

Helsingin yliopisto
Sosiaalipsykologian laitos
Elintarviketeknologian laitos

University of Helsinki
Department of Social Psychology
Department of Food Technology

EKT SERIES 1335

**DIMENSIONS OF NOVELTY:
SOCIAL REPRESENTATIONS OF NEW FOODS**

Anna Huotilainen

ACADEMIC DISSERTATION

To be presented with the permission of Faculty of Social Sciences
of the University of Helsinki for public examination in
Walter Hall, Viikki, on May 13, 2005 at 12 o'clock noon.

Helsinki 2005

Custos Professor Anna-Maija Pirttilä-Backman
Department of Social Psychology
University of Helsinki
Helsinki, Finland

Supervisors Professor Hely Tuorila
Department of Food Technology
University of Helsinki
Helsinki, Finland

and

Professor Anna-Maija Pirttilä-Backman
Department of Social Psychology
University of Helsinki
Helsinki, Finland

Reviewers Professor Patricia Pliner
Department of Psychology
University of Toronto
Toronto, Canada

and

Professor Wolfgang Wagner
Institut für Pädagogik und Psychologie
Johannes Kepler Universität Linz
Linz, Austria

Opponent Dr. Mark Conner
Institute of Psychological Sciences
University of Leeds
Leeds, UK

Cover photo: Mikko Huotilainen

ISBN 952-10-2409-7 (paperback)

ISBN 952-10-2410-0 (pdf)

ISSN 0355-1180

Yliopistopaino
Helsinki 2005

CONTENTS

ABSTRACT	5
ACKNOWLEDGEMENTS	6
LIST OF ORIGINAL PUBLICATIONS	8
RESEARCH INPUT AND AUTHORSHIP OF ARTICLES (I-V)	9
1. INTRODUCTION: FOOD IN A SOCIETY OF ENDING TRADITIONS	10
2. LITERATURE REVIEW	12
2.1. ON THE SOCIAL PSYCHOLOGY OF EATING.....	12
2.2. WHAT IS NOVELTY IN FOODS?.....	13
2.3. SOCIAL REPRESENTATIONS AS THEORIES OF THE NOVEL.....	14
2.3.1. Structure of social representations.....	16
2.3.2. Processes of social representations.....	19
2.4. ATTITUDES VS. SOCIAL REPRESENTATIONS.....	21
2.4.1. Food choice from attitudinal/trait perspective.....	23
2.4.2. Three attitude or trait scales to measure orientation to novelties and new foods.....	24
3. AIMS OF THE STUDY	26
4. MATERIALS AND METHODS	27
4.1. RESPONDENTS.....	27
4.2. DEVELOPMENT OF THE SOCIAL REPRESENTATION (SR) QUESTIONNAIRE.....	28
4.3. ATTITUDE/TRAIT SCALES: FOOD NEOPHOBIA, CHANGE SEEKER INDEX, DOMAIN SPECIFIC INNOVATIVENESS.....	28
4.4. FOOD-RELATED RATING SCALES: FAMILIARITY, WILLINGNESS TO TRY/USE, DEGREE OF LIKING.....	29
4.5. PROCEDURES OF STUDIES I AND V: FROM FOCUS GROUPS TO EXPERIMENTATION.....	29
4.6. DATA ANALYSES.....	30
5. RESULTS	31
5.1. THE SOCIAL REPRESENTATION OF NEW FOODS: ITS STRUCTURE AND FUNCTIONS (I – V).....	31
5.2. THE PREDICTIVE ABILITY OF THE SOCIAL REPRESENTATION AND ATTITUDE/TRAIT SCALES (II, III)..	35
6. DISCUSSION	36
6.1. THE MAIN RESULTS.....	36
6.1.1. Theoretical problems related to the representation.....	40
6.1.2. Methods.....	41

6.2. AMBIVALENCE IN THE FIELD OF NEW FOODS.....	42
6.2.1. Social psychology of food revisited	43
7. CONCLUSIONS.....	45
8. REFERENCES	48
APPENDIX A1. SOCIAL REPRESENTATION QUESTIONNAIRE	57
APPENDIX A2. SOCIAL REPRESENTATION QUESTIONNAIRE IN FINNISH.....	58
APPENDIX B. ORIGINAL PAPERS I-V	59

ABSTRACT

The aim of this study was to explore everyday thinking patterns related to new foods within the theoretical framework of social representations. New foods were categorized in this study as functional, genetically modified, nutritionally modified, organically produced, and ethnic foods. Relating to new foods in contemporary societies is ambivalent, varying from enthusiasm to suspicion and opposition. New foods provide a fertile ground for the formation of social representations focusing on everyday understanding and familiarization of the new and the unknown. Altogether 3242 Finnish respondents, aged 15-88, participated in this study, consisting of five separate data sets: demographically segmented focus groups (N = 44); three large-scale surveys (2001, N = 734; 2002, N = 1156; 2004, N = 1113); and an experimental design (N = 62). All data sets were collected between years 2001 and 2004. Using the focus group discussions as a starting point, a questionnaire of social representations of new foods was developed. The results given by this 27-item questionnaire were then explored and verified by using three data sets over a three-year period.

The survey results showed that the social representation of new foods comprised five components of thinking of new foods: suspicion of new foods, adherence to technology, adherence to natural food, eating as an enjoyment, and eating as a necessity. This finding supports previous studies stating that relating to food includes contradictions between, e.g., nature and technology, traditional and modern, and safe and risky. The social representation components showed great stability during the three-year period, that is, from one population to another.

It was found that the social representation components were linked to traditionally used attitude and trait scales of food neophobia, change seeking, and domain specific innovativeness. Specifically, high suspicion correlated strongly with food neophobia, while low suspicion and enjoyment correlated with innovativeness and change seeking. The predictive ability of the social representation components was particularly good regarding the willingness to try and use functional products, genetically modified food, and organic products. The core of the representation was found to be trust, as a counterpart of suspicion, while natural and technological were its opposite themata. Theoretically, the core and the themata are stable, while individual variation is expressed in relation to the measurable components. The findings of this interdisciplinary study are applicable both to the social representation theory and to the study of new foods within food science.

ACKNOWLEDGEMENTS

This study was carried out during the years 2001-2005 at the Department of Food Technology at the University of Helsinki. It was funded by ELITE research program of Finnish National Technology Agency (TEKES), as a part of the project Innovation in foods: Consumer-oriented product development, which is gratefully acknowledged.

I am most grateful to Professor Hely Tuorila and Professor Anna-Maija Pirttilä-Backman, my two supervisors with the wit, talent, and enthusiasm I have always looked upon to. Combining two separate fields of science – social psychology and sensory food science – has been a challenging enterprise. I sincerely thank Hely for being a great teacher of her special field and for providing me with help in solving complex and, sometimes, rather exhausting issues of the compatibility of social and natural sciences – all the way from the root level of empirical testing to the mysterious skill of good academic writing. I thank warmly Anna-Maija for her patience, encouragement, and belief in me during these years, and for her tireless help with intricate theoretical questions related to this thesis, among other things.

I wish to express my sincere gratitude and appreciation to the reviewers of this thesis, Professor Patricia Pliner from University of Toronto and Professor Wolfgang Wagner from Universität Linz for their careful and thorough reading of the manuscript and for their very valuable comments.

I am grateful to the Department of Food Technology, which first under the leadership of Professor Lea Hyvönen and then Professor Hely Tuorila provided me the facilities and friendly work environment to complete this work.

I thank Dr. Hal MacFie for flexibility in very tight schedules and his encouraging attitude in the last phases of this thesis.

The Consumer-oriented product development research group, coordinated by Dr. Liisa Lähteenmäki at VTT Biotechnology, Espoo, has been at the heart of my work. I sincerely wish to thank Dr. Liisa Lähteenmäki for her guidance and support, and Dr. Sirpa Tuomi-Nurmi, M.Sc. Nina Urala, M.Sc. Niina Hautala, and M.Sc. Sari Ollila for their support throughout these years.

It has been a pleasure to work at the Department of Food Technology with Kaisu Keskitalo, Antti Knaapila, Sari Koskinen, Mari Lehtonen, Sanna-Maija Miettinen, Kaisu Taskila, and my former colleagues Heli Esselström, Niina Kälviäinen, Aino Nenonen,

Katariina Roininen, Suvi Rynänen, and Hilikka Timonen. Thank you all for being so unprejudiced with a social psychologist, for getting familiar with social representations, for all the help you have provided along the way, and for the revitalizing coffee breaks! I wish to thank M.Soc.Sc. Tuija Seppälä for pleasant co-operation with the memorable categorization project in Rovaniemi. I also wish to thank everyone involved in my work both at the Department of Food Technology and at the Department of Social Psychology: your support has been very valuable.

My warm thanks belong to my friends Eeva Auvinen, Annarita Koli, Saana Manninen, Sanna Nykänen, Jaana Pyysiäinen, Samppo Perttula, and Leena Rudanko: thank you each one for your true and lasting friendship! I wish to thank my relatives, most of all Liisa Teräsvuori and my godparents Irja and Kaarlo Teräsvuori, for support. I am particularly indebted to my parents Leena and Gösta for their care and constant support in everything I have done. Finally, I wish to thank my husband Mikko for great discussions, enduring inspiration, and his endless sense of humour.

Helsinki, April 19, 2005

Anna Huotilainen

LIST OF ORIGINAL PUBLICATIONS

This study is based on the following original publications, referred to in the text by Roman numerals I-V.

I Bäckström, A., Pirttilä-Backman, A.-M. & Tuorila, H. (2003). Dimensions of novelty: a social representation approach to new foods. *Appetite*, 40, 299-307.

