.1 Variety seeking tendency

One major determinant of variety seeking behaviour is thought to be a consumer's variety seeking tendency (Van Trijp, 1995), which can be called as the consumer's inherent desire for variety (McAlister and Pessemier, 1982; Raju, 1980). In the variety-seeking model, variety-seeking behaviour is clearly distinguished from the underlying trait of variety-seeking tendency (Midgley and Dowling 1978; Hirschman 1980).The construct of variety seeking tendency with respect to food was defined as "the motivational factor that aims at providing variation in stimulation through varied food consumption, irrespective of the instrumental or functional value of the product alternatives" (Van Trijp, 1995). Thus, variety seeking tendency specifically taps consumers' intrinsic desire for variety in product choice.

Variety seeking tendency is closely related to the personality trait characteristic of optimum stimulation level (OSL) and which derives from the value placed on relief from boredom, alleviation of attribute satiation, and satisfaction of curiosity (Van Trijp, 1995). Variety seeking tendency related to food is not regarded as a generalized personality trait such as OSL, but as a domain specific concept in the litereture. Consumers differ in the context to which they are engage in variety seeking behaviour; partly because they are differ in the preferred level of stimulation. Thus, the personal characteristic of consumers refers the extent which a particular consumer has an intrinsic tendency to engage in variety seeking behaviour in product choice as a means of regulating the actual level of stimulation (*ibid*). As overall, the underlying trait of consumers' variety seeking tendency has been related to a more global

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concept, known as OSL to explain why consumers derive utility from variation per se (Berlyne, 1960:1963).

This optimal stimulation level is recognized as a personality characteristic and much research has been directed toward the measurement of this trait (Steenkamp and Baumgartner, 1992 for an overview). Measures for OSL have been used in the consumer context to explain a wide diversity of other exploratory behaviors in addition to variety-seeking behavior in product choice (*ibid*). Change Seeker Index (CSI) is a prominent general measure for OSL (see Garlington and Russell 1983 for an overview of applications). The version of the CSI scale with shortened 7 items has been validated by Steenkamp and Baumgartner (1995). But the context of research on variety-seeking in product choice behaviour, it is smeed to be a need for personality scales that specifically tap the consumer's intrinsic desire for variety. Thus, the development of a more specific instrument for assessing consumers' variety-seeking tendency contributed to a richer explanation of the phenomenon. This study will test the relationship between the general OSL and the more specific variety seeking tendency scale. This information will give a deeper understanding of if varieties seeking in general are related to variety seeking in a food or fish context, which is a contribution in the more general literature.

Variety seeking scale (VARSEEK) is a valid instrument for use in assessing consumer's intrinsic variety-seeking tendency with respect to foods in applied settings. The VARSEEK scale thus, is specific for the domain of food products. It is conceived of as a domain-specific derivative of the more generalized personality trait of OSL, but differs from it in that; it is only refered to stimulation regulation through varied food consumption. Insight into consumers' variety-seeking tendency, as provided by the VARSEEK scale, may have several implications for the development of marketing strategies, especially for product and communication policies (Steenkamp, 1991). Thus, this study will test the variety seeking as a specific sale and as more general scale.

2.5.2 Variety seeking and relationship toward set size and food choice

Consumers often search for maximum variety, when give the chance to select more than one item from a choice set (Khan, 1995). Therefore, it can be argued variety-seeking seems to be

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occured more likely in situations where a relatively large number of well-liked alternatives are available to an individual consumer (Van Trijp, 1994). Furthermore, these researchers have indicated that variety seeking behaviour is more likely to occur in product categories for consumers who have large consideration setin their choice. Therefore, if consumers have an inherent drive for variety either due to they have satiated with the currently consumed product or because they are looking for stimulation, then they are less likely to choose the same item on two consecutive choice occasions. The simplest measure of this type of variety-seeking would be to consider the degree of alternation or patterning of brands within a choice set even if the brands are familiar (Venkatesan, 1973; Faison, 1977). Furthermore, it is expected that this satiation leads to behavioural choice patterns such as alternation among familiar alternatives and the search for novelty, leads to choices of unknown or previously untried brands and products. With this conceptualization, variety-seeking tendency of consumers have an impact on all the alternatives which are part of the consideration or choice set of consumers (Berne *et al.*, 2001).

In the variety seeking model (Van Trijp, 1995), variety seeking is clearly distinguished from the underlying trait of variety seeking tendency implying that the intrinsic desire for variety is positively related to variety seeking behaviour (Midgley and Dowling, 1978; Hirschman, 1980). It means consumers with a higher variety seeking tendency engage in more variety seeking behaviour. But in my review of literature, I have not found any clear study about exploring relationship between variety seeking tendency and consideration set. To my knowledge, only one study was done by Kim Anh (2010) to explore the relationship between variety seeking and consideration set for fish category. He has found positive direct relationship between consideration set and the variety seeking. Furthermore, it was stated consideration set is a final surrogate to consumer's choice process and decision making (Tereh, Bucklin, and Morrison, 2003) and it is said to be conveyed all information from other factors such as switching behavior (Sambandam and Lord, 1995) variety seeking (Ratner, Kahn, and Kahneman, 1999), and so on, affecting on the frequency of consumption.

Rortveit and Olsen, 2007 argued that it is possible that a person eats a particular category of food (e.g. fish) with a high frequency, but with low variety and few alternatives in their consideration set size, while other consumers prefer to vary within this category and have a bigger set size. It is possible that some consumers prefer to reduce their sets to a minimum

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and make their choice by habit, for the reason that it is difficult to select from a high-variety set, (Verplanken, Aarts, and Van den Berg, 2000). Based on above discussion, I am going to argue for exploring the relationship between consumers' individual characteristic of variety seeking tendency related to food towards consideration set size. Thus, the general hypothesis of this relationship is stated as follows;

H7a): Variety seeking tendency towards food has a positive effect on consideration set size

The consumers high in this personality trait feel positive value from the variety (food). On the other hand, consumers who are lack of variety seeking tendency do not like gain positive value from the variety. Thus, a general variation tendency (personality) should influence a more specific variation tendency (food). Therefore, based on previous research findings (eg: Van Trijp, 1995) following hypothesis is suggested.

H7 b) Variety seeking tendency as a general personally trait is positive related to variety seeking tendency related to food

2.6 Price consciousness

Price consciousness can be described as a mental characteristic of consumer decision making (Fan *et al.,* 1998) that is motivated by the price of products. A consumer more highly involved in the negative price element relative to the product element can be described as price conscious for the particular product class. Such consumers show sensitivity for paying lower prices, and hence are more likely to view price in its negative role (Fan *et al.,* 1998). In past literature, price consciousness was considered as major attention and defined by various ways. Price consciousness has been defined in different ways, including a buyer's ''unwillingness'' to pay a higher price for a product and / or ''the exclusive focus'' on paying low prices for products (Lichtenstein *et al.,* 1993, p. 235). This definition is also consistented with and employed by several researchers (Erickson and Johansson 1985; Lichtenstein, Bloch, and Black 1988; Monroe and Petroshius 1981; Tellis and Gaeth, 1990). It was also confirmed as a consumer behavioral variable refers to the amount consumers are willing to shop around for the best deal before making a purchasing decision (Lichtenstein, Ridgway, and Netemeyer, 1993).

Monroe and Petroshius (1981, p. 44) has characterized a shopper as price conscious to the degree consumer is unwilling to pay a higher price for a product, and if the price is greater than what is acceptable to pay, the buyer may refrain from buying. Moreover, the price conscious shopper will not be willing to pay for distinguishing features of a product if the price difference for these features is too large. The phrase ''too large'' suggested that the consumer ''trades off'' the higher price with potential benefits, such as the increase in quality or the reduction in risk that might accompany that higher price. Price conscious consumers may not necessarily pay the lowest price available but tend to pay a lower price when the distinguishing features of more expensive alternatives cannot be justified (Fan *et al.,* 1998). In addition, the phrase ''distinguishing features'' might well include the brand name. This characterization also implies a sensitivity to price differences, a concern for price as a criterion in decision making, and also internal limits on what the consumer is willing to pay (Zeithaml, 1984) and all implications consistent with price in its negative role. Thus, price consciousness may be defined by the degree to which the consumer uses price in its negative role as a decision making criterion.

Tai and Tam (1997) noticed that price consciousness is an attitude like enduring predisposition that varies in intensity across individuals, because while the same individual can be differentially price-conscious across product categories. Some individuals are simply more conscious of the prices they pay than others, regardless of the product category. Individuals may vary in this attitudinal tendency or predisposition because of differences in their upbringing and socialization, leading to differences in the importance placed on the value of being thrifty, and the presence / absence of relevant cognitive beliefs about the importance of saving money (Inglehart, 1990). Lichtenstein *et al.,* (1988) further noted, however, while price consciousness should vary across consumers, it should vary also across products and situations for the same individual. Other authors too have argued that the degree of consumer price consciousness does vary across product categories, i.e. consumers may be more or less price-conscious when shopping for certain products in contrast to others, because of differences in the perceived riskiness of purchasing decisions across categories and other reasons (Monroe and Krishnan, 1985).

