



COMFOCUS

Community on Food Consumer Science



D4.4 Guideline for harmonisation of measures and protocols related to consumer behaviour as an outcome



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Guideline for harmonisation of measures and protocols related to consumer behaviour as an outcome

Glossary

Abbreviation	Full form
FCS	Food Consumer Science
WP4	Work package 4
TPB	Theory of Planned Behaviour

Executive Summary

The overall objective of WP4 is to harmonise the self-report measures for the most commonly used concepts in surveys studying factors related to food choices in order to enable creation of comparable data across different studies. The specific object of Deliverable 4.4 is to select the most relevant concepts related to consumer food behaviour as an outcome and develop guidelines for harmonised measures for these.

The deliverable consists of three chapters. The first chapter gives an overall picture of the purpose and considerations that have guided the work behind the decisions made during the process of selecting concepts and assessing the used measurement instruments. The second chapter describes the process of selecting the seven concepts considered as the most relevant in FCS surveys and the criteria used in selecting harmonised measures for these concepts. The concepts were selected based on previous consumer behaviour frameworks and food choice models and the use of them in FCS studies when explaining food choices. The criteria for selecting the harmonised measures were the frequency of use in food consumer science (FCS) studies, reliability and validity of the measures together with assessment of feasibility and cross-cultural stability.

The selected concepts and harmonised measures are described in subsections of Chapter 3. The front-page in each section gives the basic information about the concept and harmonised measure followed by a detailed description. The detailed description defines the concept and its theoretical background, but the main focus is on how the concept has been operationalised and justification for selecting a measure as the COMFOCUS harmonised measure. The selected measure for each concept is described together with information relevant to its use in questionnaire studies.

The document contains recommendations for COMFOCUS harmonised measures for the following concepts: 1) Intention, 2) Perceived behavioural control, 3) Behavioural willingness, 4) Willingness to pay, 5) Food frequency questionnaire, 6) Consumer loyalty, 7) Habit.



CHAPTER 1

Introduction

1. Introduction

1.1 Background

Food choice is a complex process, which is influenced by several diverse but interrelated factors. For this reason, food choice has been integrated into several extensive frameworks or models (Chen & Antonelli, 2020). Most of these models distinguish between three main factors that influence food choice: the food, the consumer, and the context. In order to understand food choices, we need to find answers to questions related to “who” (=consumer), “what” (=food), “when”, “where”, “with whom” (= context) and “why”. This crucial last question can be explained by understanding how all the other factors are interrelated and influence the behaviour of consumers (Rozin, 2007). Concepts related to consumer behaviour as an outcome are crucial in predicting, understanding, and changing food choices and other food-related behaviours. Behaviour concepts can characterise individual consumers, help us to understand what drives consumers in their food choices, and how these characteristics interact with product and context.

Food consumer science (FCS) is a multidisciplinary discipline requiring an understanding of both the consumer and the product. Scientists working in FCS come from various scientific backgrounds, such as psychology, sociology, sensory food science, marketing, and agricultural economics, and the concepts used in FCS are similarly derived from various disciplines that differ in their definitions and basic assumptions behind the concepts. This diversity has made FCS a rich discipline with several possible approaches and paradigms that can be adopted when trying to find answers to research questions. At the same time this illustrates that the FCS field is fragmented. The large number of studies carried out in different countries give snapshots of certain food choices by consumers from one geographical area at a specific time based on varying theoretical and methodological approaches. This makes it impossible to generalise across studies or to compare findings. By harmonising the used methods and approaches, we are one step closer to starting to get a more holistic picture of factors that influence food choices and other food-related behaviours.

In this deliverable, we focus mainly on concepts that have a background in social psychology but also include some from marketing and health sciences. The deliverable is aimed at all researchers who work in FCS by making the descriptions of concepts and harmonised measures easily approachable. The concept descriptions are not deep-going reviews on concepts, but they gather the most important information required to apply the different concepts in FCS studies. The concept documents in Chapter 3 concentrate on introducing measures and operationalisations. These will help the food consumer scientists to learn the basic features of the concepts as well as to adopt the most appropriate measurement instruments to fit their research questions. The selected harmonised measures are recommendations of valid and reliable measures that, in our assessment, are among the best ones. However, we have also considered feasibility as a criterion: often the length of the measurement scale can be an issue and evidence of cross-cultural functioning is an important

Guideline for harmonisation of measures and protocols related to consumer behaviour as an outcome benefit in many food-related studies. In FCS the use of these concepts is typically related to describing the behaviour of the consumers participating in the study. However, if the relationships between concepts are the main focus, then choosing more extensive versions should be considered.