II Bäckström, A., Pirttilä-Backman, A.-M. & Tuorila, H. (2004). Willingness to try new foods as predicted by social representations and attitude and trait scales. *Appetite*, 43, 75-83.

III Huotilainen (née Bäckström), A., Pirttilä-Backman, A.-M. & Tuorila, H. (2005). How innovativeness relates to social representation of new foods and to the willingness to try and use such foods. *Food Quality and Preference*, in press.

IV Huotilainen, A. & Tuorila, H. (2005). Social representation of new foods has a stable structure based on suspicion and trust. *Food Quality and Preference*, in press.

V Huotilainen, A., Seppälä, T., Pirttilä-Backman, A.-M. & Tuorila, H. (2005). Derived attributes as mediators between categorization and acceptance of a new functional drink. *Food Quality and Preference*, in press.

The papers are reproduced with kind permission from the publishers.

RESEARCH INPUT AND AUTHORSHIP OF ARTICLES (I-V)

The present dissertation is a summary of research reported in five appended articles (I-V). The research input and authorship of the articles is as follows:

I *Bäckström, A., Pirttilä-Backman, A.-M. & Tuorila, H. (2003). Dimensions of novelty: a social representation approach to new foods. Appetite, 40, 299-307.*

M.Soc.Sc. Anna Huotilainen (née Bäckström), Prof. Anna-Maija Pirttilä-Backman and Prof. Hely Tuorila carried out the planning of the study. M.Soc.Sc. Huotilainen carried out the data analysis and preparation of the manuscript. Prof. Pirttilä-Backman and Prof. Tuorila supervised the study and gave comments and suggestions on the manuscript.

II *Bäckström, A., Pirttilä-Backman, A.-M. & Tuorila, H. (2004). Willingness to try new foods as predicted by social representations and attitude and trait scales. Appetite, 43, 75-83.*

M.Soc.Sc. Anna Huotilainen, Prof. Anna-Maija Pirttilä-Backman and Prof. Hely Tuorila carried out the planning of the study. M.Soc.Sc. Huotilainen mainly carried out the data analysis and preparation of the manuscript. Prof. Pirttilä-Backman and Prof. Tuorila supervised the study and gave comments and suggestions on the manuscript.

III *Huotilainen, A., Pirttilä-Backman, A.-M. & Tuorila, H. (2005). How innovativeness relates to social representation of new foods and to the willingness to try and use such foods. Food Quality and Preference, in press.*

M.Soc.Sc. Anna Huotilainen, Prof. Anna-Maija Pirttilä-Backman and Prof. Hely Tuorila carried out the planning of the study. M.Soc.Sc. Huotilainen carried out the data analysis and preparation of the manuscript. Prof. Pirttilä-Backman and Prof. Tuorila supervised the study and gave comments and suggestions on the manuscript.

IV *Huotilainen, A. & Tuorila, H. (2005). Social representation of new foods has a stable structure based on suspicion and trust. Food Quality and Preference, in press.*

M.Soc.Sc. Anna Huotilainen and Prof. Hely Tuorila carried out the planning of the study. M.Soc.Sc. Huotilainen carried out the data analysis and preparation of the manuscript. Prof. Tuorila supervised the study and gave comments on the manuscript.

V *Huotilainen, A., Seppälä, T., Pirttilä-Backman, A.-M. & Tuorila, H. (2005). Derived attributes as mediators between categorization and acceptance of a new functional drink. Food Quality and Preference, in press.*

The study was conducted as M.Soc.Sc. Tuija Seppälä's master's thesis. M.Soc.Sc. Anna Huotilainen, M.Soc.Sc. Seppälä, Prof. Anna-Maija Pirttilä-Backman and Prof. Hely Tuorila carried out the planning of the study. M.Soc.Sc. Huotilainen and M.Soc.Sc. Seppälä carried out the empirical work. M.Soc.Sc. Huotilainen carried out the data analysis and preparation of the manuscript. Prof. Pirttilä-Backman and Prof. Tuorila supervised the study and gave comments and suggestions on the manuscript.

1. INTRODUCTION: FOOD IN A SOCIETY OF ENDING TRADITIONS

Men have made even eating into something else: want on the one hand, superfluity upon the other, have dimmed the distinctness of this need, and all the deep, simple necessities in which life renews itself have become similarly dulled.

R. M. Rilke: Letters to a young poet (1929/1993).

Written nearly eighty years ago, Rilke's phrase conveys a view of cynicism of food and eating in an emerging consumerist culture – reflecting, somewhat surprisingly, the thinking of many of our contemporaries, where, unlike in Rilke's time, the surplus of foods dims the genuineness and naturalness of food. Perhaps, in a sense, Rilke was an early postmodernist in his time. In a way, then, cynicism and distrust in food may entail a more general critique of modernity.

From their origin, people have struggled to get food, but the forms of this quest have greatly changed. The centrality of food as part of our daily lives is still undeniable: food is a critical contributor to our well-being, a major source of pleasure, but also of worry and stress, an occupant of our time, and the single greatest category of expenditures (Rozin, Fischler, Imada, Sarubin & Wrzesniewski, 1999). Eating is our basic physiological need (Maslow, 1943), but its psychological, social and cultural dimensions are undeniable (e.g., Rozin & Vollmecke, 1986; Rozin, 1996).

Society of “ending traditions” refers to the contemporary industrialized world, where individual food eclecticism prevails over traditional and stable food cultures. It has even been suggested that the contemporary societies are witnessing a crisis in gastronomy, involving the breakdown of regulating rules, resulting in a state of *gastro-anomy* (Fischler, 1980). A trend of destructuralisation of proper, traditional meals has also been suggested (Mäkelä, 2001). Processes such as globalization, economic restructuring, and shifts to post-industrial modes of production have been suggested as the key mechanisms of this change (e.g., Beck, 1992; Giddens, 1991; Southerton, 2001).

The seeking for novelty in food, as in other modes of consuming, has been interpreted by the ideology of modern consumerism, fostered by the mass media and ceaseless food supply (Beardsworth & Keil, 1997). Food and eating include many contradictions between, for instance, nature and technology, traditional and modern, and safe and risky. Furthermore, there is a unparalleled superfluity of food and freedom of choice at everybody's reach in contemporary Western countries. As Giddens (1991, p. 81) suggests: "we have no choice but to choose". In general, relating to food in our time, and in the near future, may be characterised by periods of calm, followed by episodes of acute anxiety of unknown food scares or 'scandals' (Beardsworth & Keil, 1997).

As technology continues to facilitate the rapid creation of innovative new food products, relating to novelties is a relevant issue of study in today's society. The past decade has been intense in the development and research of various kinds of new foods: they are persistently developed in the major food companies, and along globalization, previously unknown ethnic foods have become a part of our traditional food culture. New foods have been divided into categories of functional foods, nutritionally modified, genetically modified, organically produced, and ethnic foods (Tuorila, 2001; Bäckström, Pirttilä-Backman & Tuorila, 2004). At a societal level, new foods appear to create an atmosphere of ambivalence, or a feeling of 'ontological insecurity' (Giddens, 1991): some novelties evoke opposition and suspicions, whereas others are taken more easily as part of the daily eating routine (e.g., Grunert et al., 2001; Jonas & Beckmann, 1998). Relating to new foods evokes ambivalent thinking, as people eat "with their mind as much as with the mouth" (Beardsworth & Keil, 1997, p. 152). The present study was designed to explore the dimensions of everyday thinking of new foods – in short, the dimensions of novelty – and the relationship these dimensions have with different types of new foods, in the theoretical framework of social representations.

2. LITERATURE REVIEW

2.1. ON THE SOCIAL PSYCHOLOGY OF EATING

At a general level, the social psychology of food and eating is concerned with how thoughts, feelings, and behavior affect food choice (Conner & Armitage, 2002). At a theoretical level, applying social psychology in the study of food and eating has been most visible in the development of various attitude-based models. In empirical studies, the social psychology of eating has typically concentrated on *food choice*, which has been characterized as a dynamic, situational, and complex process of interactions of various variables. Even though there are multifaceted food choice models depicting the various sides of food choice (e.g., Connors, Bisogni, Sobal & Devine, 2001; Steptoe, Pollard & Wardle, 1995), a consensus appears to prevail that the unstable and situation-specific nature of food choice is difficult to model comprehensively.

Food choice is affected by individual characteristics – whether they are considered as a result of personal learning history, or biology-related traits – and by various food- and environment-related factors. Thus, food choice is influenced by practical (e.g., price, availability) and temporal (e.g., mood) attributes, sensory-affective responses, and personal and ethical ideals (e.g., Furst et al., 1996; Steptoe, Pollard & Wardle, 1995; Lindeman & Stark, 1999; 2000). Moreover, food choice entails not only decisions based on conscious reflection, but also those that are automatic, habitual, and subconscious (Furst et al., 1996).

At a societal level, the ‘sociological’ or societal social psychology of food has entailed discussions of the interaction between the individual and the society, including also critique towards the consumerism of our time (e.g., Beardsworth & Keil, 1997). In contemporary societies, there prevails a multitude of eclectic, individual food systems. One interpretation for this is that food may function as a means of presenting one’s personal and social identity. Eating and drinking are suitable, even though rather subtle, ways of expressing one’s identity, showing that one is part of something, or outside it (Kajanne & Pirttilä-Backman, 1996; Karisto, Prättälä & Berg, 1993; Murcott, 1984).

Indeed, so powerful is the symbolic potential of food, that Fischler (1988) has argued that food is very central to our sense of identity: incorporating certain foods is seen as incorporating the eater into a culinary system, and into the group practicing this system. Food

is both present and concrete enough to be imagined as “my food”, and absent enough to become a representation for a group (Falk, 1994).