Fan *et al.,* (1998) has found that Chinese students are more price conscious, because of their lower level of purchasing power. Further, he noticed that price conscious people carefully

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watch how much money they spend, compare different brands as well as comparing the prices of the same brand in different shops before making a purchase and tend to purchase products with lower price. In my study, I am going to apply this phenomenon in product category level, in my case fish in Sri Lankan context. According to the economic situation in Sri Lanka, consumers always consider about the price before they make a purchasing decision as normally (by observation). Thus, in the context of food consumption, consumers obviously go for a lower price products, as an example, in case of fish, consumers look for a cheap price among alternatives. Mostly they compare the prices of same kind of fish in different fish selling shops. Thus, price consciousness is a great impact for the consumer's consideration set size as they compare low price products among alternatives. In this study I define the price consciousness as in a very narrow sense to refer to the degree to which the consumer focuses exclusively on paying low prices.

2.6.1 Price consciousness and relationship toward set size and food choice

Dawson (2003) has hypothesized in his study that price consciousness behaviour of consumers may impact consumers' consideration sets because price conscious individuals only consider brands that are cheaper than their competitors or that are on sale. Thus, a consideration set of price conscious consumers is smaller and more likely to include lower-prices brands than sets of non-price conscious individuals. Further, he stated consumers who are price conscious are likely to shop around for the best deal and use coupons and special promotions when making purchasing decisions. But in his study, it has shown that consideration set size correlated positively and statistically significantly with price consciousness. Eventhough it was expected that price consciousness individuals would have small consideration sets because they would only consider low-priced brands, this significant and positive relationship between set size and price consciousness, can be explained because people who are conscious about price are likely to consider many brands in an effort to find the best deal. In case of my study, in case of fish I can argue consumer tend to search for lower price fish varieties, by that they may consider more alternatives in an effort to find lower price fish alternatives in the choice. Based on the above discussion, the following hypothesis is proposed in this thesis;

H8: Price consciousness individuals have a direct positive effect on consideration set size

Thus, I argue that consumers who are high in price consciousness will also have larger consideration sets that contain only lower-priced fish.

2.7 The proposed conceptual model

In this chapter, I have discussed and defined each antecedent present in the conceptual model. Overall, the formation of the consideration set size and how it relates to choice in fish consumption is the main purpose and focus of this thesis; therefore, the most of the discussion has focused on how and why the different constructs are related to the consideration set size.
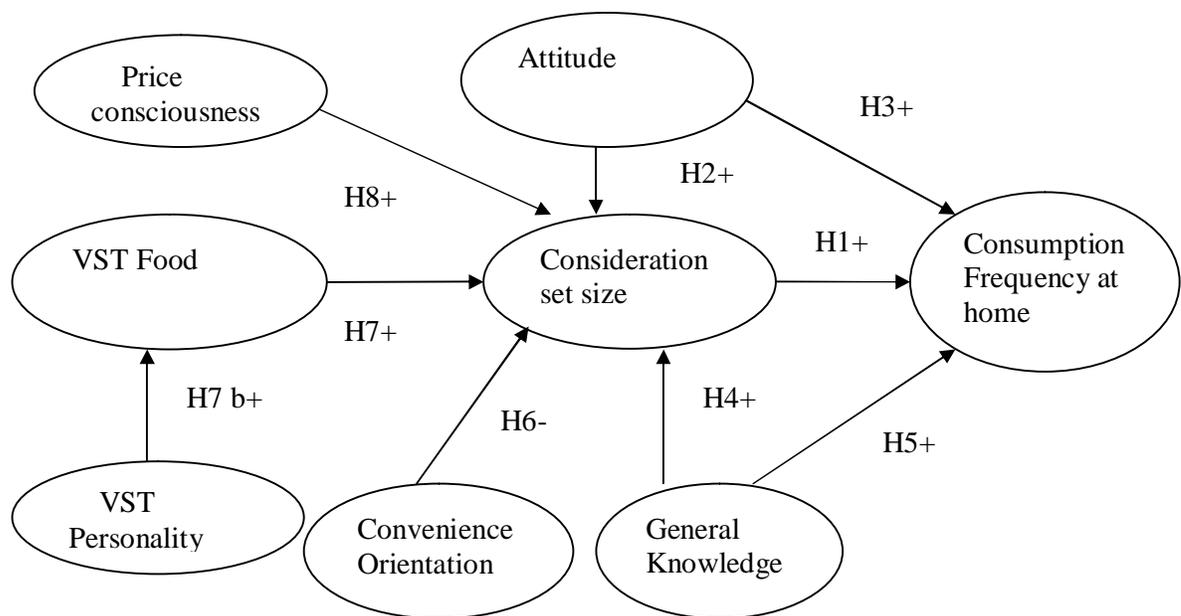
Figure 2.2: The proposed conceptual model

However, several other relationships are possible. This study has only given a brief discussion of very few of those which is the most important according to the previous studies. The overview of the conceptual model with proposed hypotheses is illustrated in figure 2.2

The methodology applied to achieve the objectives will be discussed in the next chapter.

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3.0 Methodology

The process of data collection, questionnaire and analysis methods is discussed in this chapter of the thesis. It has mainly focuses on the designing items to measure the constructs in the questionnaire. Confirmatory factor analysis, testing for the reliability of constructs, and Structural equation modelling are the main methods discussed in this section.

3.1 Survey design and measurement

Probability and convenience sampling are the main sampling methods which classified into two broad categories. Random, stratified, cluster, and multistage sampling designs are sub categories comes under probability sampling. Convenience sampling is a non-probability method and ease of access makes this method to use in the research activities (Yu and Cooper, 1983). Convenience sampling method was used as survey design considering the easy of access to the respondents in this thesis.

The consumer survey was carried out in *Galle* District in Sri-Lanka in March in 2011. First, the English version of the questionnaire was developed. A Sri Lankan version was derived by direct translation from the English version. The Sri Lankan version was then back translated into English by a different translator to identify potential problems with the original translation. A Sri Lankan version of the questionnaire was then pre tested using convenience sample of approximately 10 respondents by asking to complete a form with questions about their thoughts and opinions. Based on the feedback of the pre-test, the final questionnaire was completed. Data were collected by personally delivering the final questionnaire to the respondents at their residence or work place and then collected it later at agreed upon time. A convenience sample of 250 respondents was selected and 207 of usable questionnaires were obtained from the survey.

The sample of the population was mainly considered on gender, married status, age, education, average income of family per month and family size. The majority of the respondents in the sample were female (84%) as in most families, foods are prepared by the female in the context of Sri- Lanka. Average age among the respondents was 33 years while almost all the respondents (82.2%) in the sample were less than or at the middle age (45 years).

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Furthermore, 73 percent respondents were married and the average house hold size was 4.6 persons. The mean family income of the sample was 17500 rupees per month (1USD = 110 Rupees). More respondents of the sample (81.3%) have education level more than high school. The detail demographic characteristics of the sample are presented in table 3.1

Table 3.1 Socio- demographic characteristics of the sample (% of respondents, n=207)

Gender	Male	16.0	Family size	1-3 persons	12.6
	Female	84.0		4-5 persons	65.3
				$\geq$ 5 persons	22.1
Education	$\leq$ High school	18.7	Family income	< 15000	38.6
	> High school	81.3	Rupees/ month	15000-18000	41.4
				> 30000	20.0
Age	18-30 years	15.0	Marital status	Single	17.0
	31-45 years	67.2		Married	73.0
	> 45 years	17.8			

3.2 Measurement

This part of the thesis discusses the measuring procedure of the constructs and attribute. Seven point Likert scale and semantic different scale (Malhotra, 2006, Honkanen and Olsen, 2009) was used to measure the items under the constructs. The Likert scale ask the respondents to indicate how much they disagree or agree with each of a series of statements about the objects (Malhotra, 2006). The Semantic Differential scale measures people's response to stimulus words attached with bipolar adjectives that have semantic meaning (*ibid*). This study presents the questions as they were presented for the respondents. By doing this, it can easily be evaluated and used for replication and/or improvement in future research. The measurement items belongs to each constructs used in this study were usually either taken or adopted from previous researchers in the literature.

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3.2.1 The consideration set size

The consideration set size is defined as number of alternatives considered in the product category by the consumer in choice occasion (Desai and Hoyer, 2000). The set size plays a crucial role on consumer behaviour and choice probabilities (Aurier, Jean, and Zaichkowsky, 2000, p. 308). Consideration set size was measured by three items on a 10 point numeric scale. Measuring the consideration set, the situational context was primed with following sentence: "Thinking about buying and preparing a meal of fish in the last month..." The respondents then had to indicate on a numerical scale. The items were: "How many species (carp, anchovy, mackerel, pike, snapper, tuna…etc) would you usually consider?", "How many conservation forms (fresh, frozen, dried, canned, salted fish…etc) would you normally consider?", "How many ways of preparing a meal (cooked, fried, grilled, soup, steamed...etc) would you usually consider?" These items had been used in many prior studies of Rortveit and Olsen (2007, 2009) and were explored with relying on earlier researches of set size (Aurier, Jean, and Zaichkowsky, 2000; Paulssen and Bagozzi, 2005).