The deliverable is designed to work as a FCS handbook of concepts and their harmonised measures based on the current knowledge. Still, research in FCS evolves and we expect these background documents to evolve over time as well when new versions are added to the COMFOCUS knowledge library.

1.2 Objective

The overall objective of WP4 is to harmonise the self-report measures for the most commonly used concepts in surveys studying factors related to food choices in order to enable creation of comparable data across different studies and build a base of protocols that will be applied in different survey methods with special emphasis on questionnaire-based studies.

The specific object of Deliverable 4.4 is to identify the most relevant concepts related to consumer behaviour as an outcome and develop guidelines for harmonised measures and descriptors.

1.3 Structure of the document

The deliverable consists of three chapters. This first chapter gives an overall picture of the purpose and considerations that have guided the work and motivated the decisions made during the process of selecting concepts and assessing the used measurement instruments. Chapter 2 describes the process of how the concepts and their harmonised measures were selected, and Chapter 3 describes these concepts and measures in detail. Each concept is described in its own section as an independent concept so that the reader can use the subsections of Chapter 3 independently. This means that there will be considerable overlap between the different subsections but writing them as independent units will make them more user-friendly to those who use the documents as guidelines when making decisions about which concepts to use. These background documents will also be added to the COMFOCUS knowledge platform as independent units as well.

References

- Chen, P.-J., & Antonelli, M. (2020). Conceptual models of food choice: Influential factors related to foods, individual differences, and society. *Foods*, 9(12), 1898.
- Rozin, P. (2007). Understanding Consumers of Food Products. In L.J. Frewer & H. van Trijp (Eds.), *Food choice: an introduction* (pp. 3–29). Woodhead Publishing, Cambridge.



CHAPTER 2

Method

2. Method

2.1 Process description for selecting COMFOCUS self-report concepts and deciding on harmonised measures

The process of harmonising measures related to consumer behaviour as an outcome in the COMFOCUS community has been done in two steps. First, the commonly recognised and used concepts were mapped and then the most relevant concepts were selected and included in the harmonising process based on discussions in the WP4 work group and the COMFOCUS community. Second, the literature on the selected seven concepts was reviewed with the emphasis on how they have been operationalised and measured. The second step has resulted in a background document for each concept, which contains the rationale for selecting the harmonised measure and how to apply this measure (subsections of Chapter 3).

Harmonising in this context means defining concepts and selecting measures so that these recommended measures will be considered as priority options in different food consumer science (FCS) studies within the COMFOCUS community. Doing so allows combining data sets from different studies in the future, which in turn enables deepening cross-sectional understanding (e.g., by comparing different contexts and cultures) and identifying trends over time by means of longitudinal analysis. Yet, keeping them as recommendations allows necessary adaptations of these measures when specific needs arise from differences in cultural context, needs of the research question or other issues. Recommended measures provide a reference point for these adaptations and future developments.

2.2 Mapping and selecting the concepts to include

The concepts used in consumer food science were mapped by using existing frameworks (e.g., DONE network: Stok et al., 2017; Stok et al., 2018), scoping literature on food choice models (e.g., Chen & Antonelli, 2020; Köster, 2009; Randall & Sanjur, 1981; Rozin, 2007; Sobal, Bisogni, & Jastran, 2014) and direct input and discussions among the members of COMFOCUS community.

DONE network¹ (Stok et al., 2017 and online framework) gives an extensive framework on concepts that are relevant to healthy eating with food choices, eating behaviour and dietary food intake as the outcomes. From the FCS perspective, the health focus in food choices is challenging as it contains a clearly defined goal, whereas FCS has a focus on the consumer and understanding of consumer behaviour regardless of what the food choices or goals are, although the majority of the concepts are the same in the two approaches. Health is an important reason behind food choices, but the interest in FCS is also in other factors that influence product acceptability, such as production methods, sensory properties of foods and how the different

¹ <https://www.uni-konstanz.de/DONE/>

motivations and goals behind choices support or conflict with each other. Lately sustainability and its role in food choices has become one of the most important research areas in FCS. Therefore, the DONE network has been used as a basic inspiration, but it could not be adopted as such as a basis for defining the concepts related to consumer behaviour as an outcome that are relevant in food choice.