2.2. WHAT IS NOVELTY IN FOODS?

New foods open up an interesting viewpoint to the social psychology of eating. The explosive growth of new product innovations – foods among other consumer goods – in Western countries began after the Second World War, as fast industrialization, urbanization, new technological inventions, and an upswing in the economy enabled the development and mass production of commodities. However, the past decade has been the most intense period ever in the development and research of various kinds of new foods. In addition, the process of globalization has enabled foods from various countries to cross the borders of traditional food cultures.

In innovation literature, a great deal of discussion has been devoted to the determination of what is “new” (e.g., Goldsmith & Flynn, 1992). The criteria for newness are not self-evident, and individuals may sometimes be presented with quasi-innovations than truly innovative concepts. In the food context, there are no universal rules whether a ‘new food’ should involve new production technology, or other radically innovative characteristics, or whether it is a new trademark. For example, is a functional yoghurt-type drink as ‘new’ as a genetically modified tomato?

This issue becomes more complicated when one considers that in everyday thinking, the concept of new foods may well be anchored at personal experience, such as new cooking recipes and innovations in one’s own kitchen (Bäckström, Pirttilä-Backman & Tuorila, 2003). In this study, a view is taken that new foods can be roughly classified into categories of functional foods, nutritionally modified, genetically modified, organically produced, and ethnic foods (Tuorila, 2001). These categories may not represent equally new products, and not all of them are produced by technological innovations. However, this categorization was seen as multifaceted enough to be used as a guideline for this study.

Relating to these different types of new foods in everyday life is ambiguous (e.g., Grunert, Lähteenmäki, Nielsen, Poulsen, Ueland & Åström, 2001; Jonas & Beckmann, 1998). New food technologies appear to be controversial, even anxiety-arousing topics (Beardsworth & Keil, 1997), and reluctance to adopt novelties, for example functional foods, as part of daily diet has been demonstrated by recent studies (e.g., Jonas & Beckmann 1998). Of all new

foods, the genetically modified ones have received substantial attention in the past years. Genetically modified foods are associated with unnaturalness, low trustworthiness, moral considerations, uncertainty, unhealthiness, and risks (Bredahl, 1999; Grunert et al., 2001). However, resistance is not a new phenomenon, since discoveries of new technologies have always raised ambivalent feelings in the public. Uncertainty and contradictory or sparse knowledge contribute to the ambivalent thinking of new foods (Bäckström, Pirttilä-Backman & Tuorila, 2003). The food authorities may not be trusted for various reasons, arguing, for example, that the safety claims of scientists about technological innovations have been proved to be wrong before (Belton, 2001; Slovic, 1987).

2.3. SOCIAL REPRESENTATIONS AS THEORIES OF THE NOVEL

Social representation theory includes concepts and ideas for the study of social psychological phenomena in contemporary societies. The theory maintains that these phenomena can only be understood in their historical, structural, and macro-social context (Wagner et al., 1999). Serge Moscovici, who has been “both the Marx and the Lenin of this revolutionary movement” (Billig, 1988, p. 1), considers social representations as the modern equivalent for Durkheim’s concept of collective representations.

In the world of accelerated changes, people form shared, everyday, common sense concepts, when they try to disentangle and become accustomed to things that are unfamiliar (Moscovici, 1981). Indeed, social representations will be formed when given abstract objects become *problematic* in a given social context (Clémence, 2001). In the field of food research, the social representation theory has been applied in the study of modern biotechnology (Wagner & Kronberger, 2001), genetic engineering of foods (Bauer & Gaskell, 1999), and word associations of food and eating (Lahlou, 1996; 2001), among others.

Social groups are likely to develop their own interpretations of unfamiliar, threatening, or problematic phenomena (Wagner et al., 1999). These social representations, seen as modern societies’ equivalents for the myths of traditional societies, form systems of values and ideas, and they provide people with a common code for communication (Moscovici, 1973; 1981; 2001). The purpose of all social representations is to *make the unfamiliar to the familiar*; or make the unfamiliarity itself familiar (e.g., Moscovici, 1984). The basic assumption of the theory is that while unfamiliarity and otherness, or the feeling of “not quite

right-ness”, attracts and intrigues individuals and communities, it alarms and threatens them, at the same time, because the dread of losing the customary landmarks, or what provides a sense of continuity, is an “unbearable dread” (Moscovici, 1984, p. 26).

Social representations are social or collective as they are shared concepts of a common object, and they have certain autonomy (Moscovici, 1998). Once created, social representations lead a life on their own: they circulate, merge, attract and repel each other, and give birth to new representations (Moscovici, 1984). Consequently, the more of the origin of a social representation is forgotten, the more *fossilized* it becomes: “that which is ideal gradually becomes material” (Moscovici, 1984, p. 13).

Groups are characterized by shared, consensual social representations. This consensus is seen to minimize uncertainty in interaction and facilitate communication between individuals and groups (Moscovici, 1981), and it distinguishes social representations from representations that are unique to only a few individuals. Social representations are group specific in the sense that the objects of the representations are socially constructed, and that the object takes on group specific social characteristics (Wagner et al., 1999). However, not all of a group’s thinking is likely to be consensual (Fraser, 1994; Mugny & Carugati, 1989; Potter & Litton, 1985). Representations are embodied both in communication and in individual minds: they are shared in a similar way to language (Bauer & Gaskell, 1999). Thus, we may observe multiple forms (that is, multiple representations shared by different groups) of the same original idea in different social and pragmatic contexts (Bauer & Gaskell, 1999).

By focusing on everyday communication and thinking, the social representation theory aims to establish a link between the psychological and the social (Moscovici, 1998). Social representations concern the contents of everyday thinking that give coherence to our beliefs, ideas, and connections we create “as easily as we breathe” (Moscovici, 1998, p. 214). They enable us to classify persons, objects, and situations, to compare and explain behaviours, and to objectify them as parts of our social setting (Moscovici, 1998). Social representations enable lay people, who do not necessarily possess the theoretical and methodological scientific knowledge, to *understand* phenomena that would otherwise remain inaccessible (Wagner & Kronberger, 2001).

Social representations are always formed and shaped in a specific cultural and societal context, as pre-existing knowledge and cultural assumptions create a background for them. Thus, the study of social representations entails all modes of thought in everyday life that are maintained over more or less *longues durées* (Moscovici & Vignaux, 2000, p. 159). Social representations are created in social interaction in various *thinking societies* – that is, for

instance, in cafés, clubs, libraries, pubs – wherever people meet and communicate (Moscovici, 1998). Thinking societies are the settings where social representations take shape and from which they spread “like rumours” (Moscovici, 1998, p. 224). Mass media (newspapers, radio, television, Internet) is also an important source of information in the formation of social representations. However, information as such does not determine the representation: even given the same information, representations may differ (Mugny & Carugati, 1989), as people transform the ambivalent information by selecting and simplifying it into meaningful knowledge. In sum, a social representation, according to Moscovici (1973, xiii), is

“a system of values, ideas and practices with a twofold function: first to establish an order which will enable individuals to orient themselves in their material and social world and to master it; and secondly to enable communication [...] by providing them with a code for social exchange”.

More shortly, Wagner et al. (1999, p. 96) emphasize that a social representation is

“the ensemble of thoughts and feelings being expressed in verbal and overt behaviour of actors, which constitutes an object for a social group”.

Thus, the definition of Wagner et al. (1999) entails a precondition that representations are always related to some social phenomenon or *object* in a way that an object is not social by any of its characteristics, but by the way people relate to it.

2.3.1. Structure of social representations

Even though there are various views regarding the structure of social representations, a consensus seems to prevail that a social representation consists of a (rather) stable central element and more changeable peripheral elements. It has been suggested that each social representation has a *central core* (Abric, 1984; 2001). In social representation literature, concepts similar to the central core have been referred to as an organizing principle (Doise, 1993), a hard core (Mugny & Carugati, 1989), or a representative nodal (Jodelet, 1989). According to Abric (1984), the central core has a creative or meaning-generating function and an organizing function for the representation.

Guimelli (1993) presented a method for locating the central core: counting the associations made to the object of the representation would reveal the central core. In a similar vein, Moliner (1995) stated that an object, which in some way contradicts the central

core, will not be recognized, or accepted as an object. Further, Doise, Clémence and Lorenzo-Cioldi (1993) suggested a model for quantitative analysis for finding the organizing principle, focusing on three key issues: the organization of the representational field, the organizing principles of inter-individual differences, and their anchoring in systems of symbolic meanings (see also Spini & Doise, 1998).

Around, or even within the central core, specific *core themata*, also referred to as canonic themata and source ideas, are organized (Moscovici, 2001). Core themata may take the form of “first principles, primary conceptions, primitive notions, or preconceptions” (see Figure 1) (Moscovici & Vignaux, 2000, p. 177). They can be beliefs (e.g., “the American dream”), maxims (“we are what we eat”), social definitions (“psychoanalysis is confession”), categories (“primitive”), or symbolic (“Euro currency”) (Moscovici, 2001).

At a more general level, the core themata relate to the concept of social representations such that:

“[social representations] are always derived from ‘pseudo-conceptual’ kernel elements: archetypes of ordinary reasoning or ‘preconceptions’ established over *longue durée*, that is to say, tributaries of rhetorical histories and social beliefs having the status of *generic images*” (Moscovici & Vignaux, 2000, p. 179, italics in the original version).

The relationship between themata and common sense¹ – the universe of social representations – is depicted in Figure 1.