3.2.2 Attitude

Attitude toward behaviour is defined as a person's overall evaluation of performing the behaviour in question (Ajzen, 2002). Attitude towards fish consumption was firstly assessed as global evaluation without any specification in times or context when the consumption occurs. Global attitude and evaluative responses in attitude research are usually assessed by their valence and extremity. The valence of the attitude is mostly assessed in terms of positive/negative, pleasant/unpleasant, favourable/unfavourable, like/dislike, good/bad, satisfied/ unsatisfied whereas extremity is assessed in unipolar scale with judgment estimate of agree-disagree (Eagly and Chaiken, 1993). The semantic differential scale is the most commonly used in measuring attitude (Ajzen, 2002, Ajzen and Madden, 1986). As analogous to previous studies it was assessed the participant's attitudes towards fish using five items on 7- point semantic differential formats. The participants were asked to rate "how you feel when you eat fish as a meal" on five 7- point semantic differential scales with bipolar adjectives varying from 1 (bad/ unsatisfied/ unpleasant/ dull/ negative) to 7 (good/ satisfied/ unpleasant/ exiting/ positive) (Frewer *et al.,* 1994; Olsen, 2003; Pieniak *et al.,* 2010; Sparks and Guthrie, 1998; Tuu *et al.,* 2008; Verbeke and Vackier, 2005).

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Fishbein and Ajzen (1975) found that global evaluation of an object is produced by salient beliefs. According to Ajzen (2001), salient beliefs are the most frequently represented outcomes in each individual, and should therefore be the key determinants of attitudes. In case of fish consumption, four salient beliefs are important in forming attitude as: taste, distate (negative affect), nutrition and quality/freshness (Olsen, 2004). Furthermore, it was found that price and convenience are important attributes in food choice and consumption (Steptoe *et al*., 1995; Pertovici *et al.,* 2004). Respondents were asked how you would evaluate fish as a meal along the following different attributes and each item was coded in semantic differential formats with 7-point scale from "very bad" to "very good", and a neutral score at middle of 4.

This study assesses different beliefs about fish such as on specific sensory (e.g. taste), health (e.g. healthiness and nutrition), price and convenience as important beliefs associated with eating fish in the Sri Lankan context. The seven point semantic differential was used to assess by asking respondents to indicate their evaluation "When I evaluate fish a as a main course (lunch) at home, I think that fish is/have…" good taste, good texture vs. bad texture, delicate appearance vs. bad appearance, healthy vs. unhealthy, nutritious vs. innutritious, safe vs. unsafe, good smell vs. bad smell, easy to prepare vs. difficult to prepare, easy to buy vs. difficult to buy, available vs. unavailable, fast to prepare vs. time consume to prepare, much time to cook vs. fast to cook, difficult to store vs. easy to store, easy cook in many different ways vs. difficult to cook in many different ways, reasonable price vs. too expensive, economical vs. non economical, suitable for budget vs. unsuitable for budget, high value for money vs. low value for money.

3.2.3 Knowledge

As discussed in the earlier chapter the knowledge construct is divided in two distinct categories as product category knowledge and the procedural knowledge. Adapted from previous studies (Chen and Li, 2007), the knowledge was measured by two sub-scales, with one sub-scale measured by eight "true or false" questions, another was s 7-point Likert scale coded from 1 = totally disagree, while 4 = neither disagree nor agree. Here I used the 7-point Likert scale coded from 1 = totally disagree, while 4 = neither disagree nor agree.

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The product knowledge includes knowledge about the quality of the product (e.g. fresh / not fresh); about the nutrient and health aspects and familiarity while the procedural knowledge includes the preparing and cooking of the fish (Olsen, 2004) in this study. Product knowledge was measured subjectively with different items, where the respondents self-evaluated their knowledge on a 7- point Likert scale ranging from "totally disagree" to "totally agree". The ten items measuring knowledge are: "Compared to an average person, I know a lot about fish", "I know a lot of different spices of fish", "My friends consider me an expert on fish", "I know what kind of fish which is good to eat, and bad to eat", "I know what kind of fish is safe and unsafe to eat", "I know what kind of fish is healthy and unhealthy to eat", "I know that fish I normally purchase are free from chemical preservatives and additives", "I have a lot of knowledge about how to evaluate the quality of fish", "I have good knowledge about what kind of vitamins fish contain", "I have good knowledge about what kind of nutrition fish contains". The items reflect general product class knowledge about fish and are consistent with measures used in prior research (Brucks, 1985; Park *et al.*, 1994; Flynn and Goldsmith, 1999; Verbeke and Vackier, 2005; Pieniak *et al.,* 2007; Pieniak *et al.,* 2010).

3.2.4 Convenience Orientation

Convenience orientation refers to person's general preference for convenient goods (Berry *et al.,* 2002). Anderson (1972) was among the first to examine the consumer oriented consumption, focusing on the use of convenience oriented food products. Convenience orientation was measured using following seven items: "I prefer meals that are easy to plan, buy (provide), prepare and cook", "The less physical effort (work, energy) I need to plan, buy, prepare/cook a meal, the better", "I prefer meals that are quick to plan, buy (provide), prepare and cook", "I want to spend as little time as possible on planning, buying, and preparing/cooking of what to have for meals", "At home I preferably eat meals that can be prepared quickly", and "It is waste of time to spend a long time in planning, buying, preparing and cooking meal" and "I want to spend as little time as possible on meal preparation". These items were measured on a seven-point Likert scale ranging from (1) ("totally disagree") to (7) ("totally agree"). These items were consisted with previous researches as Candel (2001) and Rortveit and Olsen (2009).

3.2.5 Variety seeking tendency

Variety-seeking tendency as a consumer-specific personality trait that specifically taps consumers' intrinsic desire for variety in product choice (Steenkamp *et al.,* 1991). In this study, I considered the both manner in case of variety seeking related to food and variety seeking related to personality. Variety-seeking tendency related to food was measured by ten items on a seven-point Likert scale ranging from "Totally disagree" (1) to "Totally agree" (7). The items were: "When I eat out, I like to try the most unusual food items, even if I am not sure I would like them", "While preparing foods or snacks, I like to try out new recipes", "I am eager to know what kinds of foods people from other countries eat", "Food items on the menu that I am unfamiliar with make me curious", "I am curious about food products I am not familiar with", "I find myself eating many of the same foods day after day", "Most people do not eat as many different foods as I do", "I do not usually change the food in my diet much from day to day", "My diet is higher in variety than most people I know", and "I vary with food, but only with few kinds of food". These items were adopted by the VERSEEK scale (Van Trijp and Steenkamp, 1992) and the study of Kim Anh (2010).

Variety-seeking tendency related to personality trait was measured by seven items on a seven-point Likert scale ranging from "Totally disagree" (1) to "Totally agree" (7). The items were: "I like to continue doing the same old thing rather than trying new and different thing (recoded)", "I like to experience novelty and change in my daily routine", "I like a job that offers change, variety and travel, even if it involves some danger", "I am continually seeking new ideas and experiences", "I like continually changing activities", "When things get boring, I like to find some new and unfamiliar experiences", and "I prefer a routine way of life to an unpredictable one full of change (recoded)". Above items were adopted by the original scale of Change Seeker Index (CSI). Furthermore, these items have been used in several previous researches such as: Candel (2001), Kahn, Kalwani, and Morrison (1986), Van Trijp and Steenkamp (1992).

3.2.6 Price consciousness

Price consciousness refers to the degree to which the consumer focuses exclusively on paying low prices in this study. Price consciousness was measured by these eight items: "I tend to

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buy lower priced food items that full fill my need", "When buying food items, I look for the cheapest", "When it comes to buy food items, I rely heavily on Price", "When buying food items, I consider price first", "The lower price food types are usually my choice", "I will shop at more than one store to take advantages of low priced food items", "The money saved by finding lower priced food items is usually not worth the time and effort", and "The time it takes to find low prices of food items is usually not worth than". These items were measured on a seven-point Likert scale ranging from (1) ("totally disagree") to (7) ("totally agree). These items were consistent with previous researches Lichtenstein, Netemeyer, and Burton (1990)

3.2.7 Frequency of Consumption

To assess consumption frequency of fish, this study first used two items to assess the content: general frequency and recent frequency in line with previous studies. The general frequency measures of behaviour used a one-year time framework and were addressed by seven-point scale of the form "How many times-on average-during the last year have you eaten the fish at home or out of your home" ranging from Daily or almost every day (1) to Never (9) (Raats, Shepherd, and Sparks, 1995, Olsen, 2003, Verbeke and Vackier, 2005, Tuu *et al.,* 2008). Recent frequency was assessed by 15-point scale of the form ''Can you estimate how many times during last week you have eaten fish for every main meal in your home'': 1, 2, . . . , 14 times or more. This scale has also been previously used to assess the consumption frequency of seafood (Olsen *et al.,* 2005). I have used general frequency and the recent frequency as two different items in developing our measure of behaviour of frequency testing our model, in order to reduce measurement biases or survey errors (Sudaman, Bradburn and Schwarz, 1996).

3.3 Data analysis procedures

Our first goal was to confirm that each latent psychological measure reflects intended construct (convergent validity) and that the constructs are distinct from each other (discriminate validity). The second goal of the analysis was to test appropriate constructs in the conceptual model and the causal relations as presented in figure 2.2. These analyses were conducted using maximum likelihood estimation in Amos 16.0. It was found that structural equation modeling can apply correlation or variance matrix as its key in constructing the

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model (Hair *et al.,* 1995). A number of indexes were used to assess overall model fit(measurements and construct model) as the Chi-square (χ_2), Goodness of Fit Index (GFI), Comparative Fit Index (CFI), and Root mean square error of approximation (RMSEA). Chi-square (χ_2) is traditional test exact fit and it is considered as inappropriate for large sample size. Therefore it is appropriate to use statistical tests of close fit. RMSEA is considered as such a test. RMSEA value should be less than 0.05 to indicate close fit or less than 0.08 to indicate reasonable fit (Browne and Cudeck, 1992). The GFI measures how much better the model fits as compared to no model at all (Jo¨reskog and So¨rbom, 1989). The GFI has been known to be sensitive to sample size, while CFI is essentially independent of sample size (Anderson and Gerbing, 1988). Acceptable model fits are indicated by GFI and CFI values above 0.9. This study used the value of Chi-square (χ_2), RMSEA, GFI and CFI value as criterion to examine the fit of the model.