In the work process, the various concepts from DONE framework and food choice models were gathered in an excel file and discussed internally in the frequent, approximately bi-weekly WP4 work group meetings (N=20) in relation to how centrally related the concepts are to the FCS and the understanding of consumers' food-related behaviours. The first criterion used in assessing the concepts has been how central they are to consumers' food choices and the frequency of use in FCS studies. Based on the first mapping, we had 15 concepts that were related to behaviour. Most of these concepts were generic while others were tailored to the food context, such as the food frequency questionnaire. The food frequency questionnaire is somewhat different from the other concepts as it is a direct measure of (past) behaviour.

The following screening of concepts was done within the WP4 work group resulting in a priority list of 11 behaviour concepts, which were entered into the harmonising process to find the best measures for the concepts. The wider selection of concepts together with the priority list was presented to the wider COMFOCUS community in the first project meeting in June 2021 (Month 4 in the project) to get feedback on selected concepts and input to further selection process. Based on the input and further discussions in the WP4 work group, the list was reduced to 7 concepts. In January 2022 (M11 in the project) the final selection of concepts and concept candidates were presented to the whole COMFOCUS community in an online workshop and the feedback confirmed the selection of the final 7 concepts. A overview of the harmonisation process is presented in Figure 2.2-1.

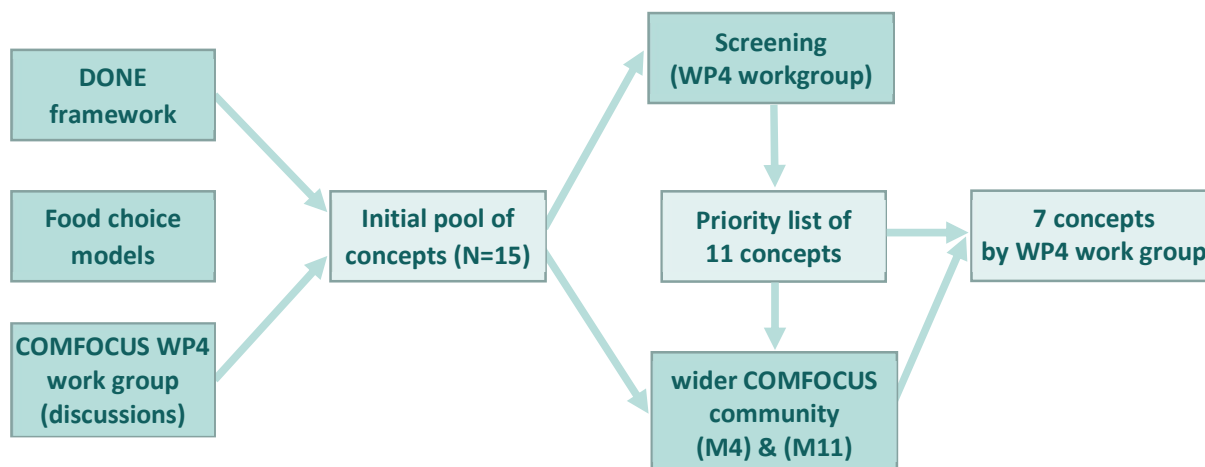


Figure 2.2-1. Harmonisation process overview

The discussions around the concepts in the WP4 work group revealed several challenges in defining the unit of the concept that is used in our harmonising activities. The outcomes of consumer food behaviour are

Guideline for harmonisation of measures and protocols related to consumer behaviour as an outcome generally not domain-specific but have rather been conceptualized and developed outside the FCS. However, as they are fundamental to the understanding and prediction of behavior in general, including food choice and food related behaviour, they are included in COMFOCUS.

The Theory of Planned Behaviour (TPB; Ajzen, 1991) concepts intention and perceived behavioural control are included in the concepts related to consumer behaviour as an outcome, because TPB is the most used model in predicting behaviour in consumer and health behaviour (Armitage & Conner, 2000). However, the other concepts in TPB, attitudes and subjective norms, are part of a previous deliverable (D4.2) that concentrates on psycho-social concepts.