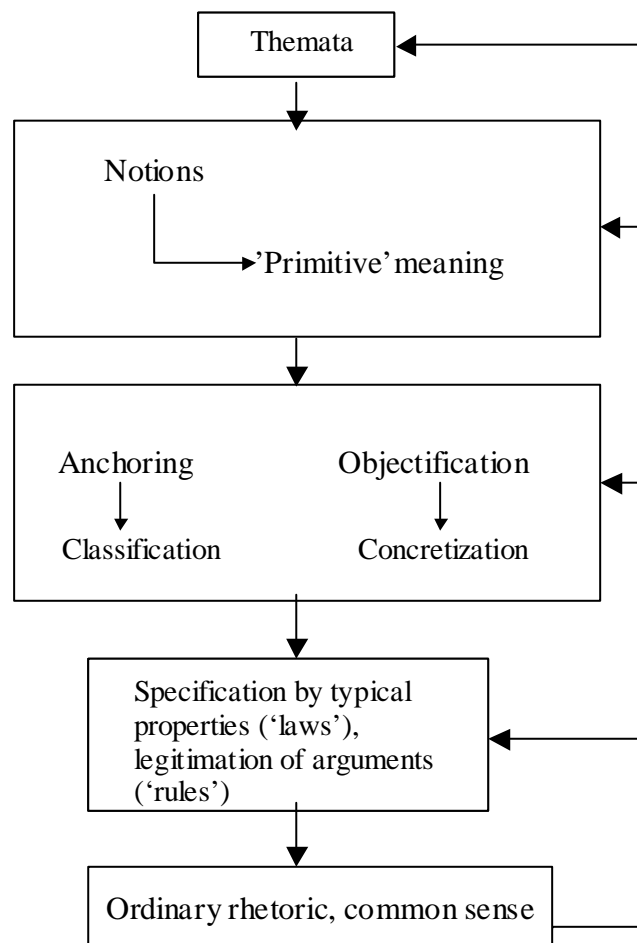


Figure 1. The generative function of themata (based on Moscovici & Vignaux, 2000, p. 180).

According to Moscovici (2001), core themata and the central core of the representation are interrelated. Core themata stem from a deeper system of cultural beliefs – arch-themata (Moscovici, 2001) – and they are context-specific, such that the arch-theme of *nature*, for example, is specified by different core themata in different contexts, such as organic food in the nutrition context (Moscovici, 2001).

Themata often include linguistic systems of oppositions, that is, contrasting terms, of, for instance man/woman or nature/technology (Moscovici & Vignaux, 2000), of which the latter is central to the present study. Because of the dichotomic nature of themata, Staerklé

¹ Even though Moscovici & Vignaux (2000) did not include the concept of central core, it could, conceptually, be placed on the top of the concept of themata.

and Doise (2005) refer to them as “dichotomous principles”. However, themata may never reveal themselves clearly (Moscovici & Vignaux, 2000), and thus, their existence is subject to interpretation.

In this study, it is assumed that the central core and core themata exist side by side. The literature is not very clear about this issue: whether the central core and core themata could be merged into one “kernel”, or whether they are two separate concepts. Moreover, the terminology about this issue is rather inconsistent, as different terms are used by different authors. It has been suggested that there may be a number of central elements (to which Moscovici, 2001, refers to as multiple core notions), clustered into a core, and a number of *peripheral elements* would exist around this core (e.g., Moliner, 1995).

The stability and changeability of a social representation can be defined by assuming a stable central core and more changeable peripheral elements (Abric, 1984; 1993). Thus, the peripheral elements are conditional, depending on the situation, context, language genre, and so on, whereas the central core is context invariant (Wagner et al., 1996). The central core appears, then, to be a non-negotiable belief (Moscovici, 1998), and in a sense, the central core could be equal to stable values. Indeed, Moscovici (2001) does refer to (unspecified) values when addressing the dynamics of the central core. However, Marková et al. (1998) have suggested that a social representation cannot be conceptualised as either the core or the periphery, but rather, that core and peripheral elements are complementary with respect to each other: thus, these authors suggest that the central core would be context-invariant, as well.

In this study, a view is taken based on the literature presented, that the core themata, the central core, and the peripheral elements are separate, but close concepts. A “Moscovician” view of the core themata as a basis of a social representation is taken. However, Abric’s concept of core will also be discussed later in the context of the results.

2.3.2. Processes of social representations

Two essential processes have been defined in the genesis of social representations: anchoring and objectification (see also Figure 1). Moscovici (1981) has also suggested a third process, naturalization. *Anchoring* integrates a new thing within a system of familiar categories, in this way rendering the unfamiliar to the familiar (e.g., Moscovici, 1984). Anchoring integrates the representation into a network of significance, marked by social values, generating a system of

interpretation (Abric, 1996; Doise, Spini & Clémence, 1999; Spini & Doise, 1998). To cope with a strange idea or perception, we begin by anchoring it to an existing social representation, and the whole entity acquires an everyday meaning in this process (Moscovici, 1998). Anchoring is related to the processes of naming and classifying, allowing us to organize and structure the social world in a meaningful way (Augoustinous, 2001). Doise (1992) discerns three kinds of anchoring: psychological (attaches the representation to general beliefs and values, such as the belief in a just world), sociological (attaches the representation to a social group or position), and social psychological (attaches the representation to individual positions).

Objectification allows an abstract thing to become concrete. First, new information are sorted out, selected and simplified, and then organized into a visual or figurative model, or a "figurative nucleus", representing the key elements of the object of the representation (Abric, 1984; 2001; Wagner, Elejabarrieta & Lahnsteiner, 1995). The objectification may be an icon, a metaphor, or trope, which comes to stand for the new phenomenon (Wagner et al., 1999). The objectification is further used as a frame of reference when new information is encountered.

The choice of an objectification is not arbitrary, but it depends on the characteristics of the social group in which it is elaborated (Wagner et al., 1999). The objectification needs not to be accurate or reflect the absolute truth of an issue, but it has to be "good to think", or plausible (Wagner et al., 1999; Wagner, Kronberger & Seifert, 2002). Billig (1996) has argued that anchoring is a universal process, whilst objectification is a particular one. Moreover, anchors and objects are not fixed, but instead, they are transitional pointers in the evolution of meanings (Bauer & Gaskell, 1999). Thus, the phases of objectification may be named as personification, figuration, and ontologization (Moscovici & Hewstone, 1983, p. 112), and Wagner et al. (1995) have proposed a further process of socialization.

After the unfamiliar is made familiar with the processes of anchoring and objectification, the social representation is "everybody's and nobody's" (Moscovici, 1998, p. 236), used and repeated in daily talk. Thus, after the processes of anchoring and objectification, *naturalization* of the object takes place (Moscovici, 1981; Philogène, 1994). Now, a point has been reached where one no longer differentiates the objects about which one has concepts (Moscovici, 1998).

Social representations may function as symbolic coping in everyday life (Wagner, Kronberger & Seifert, 2002), or, in a bit more restricted sense, they may function as collective process of coping with a perceived threat (Moscovici, 1973). The symbolic coping view of

Wagner et al. (e.g., 2002) states that, contrary to the basic assumptions of social representation theory, it is not novelty and unfamiliarity *per se* which motivates people to adopt an objectification, but a response to topics where the opinion is asked for, be it in a conversation, media, or voting – a process that is not driven internally, but externally.

2.4. ATTITUDES VS. SOCIAL REPRESENTATIONS

There is a long tradition of attitude research within social psychology: it could even be argued that the development of attitude research actually marks the major turning points of social psychology: most of all, the individualization of *social* psychology, and the differentiation between European and American social psychology (e.g., Jaspars & Fraser, 1984; Farr, 1993b; 1996). Since Allport's (1935) influential discussion of the attitude concept in Murchinson's *Handbook of Social Psychology*, attitude research has had a rather individual direction. Currently, attitude is understood as a “psychological tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour” (Eagly & Chaiken, 1993, 1). Thus, an attitude is an individual response disposition that may be combined with an individual cognitive representation (Jaspars & Fraser, 1984). The evolvement of social constructionism from the 1960's can be seen as a counter-power to traditional attitude research.

Social representations have sometimes been seen as analogous or substitutes for the concept of attitudes. Comparison of these concepts is complicated by the fact that there are numerous definitions for attitudes: as early as in 1972, Fishbein and Ajzen counted 500 different definitions for the (individual) attitude construct. However, the definition of attitudes always includes 1) an object: attitudes are *about* something, 2) an act of evaluation, and 3) an agent who does the evaluating (Ajzen, 2001; Eagly & Chaiken, 1993; Gaskell, 2001; Petty, Wegener & Fabrigar, 1997). In attitude research, evaluative responses are mostly defined by their valence (into a positive or a negative direction) and extremity.

Recently, there has also been a trend to move away from the problematic uni-dimensional view of attitudes (Eagly, 1992; Eagly & Chaiken, 1993; Sparks, Hedderley & Shepherd, 1992), towards a more multivariate concept of attitudes, addressing the problems of ambivalence, attitude variability, mixed feelings, and uncertainty (Berndsen & van der Pligt, 2004; Olsen, 1999; Povey, Wellens & Conner, 2001). This development likens the concept of attitude with social representations.

Even though there are close similarities between attitudes and social representations, an entirely analogous definition would imply broadening of the concept of attitudes, resulting in a definition of attitudes as 1) socially shared, 2) endowed with content, and 3) forming a system – which is very close to the definition of social representations (Moscovici, 1998). Differences between these concepts are found in their primary aims, as attitude research aims to *differentiate* amongst individuals within a group, whereas the aim of social representation research is to examine *consensual* and shared systems of belief (e.g., Fraser, 1994). At a more general level, this originates from the aspiration of social representation theory to overcome the shortcomings of attitude research based on methodological individualism (Wagner et al., 1999).

Social representations and attitudes also differ in the emphasis of their social character. Whereas social representations are social in that they are social in origin, and that they are shared and become a part of social reality itself, the social origin, character, and sharedness of attitudes is claimed to be more restricted (Jaspars & Fraser, 1984; Farr, 1993). Moreover, attitudes do not turn the unfamiliar to the familiar, but instead, they represent the subjective position toward an abstract or concrete object (Bergman, 1998).