The next chapter of the thesis will present the results of the data analysis.

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4. Results

This part of the thesis presents the results of the data analysis from the data collection of 207 respondents. The Amos 16.0 software was used as a powerful statistical tool to achieve the objectives of the study. The results will be presented in two main sections as (1) the results of the confirmatory factor analysis and validation of measures; (2) the structural equation modelling which is applied to test the proposed conceptual model and with causal relations.

4.1 Confirmatory factor analysis and validation of measures

Confirmatory factor analysis of the eight latent constructs was performed to determine the constructs' convergent and discriminate qualities. Therefore my fist goal is to confirm that each measure taps facets of eight latent constructs (convergent validity) and that the constructs are distinct from each other (discriminant validity). Initially, an exploratory factor analysis was done in order to identify the most appropriate items for each constructs. Then a first confirmatory analysis proved several modifications, which result in modifications until the final solution. The factor analysis confirmed that 21 items resulted in measurement model reflecting the theoretical constructs in a close fit with a $\chi2$ – value of 186.391 (df = 144, p = .01); RMSEA = .038; GFI = .921; CFI = .960.

Convergent validity was examined by looking at the individual item loadings on the constructs and the average measure of variance shared between the items and the construct (Jöreskog and Sörbom, 1993). Reliability of the multi-item scales were assessed by computing Joreskog's composite reliability co-efficient for each constructs (Anderson and Gerbing, 1988). This method of computing reliability is similar to Cronbach's alpha,but rather than assuming that each items has equal weight , as in alpha, the items are weighted by their respective factor loadings. The standardized confirmatory factor analysis co-efficient and construct reliability for the measurement model are presented in Table 4.1

The factor loadings (lambdas-λ) were ranged from 0.51 to 0.88 with t value from 7.952 to 14.36, were all significant (p < .000) (Table 4.1), confirming that all items in the measurement model reflect the theoretical constructs as expected. This satisfied the criteria for convergent validity for the seven internal constructs (Bagozzi, Li, and Phillips, 1991).

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Table 4.1 Standardized confirmatory factor analysis coefficients and construct reliability

Constructs and indicators	St. factor loadings	Composite reliability	Variance Extracted
Attitude		**0.71**	**0.50**
Satisfied/Unsatisfied	.66		
Pleasant/Unpleasant	.70		
Positive/ Negative	.67		
Convenience orientation		**0.67**	**0.42**
The less physical effort (work, energy) I need to plan, buy, prepare/cook a meal, the better	.51		
I want to spend as little time as possible on planning, buying, and preparing/cooking of what to have for meals	.81		
I want to spend as little time as possible on meal preparation	.59		
Knowledge		**0.84**	**0.64**
I know a lot of different spices of fish	.86		
Compared to an average person, I know a lot about fish	.83		
My friends consider me an expert on fish	.71		
Variety seeking tendency (related to food)		**0.63**	**0.55**
Food items on the menu that I am unfamiliar with make me curious	.74		
I am curious about food products I am not familiar with	.88		

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Variety seeking tendency as a personality trait		**0.80**	**0.51**
I like to experience novelty and change in my daily routine	.68		
I like a job that offers change, variety and travel, even if it involves some danger	.57		
I am continually seeking new ideas and experiences	.78		
I like continually changing activities	.79		
Price consciousness		**0.73**	**0.50**
When buying food items, I look for the cheapest	.59		
When buying food items, I consider price first	.76		
I will shop at more than one store to take advantages of low priced food items	.71		
Consideration set size		**1.00**	**1.00**
How many different fish species you usually consider in buying and preparing a meal in the last month?	1.00		
Fish consumption frequency			
Could you please estimate how many times during last 14 days you have eaten fish for the lunch at home?	1.00		

Note: Chi - Square = 186. 391, df = 144, p-value = .01; RMSEA = .038; GFI = .921; CFI =.960, N = 207.

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The measure of close fit RMSEA (0.038) for the measurement model was below the critical value of 0.05. The other goodness of fit measures, GFI=0.921; CFI=0.960 also showed acceptable value of above 0.90. Fornell and Larcker (1981) emphasized the importance of examining the composite reliability. According to suggestion of the author, composite reliability should be greater than or equal to 0.60 and variance extracted should be greater than or equal to 0.50. In my study, all composite reliability measures were above 0.6 and variance extracted was above 0.5, but except the variance extracted value of the construct of convenience orientation which is 0.42 (Table 4.1). However, the study choose to keep the convenience orientation value in the model since it has shown to have an influence on food choice in earlier studies as mentioned in the second chapter.

The measures of attitude, and convenience orientation, and knowledge, variety seeking tendency, price consciousness, consideration set size and consumption frequency were tested to prove discriminant validity. Discriminant validity exists if the average variance extracted from two constructs is higher than the square of the correlation between the two constructs *(ibid)*. The correlations between the factors proposed in the model are listed in Table 4.2

Table 4.2 Construct means, standard deviation and correlation of the constructs

	Mean	SD	1	2	3	4	5	6	7	8
1. Attitude	5.89	0.88	1.0							
2.Con. orientation	5.65	1.15	-.08	1.0						
3.Knowledge	3.24	1.56	.01	.15*	1.0					
4.VST Food	5.01	1.59	.17*	-.10	-.01	1.0				
5.VST Person	4.95	1.32	.15*	.02	.02	.22**	1.0			
6. P. consciousness	3.72	1.52	.08	.17*	.34**	-.15	.11	1.0		
7. Consideration set	5.00	1.78	.07*	.25**	.13**	.03	.02	-.11*	1.0	
8. F. consumption	5.00	1.99	-.05	.34*	.13**	.13	.06	.02	.34***	1.0

Note: * p < .1; ** p < .01; *** p < .000, Chi - Square = 186. 391, df = 144, p-value = .01; RMSEA = .038; GFI = .921**;** CFI =.960, N = 207 , ns: nonsignificant

These analyses confirm that the measurement model of the study is both reliable and valid.

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Some of the correlation in this model was not in accordance with the expectations, something that will be discussed in the next session. It is a problem that attitude are positively skewed with a mean of 5.88 (nearly 6 on a scale from 1-7) and a lower standard deviation. The factor is that all consumers have a very attitude towards fish is a problem for some of the hypotheses.

4.2 Structural analysis of the model testing

The theoretical model (Fig.2.2) was tested using structural equation analysis. The χ2 for the model was 198.946 with 153 degrees of freedom (p=0.007). The appropriate measure of model fit in data with a large sample size is RMSEA. The measure of close fit RMSEA (0.038) was within the recommended level of 0.05 (Browne and Cudeck, 1992). GFI and CFI are 0.921 and 0.949, respectively and clearly exceed the recommended level of 0.9 (Bollen, 1989). Table 4.5 presents the results of testing the proposed theoretical models using structural equation analysis.
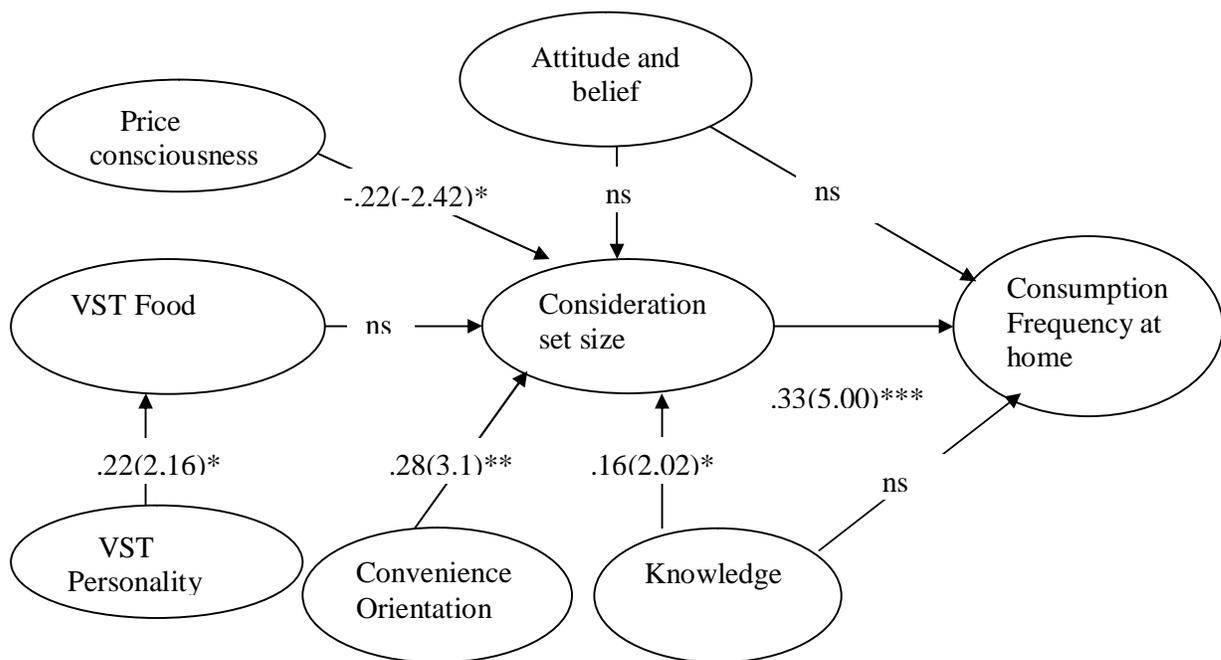
* p < .05; ** p < .01; *** p < .000, ns-non significant

Figure 4.1: Standardized regression co-efficient of proposed model, t value in the parenthesis.