Due to the nature of social and behavioural sciences and multidisciplinary approaches applied in FCS, the same concepts can be defined in different ways that go beyond the fine-tuning of verbal expressions. The main approach in the concepts related to consumer behaviour as an outcome is based on the social psychology paradigm and the literature and definitions used to describe the concepts are chosen accordingly. There are also some concepts that have been adopted from marketing (e.g., consumer loyalty), from the health/nutrition domain (e.g., food frequency questionnaire) or from a mix of different scientific fields (e.g., willingness to pay).

The goal in the selection of the concepts has been to have a selection of concepts that widely covers consumer behaviour as an outcome in food choices.

2.3 Selecting the harmonised measures for the concepts

To develop a background document for each concept, the core literature was searched with the emphasis on how it has been applied in FCS studies. The databases used to search literature were Scopus, Google Scholar, and Web of Science depending on how well the studies on the concepts are covered in different databases. The literature review was mainly based on review articles or book chapters on the topic. The focus was on FCS literature, however if not relevant or available, more general literature about the concepts was used. The aim was not to do systematic reviews on the concepts per se, but to gather enough background knowledge on the concept, and concentrate on the measures used to operationalise the concept. Based on this material the COMFOCUS harmonised measure was selected as the recommendation to be applied in the future FCS studies in the COMFOCUS community.

The criteria for selecting the harmonised measurement for the concepts included defining the concepts, how the concept has been applied in food consumer science (FCS) studies, and which have been most commonly used in FCS, what their strengths and weaknesses are, how they have been operationalised and whether their reliability and validity have been confirmed. The feasibility of the measure was also considered (length of the measure, previous use offering reference points, cultural issues etc.). The last point is highly relevant in FCS studies that use these variables to describe the participants in the study and how the participant

Guideline for harmonisation of measures and protocols related to consumer behaviour as an outcome characteristics are linked to behaviour. In most studies, there is limited space for measuring cultural characteristics of the consumers.

The decisions were made as expert judgements without trying to implement any systematic scoring system. Although a clear-cut scoring system would have been more transparent, creating such a system would have been a major task in itself due to the many types of concepts included in the harmonisation process and the variety of measurement operationalisations used per concept. This also implies that the concepts and measures have different roles in studies and therefore in some cases feasibility (short measure with few items) has more weight in justifying the selection. In this case the concept is useful in giving additional information, but not important enough to qualify to take major space in the study. There are also clear cases where one of the measures is the commonly used one, having good reliability and validity records. In cases where validated scales have not been developed, either general scales for consumer behaviour measures or specific scales within FCS, measures with good reliability and validity that have been used in several studies were selected. Although the decisions on selecting the harmonised measures were judgement calls, they are justified in the background documents to make the selections transparent.

A background document for each concept suggests and describes a measurement instrument that is recommended as the harmonised COMFOCUS measure. The document contains a brief concept definition, background on the concept, a description of used measures and detailed description of the selected instrument with reference to the original source. There are also specific notions on the use of the measure when relevant; these can relate to some limitations in the use of the measure (see Appendix 2.3-1. for a more thorough description of the background document). The information in each background document in itself should be adequate for applying the measure in future FCS studies, but it also gives a skeleton to look for more detailed information of the concept and measures, when needed. The background documents have undergone a peer review within the COMFOCUS WP4 working group. A guide for this process can be seen in Appendix 2.3-2. An overview of the quality check responsibilities is outlined in Appendix 2.3-3.

In addition to harmonising the measures, the most commonly used response scale, the Likert scale has been harmonised to a 7-point scale verbally anchored on both ends. The studies have commonly used either 5 or 7-point "disagree-agree" scales with varying qualifiers as anchors, which has produced additional variance in studies and made comparisons between studies difficult. In COMFOCUS we have decided to use the 7-point "strongly disagree – strongly agree" rating scale in all studies that use Likert scale as the response scale unless there is a clearly defined other response scale in the measures. All harmonised COMFOCUS measures include a response scale recommendation.