While the function of attitudes is linked to evaluative judgments, social representations are not linked to fixed functions, but instead, they may have multiple functions for groups in different contexts (Bauer & Gaskell, 1999). Social representations may function as familiarizations of the novel, or as a means of symbolic coping with problematic and threatening issues (e.g., Wagner et al., 2002). Moliner and Tafani (1997) and Fraser (1994) have suggested that a theoretical link between attitudes and social representations can be found, as certain components of social representations are evaluative. Thus, an attitude about an object would be based on the evaluative components in its representation. At a structural level, attitudes may be based on social representations (Moscovici, 1998), which implies also that social representations can be seen as umbrella concepts of attitudes (Gaskell, 2001).

In this study, a view is taken that it would be most useful to acknowledge the structural similarities *and* the different functions social representations and attitudes have in their particular domains of interest. Thus, social representations and attitudes provide alternative frameworks (Fraser, 1994). Comparing these approaches not only at a theoretical level, but also empirically, is beneficial for their further development.

2.4.1. Food choice from attitudinal/trait perspective

As mentioned in the chapter “On the social psychology of eating”, food choice has traditionally been modelled within the attitude frame of reference. Therefore, as food choice has been studied within a nutritional or a sensory science framework, even if conducted by psychologists, methods parallel to natural sciences – that is, the quantifying and measuring of methodological individualism – have been adopted. In this purpose, various instruments have been developed to depict and measure the orientation to and choice of foods.

Food attitudes and behaviour, as any other attitudes and behaviour, are characterized by fluctuations and ambivalence (e.g., Lyman, 1989; Sparks, Hedderley & Shepherd, 1992; Grunert, 2002). However, food poses a specific problem for developing attitude models, compared to many other fields of attitude measurement, since the impact of attitudes diminishes, or the attitude may change, when the food, or the “object” of evaluation, is tasted (e.g., Arvola, Lähtenmäki & Tuorila, 1999).

A major part of reasons of food choice is attributed to the sensory perception and sensory-affective responses (liking) of the food. The link between sensory characteristics of foods and the choice and consumption of foods has been an intensively studied area in the past years. (Conner & Armitage, 2002.) In numerous studies, sensory-affective responses and preferences have been shown to affect greatly food choice and consumption, especially in the absence of economic and availability constraints (Eertmans, Bayens & van der Bergh, 2001; Furst et al., 1996; Rozin, 1990). Moreover, sensory-affective responses and preferences have been shown to outweigh the impact of attitudes in many previous studies (Connors, Bisogni, Sobal & Devine, 2001; Drenowski & Hann, 1999; Holm & Kildewang, 1996; Lähtenmäki et al., 2002; Rozin, 1996). Similarly, sensory-affective responses have been shown to dominate, when people are asked to name their reasons for food choice, and reasons for the accepting, rejecting, or purchasing foods (e.g., Arvola, Lähtenmäki & Tuorila, 1999; Koivisto & Sjöden, 1996).

However, food choice is not a straightforward process. Further problems for the development of attitudinal food choice models, even if sensory-affective responses are taken into account, arise from the fact that in our daily lives, we may eat food not because of some strong preference for them, but simply because they are available (Lyman, 1989). Thus, the reasons of food choice are versatile, entailing both attitudinal and sensory-affective variables, but some variation is probably always left unexplained.

There is no 'perfect' or automatic relationship between sensory-affective responses and food choice and consumption, since liking of, for example, chocolate does not lead to eating chocolate at every meal (Conner & Armitage, 2002). Moreover, sensory-affective responses do not occur in an 'a-cultural vacuum': on the contrary, they are subject to cultural variation (e.g., Mäkelä, 2002) and various individual attributes.

Food likings have been amply researched, often in a context where particular information of the food has been given (Martins, Pelchat & Pliner, 1997; McFarlane & Pliner, 1997; Tuorila, Meiselman, Bell, Cardello & Johnson, 1994). According to Rozin (Rozin & Vollmecke, 1986; Rozin, 1990), food likings appear to be affected by sensory-affective responses when the food has been tasted; expectations and beliefs about the food; and socialization into the social-cultural environment in general. Food-related disgust, on the other hand, is related to a negative sensory experience of the food; symbolism; or conditioning (Rozin, Haidt, McCauley, 1993; Nemeroff & Rozin, 2000).

2.4.2. Three attitude or trait scales to measure orientation to novelties and new foods

For quantifying the orientation to novelties and new foods, three measures, along with a short description of their development are presented, as they are closely linked to the outline of the present study. These particular attitude or trait scales were chosen, since they are validated and widely used, and lend themselves well into the study of new foods.

1) Probably the best-known trait scale in this area is the Food Neophobia Scale (FNS), developed by Pliner and Hobden (1992). The FNS measures individual positioning on neophobia-neophilia-continuum, representing personality traits that are assumed to be relatively stable at an individual level. Persons with a high food neophobia level avoid new foods (new ethnic foods in particular), whereas food neophilics represent an opposite position to this. From socio-biological perspective, food neophobia has a functional role in adaptation. However, it may hinder the consumption of new but potentially nutritious and beneficial foods, in which case it is not adaptive (McFarlane & Pliner, 1997). Generally, as food is learned to be liked in the course of repeated exposures with the food (Pliner, 1982), familiarity is a central determinant of liking especially for food-neophobic persons (Raudenbush & Frank, 1999). The FNS has been extensively used to predict willingness to try unfamiliar ethnic foods (e.g., McFarlane & Pliner, 1997), and its validity has been proven

internationally (e.g., Tuorila, Lähteenmäki, Pohjalainen & Lotti, 2001), although not all individual items of FNS fit equally well into the scale (Ritchey, Frank, Hursti & Tuorila, 2003).

2) Exploratory consumer behaviour, related to the optimum stimulation level, is closely related to encountering novelties. Measurement of individual change-seeking originates from the 1960's, when a 95-item change seeker index was introduced by Garlington and Shimota (1964), gauging the need for variation in order to maintain optimal functioning of an individual. On this basis, a short form of the Change seeker index (CSI) was developed by Steenkamp and Baumgartner in 1995.

3) Based on the assumption that consumer innovativeness may not be universal, but domain specific, Goldsmith and Hofacker (1991) developed the Domain specific innovativeness scale (DSI). The DSI measures consumer innovativeness for a specific product category, reflecting the tendency to adopt innovations within a specific domain of interest. The DSI has been employed to measure innovation in rock music (Goldsmith & Hofacker, 1991), fashionable clothing (Goldsmith et al., 1992), delicatessen ham (McCarthy, O'Sullivan & O'Reilly, 1999), and wine (Goldsmith, d'Hauteville & Flynn, 1998).

3. AIMS OF THE STUDY

The main aim of this study was to identify and explore the social representation (SR) of new foods, and the relationship the representation has with new foods. Specific aims of the study were to explore:

- what the SR and its dimensions are; how the dimensions relate to each other; and are they stable in a given society over a three-year period. (I, II, IV)
- how the SR is related to the attitude/trait scales of FNS, CSI, and DSI. (II, III, IV)
- how the SR predicts the willingness to use different types of new foods and specific products. (II, V)

4. MATERIALS AND METHODS

4.1. RESPONDENTS

The study was based on four different data sets: focus group interviews (I), three surveys (II, III, IV), and an experimental design (V) (Table 1). Altogether 3242 Finnish respondents participated in series of data sets over four years.

Table 1. Outline of the studies.

Study	Respondents			Mean age (SD)	Data collection and analysis method	Scales used in the study
	N	Female %	Male %			
I	44	50	50	39 (19)	Focus groups, qualitative analysis	FNS, CSI, DSI
II	743 (+77)*	52	48	44 (14)	Survey, multivariate statistics	SR FNS, CSI, DSI, Familiarity Willingness to try/use
III	1156	56	44	45 (15)	Survey, multivariate statistics	SR DSI Familiarity Willingness to try/use
IV	743+ 1156+ 1113**	58	42	49 (16)	Survey, multivariate statistics	SR
V	62 (+47)*	62	-	40 (11)	Experimental design, multivariate statistics	SR Familiarity Liking Preferred frequency to use

*) Pilot study (N).

**) Three data sets used in analyses.

Participants of Study I were recruited from workplaces, service centres and the Finnish Defence forces in 2001. The age range of these participants was 18-78 years. The data of Study II were collected via Gallup Food and Farm Facts Ltd. in 2001, by using on-line data collection by respondents' home PCs. The data of Studies III and IV were collected via Taloustutkimus (TOY Research) in 2002 and in 2004, using postal surveys (in Study IV, the 2001 data was also used to allow three-year comparison). The age range of the respondents in these surveys was 15-88; 15-87; and 18-80, respectively. All data sets were aimed to be

statistically representative of the population in Finland, although in the 2001 data set, there were some deviations regarding age groups. The participants of Study V were recruited from institutes, companies, and University of Lapland in 2002. The age range of the participants was 23-64 years.

4.2. DEVELOPMENT OF THE SOCIAL REPRESENTATION (SR) QUESTIONNAIRE

The items of the SR questionnaire were based on the focus group discussions (Study I), from which salient themes were picked up and formulated into statements. In line with the social representation theory, natural expressions of the focus group members were used. The questionnaire consisted originally of 47 items, but after pilot testing, the items were clarified and some were excluded. In Study II, the questionnaire was elaborated by means of successive PCAs, reliability analysis, and the content of the items. Consequently, the 47 items were condensed into 27 items, that were rated on a 7-point scale from 'strongly disagree' to 'strongly agree' (see Appendix 1 for the items and Appendix 2 for original items in Finnish).