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4.2.1 Hypothesis testing

Table 4.3 presents the result of testing the proposed theoretical models using structural equation modeling. H1 concerns the significant positive impact on consideration set size and the consumption frequency. The results of H1 revealed the significant positive impact with path co-efficient of .33 (t=.5.001; p<.000) between consideration set size and the consumption frequency. Therefore H1 was accepted.

H2 was proposed concerning the positive impact of attitudes on consumption frequency of fish. The attitude had a path coefficient of 0.03 (t=.383; p=.702) in determining the consumption frequency revealing a small positive relationship between attitude and consumption frequency which is not significant (but positive). These results lead (not) to accept that H2 which explains the positive relationship between attitude and fish consumption frequency. H3 was concerned with the effect of attitude on consideration set size. Even there was a positive relationship between attitude and consideration set size as expected, the effect was non significant (β = .104, t = 1.283, p=.19). Therefore both hypothesis H2 and H3 was not supported.

As mentioned in H4, This study further expected that Knowledge is positively related to consideration set size. These results lead to accept that H4 which explains the positive relationship between knowledge and consideration set size (β = .16, t = 2.02, p < .05) revealing a higher positive value. Thus, this result is compatible with the finding of past studies in consumer behaviour literature. Further these results showed that the relationship between knowledge and the fish consumption frequency was positive as proposed as H5. Even though there was a positively significant relationship between knowledge and the fish consumption as expected, in general, the result of this study indicated that knowledge have positive impact on consumption frequency of fish, but insignificant (β = .08, t = 1.119, p=.26).

H6 concerns the significant negative relationship convenience orientation and the consideration set size. The results of H6 revealed the significant positive impact with path co-efficient of .30 (t= 3. 09; p < .01) between convenience orientation and consideration set size. These results lead to accept that H6, but different in direction.

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H7 (a) was proposed concerning the positive relationship between variety seeking tendency related food and consideration set size. Even there was a positive relationship between variety seeking tendency related to food and the consideration set size as expected, the effect was small and non significant(β = .02, t = .305, p=.76). Thus, this result was not supported for H7a. Furthermore, as mentioned in H7 (b), the result of this study indicated that variety seeking tendency related to personality was significantly positively related to consideration set size (β = .22, t = 2.16, p < .05), thereby H7 (b) was supported.

Table 4.3 Results of hypotheses tests and structural model

Hypothesized path	Hypothesis	Estimate	t-value	Support/No support
Consideration set è Frequency Consumption	**H1**	.33	5.001***	**Support**
Attitude è Consideration set	**H2**	.10	1.283 ns	N/ Support
Attitude è Frequency Consumption	**H3**	.03	0.383 ns	N/Support
Knowledge è Consideration set	**H4**	.16	2.020*	**Support**
Knowledge è Frequency consumption	**H5**	.09	1.119 ns	N/ Support
Convenience orientation è Consideration set	**H6**	.30	3.095**	**Support**
VST Food è Consideration set	**H7(a)**	.02	0.305 ns	N/Support
VST personality è VST Food	**H7(b)**	.22	2.160*	**Support**
Price consciousness è Consideration set	**H8**	-.22	-2.423*	**Support**

Note: * p < .05; ** p < .01; *** p < .000 ; ns: non-significant

Chi - Square = 198.946, df = 153, p-value = .007; RMSEA = .038; GFI = .917**;** CFI =.957, Consideration set size (R^2= .125), Consumption frequency (R^2 = .125).

H8 was proposed concerning the positive relationship between the price consciousness and the consideration set size. Even there was a significant relationship between price consciousness and consideration set size as expected, the relationship was negative (β = -.22, t = -2.42, p < .05). Finally, the final model explained 12.5 percent of the variance in consideration set size (R^2 = .125) and 12.5 percent of the varience in fish consumption frequency (R^2 = .125).

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4. 3 Confirmatory factor analysis of attribute belief model for attitude

This study wants to work with an attribute belief model which is usually used to explain attitudes (Olsen, 2004). By doing this, I expected to test the impact of other attribute belief on global attitude formation, but also to confirm the validity of the attitude construct.

Table 4.4 Standardized confirmatory factor analysis coefficients and reliability of belief

Constructs and indicators	St. factor loadings	t-value	Composite reliability	Variance Extracted
Attitude			**.78**	**.52**
Satisfied/Unsatisfied	.67	10.05		
Pleasant/Unpleasant	.77	15.72		
Positive/ Negative	.57	8.50		
Sensory aspects			**.82**	**.60**
Bad appearance/good appearance	.79	12.28		
Bad smell/good smell	.83	13.24		
Bad taste/good taste	.70	10.71		
Health			**.74**	**.58**
Unhealthy/ Healthy	.78	9.74		
Not nutritious/ Nutritious	.75	9.51		
Convenience			**.71**	**.46**
Difficult to prepare/ Easy to prepare	.74	10.15		
Difficult to cook in many different ways/ Easy to cook in many different ways	.64	8.62		
Much time to cook/ Fast to cook	.63	8.14		
Price			**.78**	**.54**
Too expensive/ Reasonable price	.74	10.82		
Low value for money/ High value	.82	12.48		
Unsuitable for budget/ Suitable for budget	.66	9.66		

Note: Chi - Square = 131.247, df = 67, p-value = .000; RMSEA = .068; GFI = .922; CFI =.934, N = 207.

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Specific model general attitude was tested to identify the forming factors in terms of sensory aspects, health, conveience and price belifs. In the same way as in the previous study, an exploratory factor and several confirmatory modifications are done in order to improve the fit of the measurement model. The final confirmatory analysis resulted with 3 items for construct of sensory aspects, 2 items for construct of health, 3 items for construct of convenience and 3 for construct of price with 3 items for attitude construct resulted good fit for the data ($\chi 2$= 131.247, df = 67, p-value = .000; RMSEA = .068; GFI = .922; CFI =.934, N = 207)

Table 4.4 shows the different measures of reliability computed from the confirmatory factor analysis. Item reliability (factor loadings) and t-values associated with factor loadings were observed (p<.000). These satisfy the criteria for convergent validity of the constructs (Bagozzi, Li, and Phillips, 1991). To examine the construct reliability, other two reliability measures of composite reliability and variance extracted also estimated (Fornell and Larcker, 1981). All the reliability measures except the value of variance extracted of convenience(VE=.45) but it was chosen to keep these constructs in the model since the attribute belief related to convenience has been shown to have an influence of consumption of fish in early studies.

4.5 Correlation of attribute belief

	1	2	3	4	5
1. Attitude	1.00				
2. Sensory aspects	.51***	1.00			
3. Health	.43***	.28***	1.00		
4.Conveience	.41***	.21**	.41***	1.00	
5. Price	.14*	.14*	-.14ns	.29***	1.00

Note: * p <0.05, ** p < 0.000
Chi - Square = 131.247, df = 67, p-value = .000; RMSEA = .068; GFI = .922**;** CFI =.934

The correlations among constructs used in model were calculated (Table 4.5). The discriminant analysis was performed by examining the average variance exracted scores of

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two constructs and the square of two constructs and the square of the correlation between the same constructs. This process resulted that the average variance extracted for pairs of constructs are all greater than square of the correlation between them. Therefore the discriminant validity of the constructs used in the model is confirmed.