The aim of the COMFOCUS community is to promote the use of the harmonised measures in FCS studies. However, these measures for different concepts evolve and there will be other, better and more feasible

Guideline for harmonisation of measures and protocols related to consumer behaviour as an outcome measures to replace the present selected ones. The background documents in Chapter 3 have a front page giving the essential information about the concept and the recommended harmonised measure followed by a detailed description. The guidelines for describing concepts and harmonised measures are in Appendix 2.3-1.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Armitage, C. J., & Conner, M. (2000). Social cognition models and health behaviour: A structured review. *Psychology and Health*, 15(2), 173-189.
- Chen, P.-J., & Antonelli, M. (2020). Conceptual models of food choice: Influential factors related to foods, individual differences, and society. *Foods*, 9(12), 1898.
- Köster, E. P. (2009). Diversity in the determinants of food choice: A psychological perspective. *Food Quality and Preference*, 20(2), 70-82.
- Randall, E., & Sanjur, D. (1981). Food preferences—their conceptualization and relationship to consumption. *Ecology of Food and Nutrition*, 11(3), 151-161.
- Rozin, P. (2007). Understanding Consumers of Food Products. In L.J. Frewer & H. van Trijp (Eds.), *Food choice: an introduction* (pp. 3–29). Woodhead Publishing, Cambridge.
- Sobal, J., Bisogni, C. A., & Jastran, M. (2014). Food choice is multifaceted, contextual, dynamic, multilevel, integrated, and diverse. *Mind, Brain, and Education*, 8(1), 6-12.
- Steptoe, A., Pollard, T. M., & Wardle, J. (1995). Development of a measure of the motives underlying the selection of food: the food choice questionnaire. *Appetite*, 25(3), 267-284.
- Stok, F. M., Hoffmann, S., Volkert, D., Boeing, H., Ensenauer, R., Stelmach-Mardas, M., . . . Lien, N. (2017). The DONE framework: Creation, evaluation, and updating of an interdisciplinary, dynamic framework 2.0 of determinants of nutrition and eating. *PLoS One*, 12(2), e0171077.
- Stok, F. M., Renner, B., Clarys, P., Lien, N., Lakerveld, J., & Deliens, T. (2018). Understanding eating behavior during the transition from adolescence to young adulthood: a literature review and perspective on future research directions. *Nutrients*, 10(6), 667.

Appendix 2.3-1 Guidelines for background documents

Concept name

Harmonised measure used in COMFOCUS community:

Background information

This section should include the concept definition, preferably sourced from the original research, where the concept was first introduced and conceptualised, or from succeeding research if considered necessary (e.g., due to better conceptualisation / clarity). The link and relevance to consumer food science should be part of the background as well.

The background information should also include the context in which this concept is relevant and any limitations in the use of the concept, if necessary, with regards to research, theory, or relation to other food-related (determinants and/ or behavioural) concepts.

Used measures

Short introduction to the types of measures and scales used to measure the concept in food consumer science and justification for selecting the one that was chosen.

Description of chosen measurement scale

This section should list the scale items, response scale including definition of the scale (verbal anchors used/ each point or only the scale endpoints) and including potential remarks related to the structure of the items (e.g. reversed items).

If relevant, a brief description on the scale development process should be provided (including information about studies and development sample).

Information about different versions of the scale (e.g., translations) should be added if available.

Information on scale characteristics

This section should include brief information to describe the reliability and validity of the measurement scale (when reported and applicable please provide information on face validity / predictive validity / convergent validity / discriminant validity based on literature).

Any remarks or observations:

If necessary, any remarks or potential issues in using the selected scale to measure the concept (e.g., potential issues with specific items due to language differences; not suitable for selected target groups) should be added.

References

Appendix 2.3-2 Guidelines for peer quality review process

The background papers should cover the sections described in the template for the background paper (see Appendix 2.3-1) and the template can act as a basis for the peer review as well. The background papers cover the basics on the concepts, but they are not expected to be systematic reviews on concepts or measures used to operationalise the concepts.

Most background papers should follow the template in their main headings, but exceptions are acceptable, if following the headings does not fit well to the concept and measures in question.

Below are some additional points to the template.

As described in the template, the background information should define the concepts and give a frame/context in which the concept is relevant. The background does not need to be long, but it should give the reader a good understanding of what the concept is, where it comes from and why it is relevant in food consumer science (e.g., where it has been/can be used).

Used measures should cover the most commonly used measures in food consumer science and justification for choosing the measure to be harmonised.

Description of the chosen scale should give necessary information on how to use the scale. The note related to different versions (e.g., translations) is not necessary at this stage. It refers to later use, when there will be different translations from the COMFOCUS partners, as these documents are expected to be updated in the COMFOCUS library to an extent.

Note that the information of scale characteristics is a subheading of the Description of chosen measurement scale. "Any remarks and observations" are a subheading giving an opportunity to add relevant information about the measurement scale, but this may be relevant only in some cases.