4.3. ATTITUDE/TRAIT SCALES: FOOD NEOPHOBIA, CHANGE SEEKER INDEX, DOMAIN SPECIFIC INNOVATIVENESS

The statements of Food Neophobia Scale (FNS; 10 items, Pliner & Hobden, 1992); Change Seeker Index (CSI; 7 items, Steenkamp & Baumgartner, 1995); and Domain Specific Innovativeness Scale (DSI; 6 items, Goldsmith & Hofacker, 1991, worded for 'new foods' by Huotilainen, Pirttilä-Backman and Tuorila, *in press*) were rated on a 7-point scale from 'strongly disagree' to 'strongly agree'.

4.4. FOOD-RELATED RATING SCALES: FAMILIARITY, WILLINGNESS TO TRY/USE, DEGREE OF LIKING

The familiarity scale consisted of five options, labeled 1 = ‘I do not recognize the product’, 2 = ‘I recognize the product, but I have not tasted it’, 3 = ‘I have tasted, but I do not use the product’, 4 = ‘I occasionally eat the product’ and 5 = ‘I regularly eat the product’. Willingness to try/use was rated on a 7-point scale anchored at 1 = ‘Not at all willing’ and 7 = ‘Extremely willing’. Twelve food names were rated on these scales in Study II, and 32 food names were rated in Study III.

In Study V, the degree of liking was rated on a 9-point scale (anchored 1 = I do not like at all, 9 = I like very much), and preferred frequency to use was rated on an 8-point scale (1 = two times a day, 8 = never; the scale was reversed before analyses).

4.5. PROCEDURES OF STUDIES I AND V: FROM FOCUS GROUPS TO EXPERIMENTATION

Procedures of studies I and V are reported in detail since they had special arrangements. Focus groups (Study I) included six main discussion themes: encountering a new food, the importance of eating and new foods, the role of family in food choice, relating of women vs. men and young vs. old to new foods, characterizing a person fond of new foods, and discussing novelty seeking. Halfway through the discussions, commercial food packages, representing new food categories, were presented, but the foods were not tasted.

In Study V, two categories, “technological” and “natural”, characterizing the opposite themata of the social representation of new foods, were offered to respondents as information of a new functional product, using a between-subjects design. Sensory-affective responses were rated at two experimental sessions and during a 6-day home use period between them, and derived attributes were rated at the final session.

4.6. DATA ANALYSES

The tape-recorded focus group discussions were transcribed verbatim, and analyzed thematically and contentually (I). Principal component analysis was used for SR questionnaire (II, III, IV), for FNS, for CSI (II), and for DSI (II, III). Analysis of variance was used for comparing the mean scores between demographic groups on SR components (II); willingness to try/use and the SR components broken down by DSI groups (III); and SR components between three data sets (IV). In Study V, multivariate repeated measures anova was used to compare the mean scores of liking of and preferred frequency to use. Linear and hierarchical regression analyses were used to predict the willingness to try/use new and familiar foods (II, III); the DSI (III); and the ratings of liking and preferred frequency to use (V).

5. RESULTS

The results of Studies I-V, reported in separate articles, have been re-organised into one entity. Thus, the aims of the study have been met by a holistic approach.

5.1. THE SOCIAL REPRESENTATION OF NEW FOODS: ITS STRUCTURE AND FUNCTIONS (I – V)

In the focus group study (I), five preliminary dichotomies characterizing the social representation of new foods were identified: trust/distrust, safe/unsafe, natural/artificial, pleasure/necessity, and past/present. Many metaphors were used of new foods. Functional foods were associated with medicine, and metaphors of explosions (“*health bomb*”) and nuclear power (“*That looks like a small nuclear power plant!*”) were also used. Genetically modified products were associated with death and terrorism (“*This [label] is Bin Laden’s text*”). Generally, technology was seen as something that ought not to be related to food: technological “techno-food” was expected to taste weird, or be tasteless, and technology – particularly gene technology – as a means of producing food was considered as unnatural.

Characteristics of different categories of new foods were emphasized differently. Organic and ethnic foods formed the trusted, natural, safe, and pleasant dimensions of the representation, while technological foods were characterized negatively. Thus, at this phase of the study, it was suggested that there might be two social representations instead of one: one centering on organic and ethnic food, and another centering on technological food. However, later (in Studies II and III) it was found that the representation actually comprised two themata: natural and technological.

The risky nature of new foods was an important argument for women, but not for men. Young respondents related the discussion of new foods to the present time, while older respondents concentrated on the “safe food” of past time. The more educated respondents brought up several points of view, whereas the less educated respondents were more strongly either pro or con.

One problem left with the focus group study was that how something unfamiliar and, seemingly worrying, could be made familiar by negativism, distrust, and distance, as these

were the characteristics of the preliminarily identified social representation. These questions will be addressed later.

In Studies II, III, and IV, the 27 social representation questionnaire items that were based on the focus group discussions loaded on five components (see Appendix 1). The components were labeled as 1) suspicion of and resistance to new foods, 2) adherence to technology, 3) adherence to natural food, 4) food as an enjoyment, and 5) food as a necessity. Suspicion represented a reserved position to new foods. Adherence to technology represented an accepting position to new foods. Adherence to natural food represented trust in nature and naturalness. Food as an enjoyment represented a hedonistic position to food and eating. Food as a necessity represented indifference and unimportance of food. The content of these components was essentially similar in Studies II – IV.

The components explained approximately half of the total variance in Studies II, III and IV. Means and standard deviations of the components and items and Cronbach's alphas of the components, which stayed consistent and good over the three-year period of this study, are presented in Appendix 1.

Study II showed that women were more adherent to natural food than men, while men were more adherent to technology. Men regarded food as a necessity and were higher on suspicion than women. The higher the basic education of a respondent, the less resistant and suspicious he/she was.

Comparison of the three data sets, collected in 2001, 2002, and 2004 (Study IV), showed that the correlations between the social representation components ranged from zero to -0.48 (Table 2). The strongest correlations were between adherence to natural food and eating as a necessity; between adherence to natural food and adherence to technology; and between eating as a necessity and eating as an enjoyment. These correlations were all negative. A positive correlation was found between suspicion and necessity. The correlations were consistent over the three data sets, being strongest in 2002.

Table 2. Pearson's correlation coefficients of the social representation components separately for Studies II, III, and IV, conducted in 2001, 2002, and 2004, respectively.

Component/ Data set	Suspicion	Adherence to technology	Adherence to natural	Enjoyment
Technology				
2001	-.15**			
2002	-.04			
2004	-.11**			
Natural				
2001	.09*	-.28**		
2002	.06*	-.34**		
2004	.20**	-.24**		
Enjoyment				
2001	.00	.03	.08*	
2002	-.04	.05	.16*	
2004	-.03	.12**	.10*	
Necessity				
2001	.20**	.18**	-.35**	-.24**
2002	.38**	.24**	-.48**	-.21**
2004	.36**	.06*	-.26**	-.25**

** $p < 0.01$, * $p < 0.05$

In Study II, it was suggested that the social representation had two themata: natural and technological. These themata were also the basis for the experimental design in Study V. Offering the themata as categorizing information (natural vs. technological) of a product affected its acceptability, via derived attributes of the product (labeled as beneficial, artificial, regular, and unnecessary product). The derived attribute of an artificial product was based on technological category, while the derived attribute of a regular product was based on natural category. It was found that the derived attributes had a mediator role in objectification of the product, as the product was objectified differently depending on the category the subjects had received.

In Study IV, the core elements of the representation were initiated. Drawn on the relationships between the components, it was suggested that the core of the representation was trust, as a counterpart of suspicion. The themata of natural and technological would be organized around this core.

In Figure 2, it is shown how the components (suspicion, adherence to technology, adherence to natural food, food as an enjoyment, and food as a necessity) relate to the core (trust) and the themata (natural – technological) of the social representation. This figure also summarizes the main findings on the structure of the representation. While the core and the themata are stable, inter-individual variation and changeability are expressed in relation to the measurable components. The core depicts the stable and value-like part (trust – suspicion) of the representation. As is suggested in Figure 2, the core and the themata have to be

theoretically inferred, while the components can be measured by the social representation questionnaire.

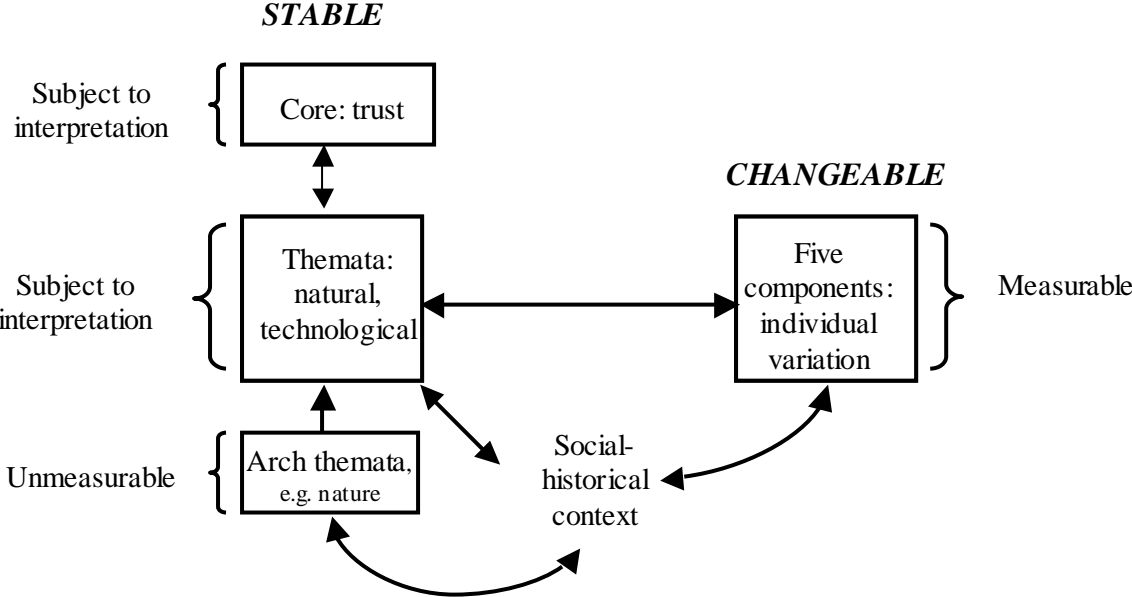


Figure 2. Thematic structure of the social representation of new foods (I-IV).