4.6 Structural model of attribute belief

Structural model for four underlying predictors of attitudes towards consumption of fish consumption was estimated (see figure 4.2). The Goodness of Fit of the structural was statistically significant data ($\chi2$= 131.247, df = 67, p-value = .000; RMSEA = .068; GFI = .922; CFI =.934, N = 207). The result of the attribute belief model shows that attribute related to sensory aspects has significant positive impact on attitude towards fish consumptions among respondents (β = .39, t = 4.703, p< .000). Furthermore the attribute related to convenience (β = .21, t = 2.25, p< .05) and the attribute related to health (β = .24, t = 2.5, p< .05) have positive impact on attitude towards fish consumption. But, the attribute belief related to price was statistically insignificant (β = .053, t = .67, ns).
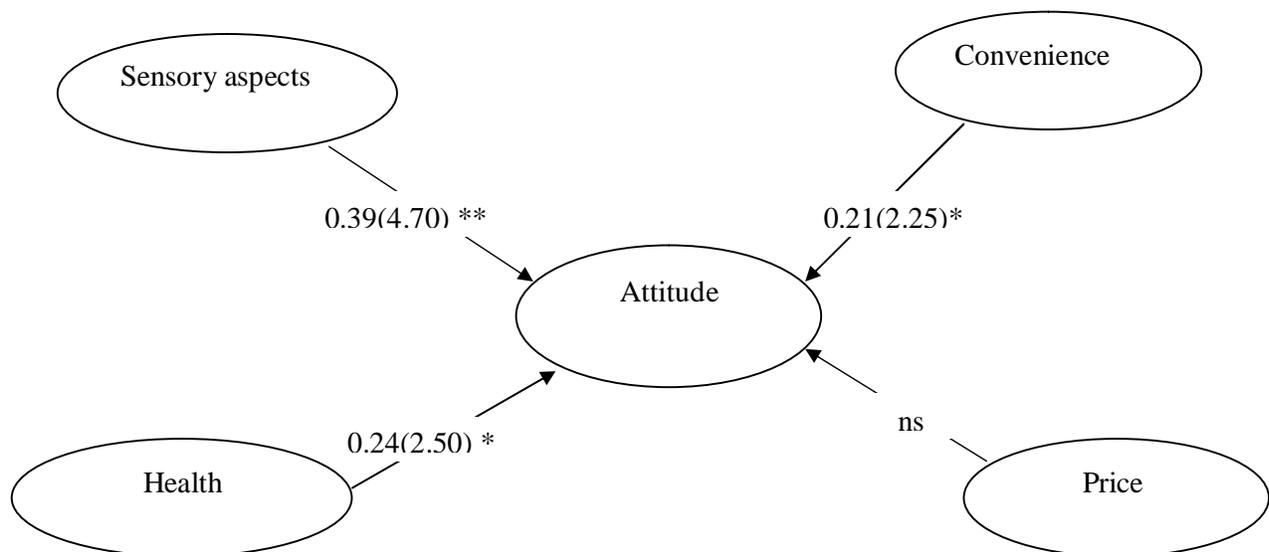
* p <0.05, ** p < 0.000, ns-non significant

Figure 4.2: Standardized regression co-efficient of attribute belief model, t-value in parentheses.

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Table 4.6 Results of the attribute belief model

Regression path	Estimate	t-value
Health è Attitude	.238	2.504*
Convenience è Attitude	.214	2.250*
Price è Attitude	.053	0.671ns
Sensory è Attitude	.39	4.703**

Note: * p < .05; ** p < .000; ns: non-significant

Chi - Square = 131.247, d.f = 67, p-value =. 000 RMSEA = 068, GFI = .922, CFI = .934

Attitude (R^2= .396)

However, the variable of sensory aspect, health and convenience, together with somewhat less important price belief variable explain 39.6 percent of the variance of in attitude towards fish consumption. By considering with the results of the proposed theoretical model, it can be confirmed that sensory aspects, convenience and health beliefs are more important in explaining attitude toward fish than price of fish as a belief.

5. Discussion

The objectives of this study were to understand how the consideration set size affect for consumption frequency of fish, to investigate how consumer attitude, knowledge, convenience orientation, variety seeking tendency and price consciousness affect the formation of consideration size and consumption of fish and to suggest a marketing strategy implication for food marketers as well as strategy for increasing fish consumption in Sri-Lanka. A proposed conceptual framework was used to achieve these objectives. The items used to measure the constructs were either adopted or taken from previous studies.

The survey was carried out in *Galle* district in Sri-Lanka with the convenience sample of 207 respondents. The confirmatory factor analysis and structural equation modelling were used as statistical analysis methods to valid the constructs and estimate the strength and direction of the hypothesised relationships. It was found that significant positive relationship between consideration set size and fish consumption frequency as a main hypothesis. Further, this study has found significant positive relationships between knowledge and consumption frequency, convenience orientation and consideration set size and between variety seeking related to personality trait and variety seeking related to food, while having insignificant positive relationships between Knowledge and fish consumption frequency and between variety seeking related to food and consideration set size. Surprisingly, attitude has an insignificant effect on both consideration set size and the consumption frequency of food. The study found that that belief of sensory aspects, health and conveience were significant predictors of attitude toward fish. Further, this study revealed that price consciousness related to food has a negative direct impact on consideration set size. The following section will explain and discuss these findings.

5.1 Theoretical discussion and Implication

An important goal of this study was to determine the extent to which the consideration set size affects fish consumption frequency. In the context of this study, It was found significant positive relationship between consideration set size and the fish consumption frequency (β = .233, t = 3.053, p< .000). This relationship has been shown in early studies, confirming that a brand or product needs to be a part of consideration set to be chosen (Desai and Hoyer, 2000; Erdem and Swait, 2004; Nedungadi, 1990; Priester *et al.,* 2004). Adopting this within food

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choices, in the light of the theoretical arguments and empirical findings, Rortveit and Olsen (2007) and Olsen *et al.,* (2007) have also shown that consideration set size is positively related to the consumption frequency of fish.

Several studies confirmed strong positive effect between attitude towards eating fish and consumption frequency of fish (Olsen, 1999; Olsen. 2003, Olsen *et al.,* 2007; Tuu *et al.,* 2008) which is consistence with more basic attitudinal research (Armitage and Corner, 2001; Eargly *et al.,* 2001). However, it was found in this study that general attitude was positive, but statistically insignificant towards fish consumption frequency in Sri-Lanka. It may explain that because almost all people like fish as a food in the study area (attitudes are positively skewed), it fails to provide much of the variability in the relationship between attitude and consumption frequency of fish. Attitudes toward fish in other studies (Olsen, 1999; Olsen. 2003, Olsen *et al.,* 2007; Tuu *et al.,* 2008) are not as skrewed as in my data.

The relationship between attitude and consideration set has to my knowledge only been investigated in three studies. Paulssen and Bagozzi (2005) found that desired benefits, as a facet of attitude and more specific goals, determined brand consideration of cars while Rovert and Olsen (2009) and Olsen *et al.,* (2007) further emphasized that consideration set size is positively related to consumption frequency of the fish in the context of Europe. As expected, attitude had a positive effect on consideration set, but the effect was not significant in my study. Furthermore, this small positive relationship between attitude and consideration set indicate that people's attitude towards fish do not impact on the number of fish alternatives considered by the consumer in buying and consuming of fish for a meal in Sri-Lanka. However, the relationship between attitude and consideration set was insignificant, may be due to most of consumers like fish have a small impact of considering fish alternatives in buying and consuming for main meal (choice occation).

Fishbein and AJzen (1975) argued that "A person's attitude is a function of his salient beliefs". Based on that my study has argued attitude is positively related to attribute belief; specific sensory (e.g. taste), health- (e.g. healthiness and nutrition) price and convenience beliefs. This study explains the attitude based on specific sensory (e.g. taste, appearance, texture), health (e.g. healthiness and nutrition) price and convenience beliefs associated with eating fish. As expected specific sensory attributes (taste) is the most important attribute item

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in forming attitudes in my study while health and convenience have positive impact. These findings are accordance with the evidence that, factors such as health concern, sensory attributes, and convenience act as predictors of attitudes towards fish consumption (Kole *et al.,* 2009 and Luten *et al.,* 2002). Furthermore, this study showed even there was a positive relationship between attitude and the price belief as expected, the effect was small and non significant, may explain that price was not perceived as a expensive food in this representative sample of Sri-Lankan respondents and these consumers get fish directly from fishermen for cheaper price and also they may buy cheaper fish species. Another reason may be the consumers were more biased when they talk about the price that is more socially desirable and prestigious (Sudman *et al.,* 1996), but they react quite differently when they perceive the price in real buying and consuming context. Some studies also compliance with my study results by revealing that price was not perceived as a barrier for sea food consumption (Honkanen *et al.*, 1998; Leek *et al.*, 1998).

The result lead to accept the positive relationship between knowledge and consideration set size. This result is analogous with several studies (Alba and Chattopadhyay, 1985; Aurier *et al.,* 2000; Johnson and Lehmann, 1997) which shows knowledge within a product category has a positive impact on likelihood of an alternative from this particular product category being chosen (Axelson, Federlin and Brinberg, 1985; Crities and Aikman, 2005; Jayantil and Burns, 1998). Further more in the context of food, Rortveit and Olsen (2007) in their study showed the contribution of knowledge to formation of consideration set size in case of fish. In light of previous studies, our findings are interesting since they contribute how consideration set is a smaller part of the knowledge set revealing that knowledge is necessary precondition for consideration (Alba and Chattopadhyay, 1985). Knowledge was defined as product knowledge included the quality of the fish, health and nutrient aspects of fish and the familiarity of the category fish. In case of my study, product category familiarity knowledge have impact on consideration set size formation which is in line with previous study of Aurier *et al.,* (2000) which showed how familiarity with usage context affects the consideration set size. This finding is supported by my study which familiarity knowledge in case of fish has an impact on the alternatives of fish considering in buying and consuming occasions in the context of Sri-Lanka. It may explain that consumer's knowledge about quality of the fish, health and nutrient aspects of fish had not explained much to likelihood of an alternative from fish category being chosen.

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This study further emphasised that knowledge has a positive insignificant impact on consumption frequency of fish, but insignificant. But contrary to expectation and previous research findings, positive significant relationship was found between knowledge and the consumption frequency in other studies (Ajzen, 1991; Armitage and Conner, 2001; Bandura, 1977; Rortveit and Olsen, 2007). It may explain that fish consumers do not consider product knowledge in the choice occations as most of them are seemed to be familiar and know about fish. Most of the respondents (about 85%) in the sample are elders, thereby they may think that they are expert in knowledge in terms of familiarity of fish (know lot of fish species). It may fail to provide much of the variability in the relationship between knowledge and consumption frequency of fish.