In addition to content, pay attention to the readability of the document. The text should be at the level that early career scientists and those whose core expertise is not in behavioural sciences, understand the content.

Table 2.3-1. Check list for peer quality review

	Yes	Partly	No	Comment
Is the concept defined?				
Is the background of the concept described sufficiently?				
Do the used measures section cover the most relevant ones?				
Is the choice of the harmonised measure justified?				
Is the chosen measure described in necessary detail in order to use it?				
Is the reliability of the measure addressed? *				
Is the validity of the measure addressed? *				
In general, is the document easy to read?				

* addressed can also be a statement saying that reliability/validity has not been established.

Appendix 2.3-3 Authors of background papers and peer quality reviews**Table 2.3-2. Overview of peer quality review responsibilities**

Nr.	Concept	Authors responsible*	Quality check by*
1.	Intentions	Morten Heide (Nofima)	Liisa Lähteenmäki (AU)
2.	Perceived behavioural control	Morten Heide (Nofima)	Catalin Stancu (AU)
3.	Behavioural willingness	Morten Heide (Nofima)	Liisa Lähteenmäki (AU)
4.	Willingness to pay	Valerie Almli (Nofima)	Luis Guerrero (IRTA)
5.	Food frequency questionnaire	Ervina Ervina and Morten Heide (Nofima)	Lisa Mohebati (UoS)
6.	Consumer loyalty	Morten Heide (Nofima)	Polymeros Chrysochou (AU)
7.	Habit	Morten Heide (Nofima)	Benjamin Gardner (UoS)

* In brackets is the institute to which the researcher is affiliated to; Aarhus University (AU), Institute of Agrifood Research and Technology (IRTA), Nofima (Nofima AS), University of Surrey (UoS).



CHAPTER 3

Concepts and harmonised
measures

3. Concepts and harmonised measures

In this chapter each of the 7 selected concepts and recommended harmonised measures for them will be described in separate subsections. Each concept will be given a short background including the definition and reference to the theoretical background, an overview of the instruments used to measure the concept, and a description of the harmonised COMFOCUS measure of the concept.

The descriptions of the concepts have focus on how they have been operationalised, and based on this overview, how the selection of the recommended harmonised measure is justified. The measure is described in detail together with possible factors that need to be considered when adopting the measure. The aim of the concept and harmonised measure descriptions is to give the reader a practical guide for using the harmonised measures in their studies, but also to provide an understanding of their strengths and weaknesses.

3.1 Intentions

Definition

The definition and operationalisation of intentions, in this document, follows the theoretical approach of the Theory of Planned Behaviour (TPB, Ajzen, 1991). TPB posits intentions as an antecedent of behaviour and defines it as indication of “*how hard people are willing to try, of how much effort they are planning to exert, in order to perform the behaviour*” (Ajzen, 1991).

Harmonised measure

Intentions (Fishbein and Ajzen, 2010):

I will engage in the behaviour

Unlikely - Likely

I intend to engage in the behaviour

Definitively do not - Definitively do

I plan to engage in the behaviour

Strongly disagree - Strongly agree

I will try to engage in the behaviour

False - True

Response scale: 7-point (1 to 7).

Reliability – some evidence provided

Validity – some evidence provided

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York, NY: Psychology Press.

3.2 Perceived behavioural control

Definition

The definition and operationalisation of perceived behavioural control (PBC), in this document, follows the theoretical approach of the Theory of Planned Behaviour (TPB, Ajzen, 1991). PBC can be defined as “people’s perception of the degree to which they are capable of, or have control over, performing a given behaviour” (Fishbein and Ajzen 2010).

Harmonised measure

Perceived behavioural control (Fishbein and Ajzen, 2010):

I am confident that I can engage in the behaviour

False - True

It is completely up to me to engage in the behaviour

Disagree - Agree

If I really wanted, I could engage in the behaviour

Unlikely - Likely

It is under my control to engage in the behaviour

Not at all - Completely

Response scale: 7-point scale (1 to 7)

Reliability – some evidence provided

Validity – some evidence provided

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

Fishbein, M., & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York, NY: Psychology Press.

3.3 Behavioural willingness

Definition

Willingness has been proposed to be a measure that is capable of capturing nonintentional, irrational influences on behaviour (Gibbons et al., 1998).

Harmonised measure

Behavioural willingness (Gibbons et al., 1998).

Hypothetical scenario: "Suppose you were with some friends and one of them offered you a cigarette. How likely is it that you would do each of the following?"