It is also important to notice that the social representation is embedded in a certain social-historical context, and it must be understood in terms of that particular context.

High suspicion had a strong positive correlation with food neophobia (FNS) (Study II), and low suspicion and enjoyment correlated with domain specific innovativeness (DSI) and change seeking (CSI) (Studies II and III) (see Table 3). In addition, DSI could be predicted by low suspicion and enjoyment (Study III). However, since not all components were related to these constructs, it was suggested that the social representation questionnaire and the attitude/trait scales might best be used to complement each other.

Table 3. Pearson’s correlation coefficients of FNS, CSI and DSI and social representation components (Study II).

Component/ Scale	Suspicion	Adherence to technology	Adherence to natural	Enjoyment	Necessity
FNS	.47**	-.15**	.10*	-.20**	.07
CSI	-.38**	.15**	-.01	.22**	-.08*
DSI	-.50**	.14**	-.05	.26**	-.18**

**p < 0.01, *p < 0.05

5.2. THE PREDICTIVE ABILITY OF THE SOCIAL REPRESENTATION AND ATTITUDE/TRAIT SCALES (II, III)

Based on PCAs, the willingness to try and use various categories of new foods were used for prediction by the social representation questionnaire and the attitude/trait scales. In Study II, new foods were categorized as modified dairy products, genetically modified, organic, and ethnic products. The social representation components proved to be strong predictors of willingness to try and use these foods. In particular, adherence to technology predicted the willingness to try and use genetically modified foods, while adherence to natural food predicted the willingness to try and use organic foods.

In Study III, new foods were categorized into six categories of which three were labelled as functional (cereal-based and otherwise functional foods; functional drinks), and the remaining three categories were modified dairy products, organic products and energy drinks. Social representation components of low suspicion and adherence to natural food predicted the willingness to try and use of all these food categories.

Compared to the predictive ability of attitude/trait scales of food neophobia (FNS), change seeking (CSI), and domain specific innovativeness (DSI), the social representation components had more predictive power in willingness to try and use new foods in most cases. Generally, the predictive power of the attitude/trait scales was more restricted. In Study II, low FNS predicted the willingness to try and use snails and passion fruit (that is, the “ethnic” foods). In Study III, DSI predicted the willingness to try various categories of new foods, excluding organic products. When added to these predictive models, the social representation components (in particular low suspicion and adherence to natural) increased the prediction of all food categories, particularly functional cereal-based and organic products.

6. DISCUSSION

6.1. THE MAIN RESULTS

The social representation of new foods comprised various views of new foods – entailing a “diversity of voices” (Wagner et al, 1999). The metaphors used of new foods (e.g., explosions, nuclear power, medicine, death, terrorism) conveyed a feeling of strangeness, indicating that new foods are strange and abstract enough to require familiarization. The representation included five components: suspicion of novelties, adherence to technology, adherence to natural food, eating as an enjoyment, and eating as a necessity. Suspicion had a cautionary function, representing a reserved position to new foods, depicting the first reaction of “what is it?” – an alarm signal (see Zajonc, 1968) – when a new food is encountered. It is the feeling of “not quite right-ness”, described by Moscovici (1984) that both attracts and threatens individuals, since the dread of losing the sense of continuity provided by familiarity is agonizing.

Suspicion had a strong positive correlation with food neophobia. Considered that food neophobia is one of the few inherent dispositions to food (Pliner & Hobden, 1992; Rozin & Vollmecke, 1986), it was not surprising that resistance was so robustly manifested in the representation. Suspicion may also be seen as a counterpart of trust, in that dissolving suspicion is a prerequisite for trust – and, in the end, a prerequisite for the formation of the representation. Without the feeling of “not quite right-ness”, or nothing to be alarmed for, there would probably be no need for a representation. Suspicion correlated negatively with innovativeness and change-seeking.

Connections between suspicion and distrust of new foods and Moscovici’s (1976) notion of common sense as resistance, most notable in his early studies on the social representations of psychoanalysis, may also be found. Underlying the social representations of psychoanalysis were anxieties about the fear of losing the symbolic autonomy of a social group, whose identity was rooted in knowledge and practices to be preserved (Bauer & Gaskell, 1999). According to Bauer and Gaskell (1999), representations may reflect resistance of common sense to new knowledge. Indeed, common sense can be used for many purposes: for understanding; for familiarization; for resistance of novelties; and for symbolic coping with threatening issues.

Adherence to technology and adherence to natural food reflected trust in either food and gene technology or in natural food. Since social representations can be seen as symbolic coping with threatening issues and unfamiliarity, trusting food and gene technology may reduce anxieties regarding food safety, whereas suspicion represents a more anxious way of coping (see Beardsworth, Haslam, Keil, Goode & Sherratt, 1999; Wagner & Kronberger, 2001). It may also be that those trusting food and gene technology simply do not have any anxieties regarding new foods or food technologies. Research on the social representations of biotechnology has shown that everyday thinking of biotechnology varies from support to opposition: suspicion and trust vary, as biotechnology and risks related to it are comprehended as a dynamic system (Gaskell, 2001).

Adherence to natural food signaled the importance of nature and naturalness. Indeed, in recent decades, in the developed world, a strong desire for natural food has appeared, substantially stemming from ideational and moral motivations (Rozin et al., 2004). As Steptoe, Pollard and Wardle (1995) have also stated, in Western industrialized countries the public opinion of food industry is jaundiced such that natural food and the absence of additives are usually viewed positively.

In everyday thinking, health, in general, may be associated with natural and unhealthy may be associated with artificial (Hertzlich, 1973). Thus, the results echo previous findings of trust in natural food and suspicion towards other new foods, especially when new food technology has been used in the production (e.g., Bredahl, 2001). Perhaps for this reason, it was found in this study that in everyday thinking, technology was seen as something that ought not to be related to food. Technological food was expected to have a strange taste, and technology as a means of producing food was regarded abnormal – in spite of the fact that much of the food we eat has been produced by food technology.

Eating as a necessity and eating as an enjoyment characterized the personal – although essentially culturally and societally shared – relation to new foods, either from a hedonistic or from an indifferent point of view. Food as an enjoyment was related to hedonism. Hedonistic enjoyment of food may be linked in our time with food as a marker of way of life, in which food is seen as a means for differentiation (Murcott, 1984; Karisto, Prättälä & Berg, 1993). Enjoyment correlated positively with innovativeness and change seeking, thus representing an opposite pattern to suspicion. Regarding food as a necessity conveyed an image of indifference, as food as the fuel of the body. This can be seen as a means to avoid food-related issues.

The social representation components were mostly negatively correlated with each other. The most interesting correlation was that adherence to natural food and adherence to technology were negatively related, since it follows the logic that technological food and natural food are separate themata. Another interesting, but positive, correlation was between suspicion and necessity, which supports the interpretation of suspicion as a restricted way of encountering novelties.

The results suggested that the core of the social representation was trust, as a counterpart of suspicion. The core might be conceptualized as a continuum of suspicion and trust, along which an individual may be positioned. Trust as a common denominator depicts this continuum from suspicion (the unknown and unfamiliar) to trust (the familiar). For comparison, if we were studying social representations of money, one result could be that 'price' is the common denominator for the counterparts of 'expensive – cheap' in the core of that representation.

The themata, organized around the core of trust, were natural and technological. Dichotomous or contrasting terms have been stated to be characteristic to themata, whereas the core is the most invariant, value-like part of the representation (Moscovici & Vignaux, 2000). According to Moscovici and Vignaux (2000), there are various systems of opposition in relation to food, for instance compromising between the biological and the social, and between health and survival. The following citation from Moscovici and Vignaux (2000, 182) closely resembles the results of this study (*italics added*):

“In this triplet ‘food/body, health/cuisine, taste’ one regularly sees the *reappearance of such themata as the ‘traditional’, the ‘natural’ and the ‘sophisticated’, anchored in the corresponding ‘image notions’ – ‘land’, ‘health or beauty’, ‘distinction’ [...]*”

These structural elements combine the themata of Moscovici (2001) and the core concept of Abric (1984; 2001). Thus, “Moscovici’s core” for the representation would probably include the core and the themata, being a larger unit, while “Abric’s core” would perhaps not include themata at all, being more specific. However, both concepts were needed for a satisfying theoretical model. Figure 3 shows that compared to Moscovici’s themata, the focus of Abric’s core is narrower.

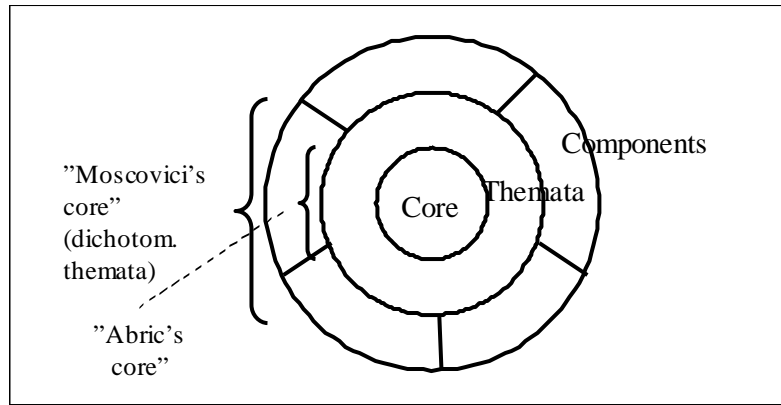


Figure 3. Detailed structure of a social representation.