My Research is compatible with the idea of that convenience orientation has an important effect on consumer's buying decisions and food choice (Berry *et al.,* 2002; Candel, 2001; Olsen *et al.,* 2007; Scholderer and Grunert, 2005). Rorveit and Olsen (2009) and Olsen *et al.,* (2007) have explored the relationship between convenience orientation and fish consumption through a consideration set size as a partial mediator and found there is a direct negative relationship between convenience orientation and the consideration set size. In my study I argued if the consumer is more convenience orientated; it will lead to smaller consideration thereby convenience orientation has a negative influence of consideration set size. Even though I expected negative relationship, my study has confirmed positive significant relationship among those constructs which is lined with the study of Kim Anh (2010) who discovered a positive relationship between convenience orientation and the consideration set size. It may explain if the consumers are more convenience orientated regarding preparing meal, they will search for more alternatives which can be easily cooked with out consuming much more time in Sri- Lankan context. Same time, now in Sri-Lankan culture, most of women engage in busy life may also a big factor for searching more alternatives within food category when they are buying and preparing the meal at home. Buckley *et al.,* (2007) also showed the changing lifestyle of the consumers lead to increase demand for convenient foods.

I have argued that variety-seeking tendency related to food of consumers will have an impact on all the alternatives which are part of the consideration or choice set of consumers (Berne *et al.,* 2001). As expected variety seeking tendency towards food had a direct positive effect on consideration set size, but the effect was insignificant (small). Thus, this study confirmed

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even though there is a consumer's intrinsic desire for variation of food, it has negligible effect on the number of fish alternatives considered when they buy and consume fish. This may explain that consumers may seek more food variation, but it doesn't necessary explain that these consumers must consider more fish alternatives as to satisfy their variation of food, thereby they can consider for more alternatives to satisfy their needs and protein requirements of their meals.

This study tested the relationship between the general variety seeking tendency as a personality trait and the more specific variety seeking tendency related to food. My result led to accept the significantly positive relationship between variety seeking tendency related to food and variety seeking related to personality. From the theory (Van Trijp, 1995), the consumers high in this personality trait feel positive to variation of food. Thus, a general variation tendency (personality) should influence more on specific variation tendency (food) (*ibid*). In case of my study, my findings gave a better contribution to the more general literature revealing the positive relationship between variety seeking tendency in general as a personality trait and variety seeking tendency in a food domain. It may explain the consumers who seek variation in their general life tend to vary in foods as well.

In case of my study, I argued consumer tend to search for lower price food varieties (Lichtenstein *et al.,* 1993), by that they may consider more alternatives in an effort to find lower price fish varieties in the context of Sri-Lanka. Even though the relationship between price consciousnesses related to food and the consideration set size has formed concerning the significant positive effect (Dawson, 2003), this study has ended up with the significant negative relationship between price consciousness and the consideration set size. It may explain the consumers who are price conscious, searching for lower price foods do not consider many fish alternatives (large consideration set). This is consistent with prior research of Dawson (2003) who showed that price consciousness individuals would have small consideration sets as they consider small sets. My logical explain is that, consumer in Sri-Lankan context consider few alternatives of fish when buying and consuming occasions.

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5.2 Managerial Implication

My results suggested that more alternatives within a specific product category that are considered, the more likely it is that and an alternative form of that specific product category is chosen. In my case, fish as a product category the more fish alternatives consumer consider in a choice occasion, the more likely it is that a fish alternative will be chosen. The study has shown that number of fish species considered on choice occation has a significant impact on consumption frequency of fish. It creates opportunities for marketing people as they can expand fish market share by providing different fish species to market. On firm level this implies the manufactures of food product should seek to have variety of products that can be applied to many segments and situations. In the context of generic promotion is common, marketing strategy should approach consumer education towards seeking variety in order to increase their industry share of the food market.

The findings of this study also indicate that set size can be increased through the knowledge variable. In such a condition, manufacturer must tend to put in to consumer education which will lead to have a positive impact on consideration set size. It seems to be that although consumers belive that fish is healthy food, they may pocess a poor knowledge about the different nutritional and health benefits of fish. Providing information on health and nutirient values of fish will help consumers to make decisions regarding cosideration of fish alternatives in their choice occations. Therefore, mass media and public health promotional campaigns, government health authorities can be used to make people aware about the health and nutritional information associated with fish species.

One important finding in this study is the evidence that consumers are more convenience orientated, there by marketers can introduce more products related to food, including fish as a instant products which can be easily cooked and saved as a meal. As this survey included most of the women, these convenience products can be promoted among them as they mainly engage in the cooking and preparing meals in the home stage. Furthermore marketers should consider the elements of manufactured goods such as: product size, preservability, packaging and design, which can reduce consumers' time and effort in purchasing, storage, and use, have been related to convenience orientation.

As Sri-Lanka is a developing country, consumers tend to buy lower price products as they are more concern about the economic situation in their families. Many house holds find fresh and high quality fish are expensive buy cheaper alternatives of frozen and processed products, such as fish fingers. Therefore marketers can adopt for a supply lower price products to the market in order to meet the needs of consumers.

5.3 Limitations and future research

This study provides an insight into relationships among main constructs of the consumer's attitude both globally and beliefs based, consideration set size, consumer's knowledge, convenience orientation, variety seeking tendency and price consciousness. Several limitations of study should be considered when interpreting the results and developing future research to extend and expand its scope.

One of primary limitations of the study associated with lack of secondary data from similar studies in Asian countries. As a consequence, the majority source of this type of secondary data was gathered from studies conducted in the European countries.

It is also important to note that the findings from this study did not result from direct questioning. Therefore people found difficulties with understanding some questions e.g. the items of variety seeking tendency related to food and the personality. This brings the disadvantage of not proving any causality. Future studies can prevent this by focus group discussion or interviewing the respondents. Then the marketers can gain the real picture about the consumers.

Another limitation pertains to the sample size and sampling method. Primary data had to collect from a convenience sample of consumers in *Galle* district, Sri- Lanka. Sample is relatively small and they are not statistically representative to the total population in *Galle* district or Sri-Lanka. Therefore the results could not be generalized to Sri-Lanka, and have to be interpreted within the characteristics of the samples used. In order to get real understanding about the consumer choice behaviour in fish consumption and their causal relationship with attitude both globally and beliefs based, consideration set size, consumer's knowledge, and convenience orientation, variety seeking tendency and price consciousness, future studies should consider a more representative sample of consumers in Sri-Lanka.

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Major problem we faced in this study was to deal with skewed data set which has resulted unexpected relationship between attitude and consumption frequency. Future studies will be developed to handle this problem to avoid getting unexpected relationships. It could be done by framing the questions differently (e.g., combine Likert and semantic scale), extend the semantic scale to several options (e.g., 1-100) or more extreme endpoints (e.g., extremely negative – positive).

The findings can not be generalized to other food categories and product categories out side the context of food. Therefore, in future research, it would be interesting to investigate how this model applies to other food categories and also tested in other product type setting.

Further, since consideration set is a multidimensional construct (Desai and Hoyer, 2000), future research should also try to investigate how the others dimension of the construct as stability, variety and preference dispersion.

My finding of this study indicated that knowledge about product category has a direct positive effect on consideration set size, therefore another potentially fruitful area of future research might be to search what kind of education or educational consumer cues would increase the set size most.

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Appendix *1.0* Measurements of constructs

Construct 01: Attitude, beliefs and preference

Appendix *1.1 General attitude and attribute beliefs*

In the following we would like you to think about how you feel when you eat fish as a meal. Please indicate for each row which word best describes your feeling. If, for example, you feel very bad, tick off the box ✖ under 1. If you feel very good, tick off the box under 7, or somewhere in between if you have another perception. (Mark one box ✖ per line)

When I eat fish, I feel	1	2	3	4	5	6	7	
Bad	☐	☐	☐	☐	☐	☐	☐	Good
Unsatisfied	☐	☐	☐	☐	☐	☐	☐	Satisfied
Unpleasant	☐	☐	☐	☐	☐	☐	☐	Pleasant
Dull	☐	☐	☐	☐	☐	☐	☐	Exiting
Negative	☐	☐	☐	☐	☐	☐	☐	Positive

Appendix 1.2 Attribute beliefs

How would you evaluate fish as a meal along the following different attributes? The evaluation is from very bad (1) to very good (7). If, for example, you feel very bad, tick off the box ✖ under 1. If you feel very good, tick off the box under 7, or somewhere in between if you have another perception. (Mark one box ✖ per line)