1. "Take it and try it"
2. "Tell them 'no thanks'"
3. "Leave the situation"

Response scale: Not at all likely - Very likely, 7 point (1 to 7)

The last two items are reversed, and the three items averaged to form a behavioural willingness index. The scale must be adapted by replacing both the behaviour in the response scale and the hypothetical scenario with relevant behaviour that match the description of the hypothetical scenario to be studied.

Reliability – some evidence provided

Validity – some evidence provided

References

Gibbons, F. X., Gerrard, M., Ouellette, J. A., & Burzette, R. (1998). Cognitive antecedents to adolescent health risk: Discriminating between behavioral intention and behavioral willingness. *Psychology and Health*, 13(2), 319-339.

3.5 Food Frequency Questionnaire

Definition

The food frequency method consists of a questionnaire containing a given list of foods, for which subjects are asked to estimate the habitual frequency of consumption during a specified period of time (EFSA, 2009).

Harmonised measure

The Food4Me food frequency questionnaire (FFQ) consists of 11 food categories: 1) Cereals, 2) Bread and savoury biscuits, 3) Potatoes, rice, and pasta, 4) Meat and fish; 5) Dairy products; 6) Fats and spreads; 7) Sweets and snacks; 8) Soups, sauces and spreads; 9) Drinks; 10) Fruits; and 11) Vegetables.

Response scale: Never, or less than one time per month, 1-3 times per month, once a week, 2-4 times per week, 5-6 times per week, once a day, 2-3 times per day, 4-5 times per day, and more than six times per day (10-point scale).

The complete Food4Me FFQ with the specific food items is too large to include in this document, but can be downloaded here: <https://www.epic-norfolk.org.uk/for-researchers/ffq>

Reliability – some evidence provided

Validity – some evidence provided

References

EFSA. (2009). General principles for the collection of national food consumption data in the view of a pan-European dietary survey. EFSA Journal, 7(12).

3.6 Consumer loyalty

Definition

Consumer loyalty can be defined as a deeply held commitment of repeat purchases that stem from a conation or action orientation involving a readiness to act to the benefit of a particular entity (Oliver, 1999; Chaudhuri and Holbrook, 2001).

Harmonised measure

Consumer loyalty (Chaudhuri and Holbrook, 2001):

I will buy this (brand) the next time I buy (product name)

I intend to keep purchasing this (brand)

Response scale: (1) strongly disagree (7) strongly agree (7-point)

The scale must be adapted by replacing the targets (in brackets) with the food-related behaviour targeted in the study (i.e., brand can be replaced by a product or product attribute and product name by a product or product category).

Reliability – some evidence provided

Validity – some evidence provided

References

Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of Marketing*, 65, 81–93.

Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63(4), 33–44.

3.7 Habit

Definition

Habits can be defined as *“memory-based propensities to respond automatically to specific cues, which are acquired by the repetition of cue-specific behaviours in stable context”* (Verplanken, 2018).

Harmonised measures

The COMFOCUS instrument for measuring if a response is habitual or non-habitual, is the Self-Report Habit Index (SRHI; Verplanken and Orbell, 2003):

Behaviour X is something...

1. I do frequently
2. I do automatically
3. I do without having to consciously remember
4. That makes me feel weird if I do not do it
5. I do without thinking
6. That would require effort not to do it
7. That belongs to my (daily, weekly, monthly) routine
8. I start doing before I realize I'm doing it
9. I would find hard not to do
10. I have no need to think about doing
11. That's typically "me"
12. I have been doing a long time

Response scale: (1) Disagree strongly to (7) Agree strongly (7-point).

The researcher can choose to formulate this as general or specific as required and may or may not include any context information (e.g., eating breakfast at 7 a.m. is something...).

Reliability – evidence provided

Validity – evidence provided

As the COMFOCUS instrument for measuring the extent to which habit affects behaviour, the Self-Report Behavioural Automaticity Index (SRBAI), a subscale of SRHI, is chosen (Gardner et al., 2012).

Behaviour X is something...

1. I do automatically
2. I do without having to consciously remember
3. I do without thinking

4. I start doing before I realize I'm doing it

Response scale: (1) Disagree strongly to (7) Agree strongly (7-point).

As with the SRHI the researcher can choose to formulate this as general or specific as required and may or may not include any context information.

Reliability – evidence provided

Validity – evidence provided

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