	1	2	3	4	5	6	7	
1.Bad taste	☐	☐	☐	☐	☐	☐	☐	Good taste
2.Bad texture	☐	☐	☐	☐	☐	☐	☐	Good texture
3.Bad appearance	☐	☐	☐	☐	☐	☐	☐	Delicate appearance
4.Bad smell	☐	☐	☐	☐	☐	☐	☐	Good smell
5.Unhealthy	☐	☐	☐	☐	☐	☐	☐	Healthy
6.Not nutritious	☐	☐	☐	☐	☐	☐	☐	Nutritious
7.Unsafe	☐	☐	☐	☐	☐	☐	☐	Safe
8.Difficult to buy	☐	☐	☐	☐	☐	☐	☐	Easy to buy
9.Difficult to prepare	☐	☐	☐	☐	☐	☐	☐	Easy to prepare
10.Difficult to cook in many different ways	☐	☐	☐	☐	☐	☐	☐	Easy to cook in many different ways
11.Unavailable	☐	☐	☐	☐	☐	☐	☐	Available
12.Time consuming to prepare	☐	☐	☐	☐	☐	☐	☐	Fast to prepare
13.Much time to cook	☐	☐	☐	☐	☐	☐	☐	Fast to cook
14.Difficult to store	☐	☐	☐	☐	☐	☐	☐	Easy to store
15.Too expensive	☐	☐	☐	☐	☐	☐	☐	Reasonable price
16.Low value for money	☐	☐	☐	☐	☐	☐	☐	High value for money
17.Unsuitable for budget	☐	☐	☐	☐	☐	☐	☐	Suitable for budget
18.Non economical	☐	☐	☐	☐	☐	☐	☐	Economical

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Construct 02: Convenience orientation

Appendix 2.1 Convenience orientation related to food

In the following we would like you to think about how you prefer when you plan, buy, prepare and cook a meal for a typical day. Please indicate for each row which word best describes your feeling. If, for example, you feel strongly disagree, tick off the box ✗ under 1. If you strongly agree, tick off the box under 7 or somewhere in between if you have another perception. (Mark one box ✗ per line)

	Totally disagree			Neither disagree nor agree			Totally agree
	1	2	3	4	5	6	7
I prefer meals that are easy to plan, buy (provide), prepare and cook	☐	☐	☐	☐	☐	☐	☐
The less physical effort (work, energy) I need to plan, buy, prepare/cook a meal, the better	☐	☐	☐	☐	☐	☐	☐
I prefer meals that are quick to plan, buy (provide), prepare and cook	☐	☐	☐	☐	☐	☐	☐
I want to spend as little time as possible on planning, buying, and preparing/cooking of what to have for meals	☐	☐	☐	☐	☐	☐	☐
At home I preferably eat meals that can be prepared quickly	☐	☐	☐	☐	☐	☐	☐
It is waste of time to spend a long time in planning, buying, preparing and cooking meal	☐	☐	☐	☐	☐	☐	☐
I want to spend as little time as possible on meal preparation	☐	☐	☐	☐	☐	☐	☐

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Construct 03: Knowledge

Appendix 3.1 Product knowledge related to fish

We are now suggesting several properties related to your knowledge upon buying fish. For every proposition please indicate your agreement or disagreement (Product knowledge). If, for example, you feel strongly disagree, tick off the box ✖ under 1. If you feel strongly agree, tick off the box under 7, or somewhere in between if you have another perception. (Mark one box ✖ per line)

	Totally disagree			Neither disagree nor agree			Totally agree
	1	2	3	4	5	6	7
Compared to an average person, I know a lot about fish	☐	☐	☐	☐	☐	☐	☐
I know a lot of different spices of fish	☐	☐	☐	☐	☐	☐	☐
My friends consider me an expert on fish	☐	☐	☐	☐	☐	☐	☐
I know what kind of fish which is good to eat, and bad to eat	☐	☐	☐	☐	☐	☐	☐
I know what kind of fish is safe and unsafe to eat	☐	☐	☐	☐	☐	☐	☐
I know what kind of fish is healthy and unhealthy to eat	☐	☐	☐	☐	☐	☐	☐
I know that fish I normally purchase are free from chemical preservatives and additives	☐	☐	☐	☐	☐	☐	☐
I have a lot of knowledge about how to evaluate the quality of fish	☐	☐	☐	☐	☐	☐	☐
I have good knowledge about what kind of vitamins fish contain	☐	☐	☐	☐	☐	☐	☐
I have good knowledge about what kind of nutrition fish contains	☐	☐	☐	☐	☐	☐	☐

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Construct 04: Variety seeking tendency

Appendix 4.1 Variety seeking tendency as a personality trait- Original CSI scale

In the following we would like you to think about how your personality towards seeking changes in general. Please indicate for each row which word best describes your feeling. If, for example, you feel strongly disagree, tick off the box ✘   under 1. If you feel strongly agree, tick off the box under 7 or somewhere in between if you have another perception. (Mark one box ✘   per line)

	Totally disagree			Neither disagree nor agree			Totally agree
	1	2	3	4	5	6	7
I like to continue doing the same old thing rather than trying new and different thing(recoded)	☐	☐	☐	☐	☐	☐	☐
I like to experience novelty and change in my daily routine	☐	☐	☐	☐	☐	☐	☐
I like a job that offers change, variety and travel, even if it involves some danger	☐	☐	☐	☐	☐	☐	☐
I am continually seeking new ideas and experiences	☐	☐	☐	☐	☐	☐	☐
I like continually changing activities	☐	☐	☐	☐	☐	☐	☐
When things get boring, I like to find some new and unfamiliar experiences	☐	☐	☐	☐	☐	☐	☐
I prefer a routine way of life to an unpredictable one full of change (recoded)	☐	☐	☐	☐	☐	☐	☐

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Appendix 4.2 Variety seeking tendency related to food -- VERSEEK original scale + Kim Anh (2010)

	Totally disagree			Neither disagree nor agree			Totally agree
	1	2	3	4	5	6	7
When I eat out, I like to try the most unusual food items, even if I am not sure I would like them	☐	☐	☐	☐	☐	☐	☐
While preparing foods or snacks, I like to try out new recipes	☐	☐	☐	☐	☐	☐	☐
I am eager to know what kinds of foods people from other countries eat	☐	☐	☐	☐	☐	☐	☐
Food items on the menu that I am unfamiliar with make me curious	☐	☐	☐	☐	☐	☐	☐
I am curious about food products I am not familiar with	☐	☐	☐	☐	☐	☐	☐
I find myself eating many of the same foods day after day (recoded)	☐	☐	☐	☐	☐	☐	☐
Most people do not eat as many different foods as I do	☐	☐	☐	☐	☐	☐	☐
I do not usually change the food in my diet much from day to day(recoded)	☐	☐	☐	☐	☐	☐	☐
My diet is higher in variety than most people I know	☐	☐	☐	☐	☐	☐	☐
I vary with food, but only with few kinds of food	☐	☐	☐	☐	☐	☐	☐

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Construct 05: Price consciousness

Appendix 5.1 Price consciousness related to food

Please indicate the degree to which you feel agree or disagree with the following statements when you buy fish for a meal in a typical day. If, for example, you feel strongly disagree, tick off the box ✖ under 1. If you feel strongly agree, tick off the box under 7, or somewhere in between if you have another perception. (Mark one box ✖ per line)

	Totally disagree			Neither disagree nor agree			Totally agree
	1	2	3	4	5	6	7
I tend to buy lower priced food items that full fill my need	☐	☐	☐	☐	☐	☐	☐
When buying food items, I look for the cheapest	☐	☐	☐	☐	☐	☐	☐
When it comes to buy food items, I rely heavily on Price	☐	☐	☐	☐	☐	☐	☐
When buying food items, I consider price first	☐	☐	☐	☐	☐	☐	☐
I am not willing to go to extra effort to find lower priced food items(recoded)	☐	☐	☐	☐	☐	☐	☐
I will shop at more than one store to take advantages of low priced food items	☐	☐	☐	☐	☐	☐	☐
The money saved by finding lower priced food items is usually not worth the time and effort	☐	☐	☐	☐	☐	☐	☐
The time it takes to find low prices of food items is usually not worth than	☐	☐	☐	☐	☐	☐	☐

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Construct 6: Consideration set size

We are going to make an assertion about recent fish consumption consideration. Please make a ✗ for each alternatives considering about buying and preparing a meal in the last month. Please mark only one answer in each row.

Appendix 6.1 Forms of consideration set

Considering about buying and preparing a meal in the last month?

	1	2	3	4	5	6	7	8	9	10
How many different fish species you usually consider in buying and preparing a meal in the last month? (Tuna, herrings, Yellow fin tuna, Anchovy, etc…)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
How many different ways of preparing fish meal you usually consider?(Cooked with coconut milk, cooked with spices adding more chilies, oil fried ,soup,grilled,ambul thiyal,oven baked, etc…)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	1	2	3	4	5	6	7	8	9	10
How many different conservation forms of fish you usually consider? (Fresh, frozen, salted, canned, dried, maldive fish etc…)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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Construct 7: Fish consumption frequency

Below, we would like you to present some kinds of fish that you consume on your meals. Please make a ✕ for each alternatives that best describes how many times on average during the last year you have consumed fish on your meal. If none of the response alternatives completely covers your situation, tick off for the alternative that is closest. Please mark only one answer in each row.

Appendix 7.1 Fish consumption frequency in general

How often do you eat fish as your main meal /course(lunch) …?								
	Daily or almost every day	3-4 times a week	2 times a week	Once a week	2-3 times a month	Once a month	1-5 times every 6 months	Less frequently	Never
At home	☐	☐	☐	☐	☐	☐	☐	☐	☐
Away from home	☐	☐	☐	☐	☐	☐	☐	☐	☐

Appendix 7.2 Fish consumption frequency during last two weeks (Recent frequency)

We are going to make an assertion about recent fish consumption frequency. Please make a ✕ for each alternatives that best describes how many times on average during the last two weeks you have consumed fish on your meal. Please mark only one answer in each row.

Could you please estimate how many times during last 14 days you have eaten fish for the lunch?															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
At home	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Away from home	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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