A theoretical generalization may be made that themata entail general cultural assumptions, whereas the core is always specific to the certain representation. Consequently, different social representations may have the same themata, but not the same cores. For instance, social representation of information technology could also include themata of natural and technological (and, perhaps, even a core named 'trust in information technology'). However, for two social representations to be different, they have to be organized around two different cores (Abric, 2001).

The results suggested that social representation and attitude/trait approaches complement each other, since they have rather different functions and separate areas of specialization. The primary aim of attitude and trait research is to differentiate amongst individuals within a group, whereas the aim of social representation research is to find systems that are consensual and shared (e.g., Fraser, 1994). The information obtained by attitude and trait measurements is usually rather specific compared with the social representation approach. However, attitudes and traits may be seen as manifestations or elements of social representations, which, then, function as an umbrella concept (Fraser, 1994).

Attitude and trait measurements may well also offer a baseline for the interpretation of results of social representation research: in this study, suspicion correlated with food neophobia, and eating as an enjoyment and low suspicion correlated with innovativeness and change seeking. Even though the social representation was linked to neophobia, innovativeness, and change seeking, these are not interchangeable constructs. That these constructs were rather complementary was also seen when different constructs were used for prediction of willingness to try and use various categories of new foods: the attitude/trait scales had more narrow predictive power, such that food neophobia predicted the willingness

to try and use ethnic foods, while the social representation components usually improved the prediction of willingness to try and use all new food categories.

6.1.1. Theoretical problems related to the representation

Two problematic themes were recurrent during the study. First, it did not seem logical that something unfamiliar could be made familiar by negativism and distrust, as these were the characteristics of the social representation. Finally, a solution was found in that suspicion *is* the prerequisite for the formation of a social representation, and that common sense can be used as a resistance to (Moscovici, 1976) or as symbolic coping with (Wagner, Kronberger & Seifert, 2002) novel and threatening issues.

Since the function of the representation is to familiarize, and, in the end, make something trustworthy, the core was named trust. However, theoretically, trust always contains a certain amount of suspicion as its counter-power; hence the core was characterized as suspicion – trust in the Main results -section. Suspicion and trust may also be visualized as a continuum, even though the suspicion component had rather modest correlations with adherence to technology and adherence to natural food.

It may be argued that the social representation of new foods in Finnish society is still at a stage of formation and that it will evolve further, along which there will be ‘less suspicion and more trust’ towards new foods. Further, there is a possibility that suspicion belongs mainly to this formation stage: it remains to be seen whether it turns negative or positive. However, even a ‘fully formed’ social representation may entail suspicion. This is because an issue may well be familiarized and known but not trusted.

Secondly, characteristics of different new foods were emphasized differently, since organic and ethnic foods formed the trusted, natural, safe, and pleasant dimensions of the representation, while technological foods were characterized negatively. As a result, it was first suggested that there might be two social representations instead of one: one centering on organic and ethnic food, and another centering on technological food. However, later it became apparent that the representation actually had two themata: natural and technological, but it was to be conceived as one entity. The surveys conducted in three successive years enabled this kind of follow-up theorizing.

6.1.2. Methods

This study followed a three-step model of research methods. First, a qualitative method of focus group discussions was applied, followed by surveys, and an experimental setting. Thus, the requirement for multidimensional social representation research incorporating multiple methods was fulfilled (e.g., Philogène, 2001; Wagner, 1999), and a temporal perspective including the verification of stability of the results, suggested by, e.g., Bauer & Gaskell (1999), was also included. Some problems underlying the methods used in the studies are shortly presented below.

The way of discussion in the focus groups was rather unanimous. The groups remained opposed to technological foods, whereas they considered organic and ethnic novelties in terms that were more positive, in spite of encouraging the groups to express positive opinions of technological foods as well. The unanimous way of discussion may be attributed to group polarization, which is a common phenomenon in (focus) groups, implying the tendency for social interaction to amplify pre-existing tendencies (e.g. Myers & Lamm, 1976).

Reservations of generalization must be made with regard to the social representation questionnaire. The questionnaire was developed to be an explorative tool, and its main aim was to quantify aspects of everyday thinking of new foods. Thus, despite the use of Likert-type rating scale, it was not intended to be an attitude-type of a scale, and it was not balanced for positive and negative statements.

Finally, it should be noted that since social representations are always formed and shaped in a specific cultural and societal context, the background for the social representation found in this study inevitably entails assumptions of Finnish eating and food culture. Indeed, international comparison of the social representation questionnaire is a potential topic for future studies. However, translating the questionnaire to other languages does not make it directly adaptable to another culture as such, as the questionnaire may include statements that are understandable to Finnish respondents only (see, e.g., Cervellon & Dube, 2002).

6.2. AMBIVALENCE IN THE FIELD OF NEW FOODS

A consequence of the common belief that ‘you are what you eat’ is that the eater considers it essential to have control over the act of incorporation in eating: thus, complaints that “you don’t know what you eat anymore” can be referred from this requirement (Fischler, 2000). The concept of new foods is vague, and questions arise as to their contents and the kind of processing they have undergone. In this sense, the suggestion of Fischler (1998) that new foods have become UFOs – unidentified food objects – becomes evident. The following quote of Fischler (2000) sums up the unease of the contemporary eater:

“I am what I eat.
I no longer know what I eat.
Do I still know who I am?”

Despite advances in food safety, food-related anxieties of life and death are paradoxically prominent in contemporary societies. The prevalence of anxieties related to new foods was confirmed in the present study, as well. It may even be that as many of the traditionally threatening food risks have disappeared, other, subtler anxieties have become more prominent, creating an atmosphere of ambivalence (Beardsworth & Keil 1997).

Social and cultural development and changes have to be taken into account, if one aspires to understand the roots and cultural embeddedness of ambivalence related to new foods. Moreover, since social representations are always formed and shaped in a specific cultural and societal context, the representation found in this study certainly entails assumptions of Finnish food culture, some of which may only be understandable to those familiar with the history of Finland (concerning the social representation questionnaire, particularly the statements with temporal perspective have Finnish background, see Appendix 1).

Study I included metaphors that were not readily translated into English, unless explanations were added. Such Finnish metaphors were mainly used to illustrate the change from traditional to new foods. For example, the image in the focus groups, which was oriented towards the past time, focused on Finnish country people in a Mediterranean tourist trap, heading to a Finnish restaurant or taking Finnish canned food with them. This illustration was discussed in the focus groups with collective amusement. It was contrasted with the modern day representation of an urban cosmopolite Finn, familiar with exotic cuisine. The

retrospectively oriented metaphor centered on traditional, “unhealthy” and fatty Finnish food, and pre-war “fatty sauce” was often referred to (see also Bäckström, Pirttilä-Backman & Tuorila, 2003).

The post-war demographic structural and economical changes were quite radical in Finland, and they have had undeniable effects on Finnish food culture. In the 1960s, Finland saw what might have been the fastest rural depopulation in the Western countries, and a corresponding change in the structure of the economy. The production and patterns of consumption of food have also greatly changed along with urbanization. The cultural significance of these changes is undeniable. (Heinonen, 1998; Karisto, Takala & Haapola, 1998.) Thus, the processes of modernization, urbanization, and globalization are relevant in understanding the nature of threat that new foods may cause in peoples’ thinking.

In Western countries, modern life is associated with risks, food-related risks playing a major part (Beck, 1992). In a phrase, which has since come to signify the changeable character of modern life, Marx and Engels exclaimed, “All that is solid melts into the air”. They referred to the fact that capitalism is constantly expanding, leaving nothing solid or permanent in its wake. As mentioned in the Introduction, this process has accelerated in the twentieth century: once the foundation of stability, the society has become the “prime source of surprise and of diffuse danger” (Bauman, 2001). Consequently, the contemporary theorists of society have suggested that the ‘continuous discontinuity’ is the only form continuity may take (e.g., Bauman, 2001; Beck, 1992). In this perspective, then, general anxiety related to the unknown new foods in a discontinuous society probably in part cause the suspicion and distrust that were salient in the social representation. Perhaps the society *produces* anxiety and distrust, and social representations are reflections and familiarizations of this.

6.2.1. Social psychology of food revisited

Eating and food behavior, in general, have been one of the under-researched areas in social psychology (e.g., Rozin, 1996). The lack of social psychological studies has been attributed to the ambivalent and fluctuating nature of food choice and eating, and the respective difficulties of constructing social psychological empirical/theoretical models. Since food choice and other food-related behaviour are in part subconscious (Furst et al., 1996), people are often unable to rationalise why they eat certain foods and not others. In addition, one argument for the unconcern is that eating and food choice are such commonplace phenomena that social

psychological research on them has been considered as less “serious” than societal or global issues.

However, in recent years, social psychological interest in the study of food and eating has raised, along with increasing amount of nutritional information, the need for health education, global food problems – be they overeating, malnutrition, or psychological eating disorders – and growing interest in cultural studies (Conner & Armitage, 2002; Mennell, Murcott & van Otterloo, 1992).

7. CONCLUSIONS

It is a capital mistake to theorize before one has data.

Sherlock Holmes

The social representation theory holds a place apart in social psychology both by the scale of phenomena with which it deals and the problems it raises (see Moscovici, 1998). However, the many-sidedness and adaptability of the social representation theory do not become apparent until one tests it against real empirical data: hence the quote in the beginning of this chapter.

With the social representation theory, thoughts, feelings, concepts, beliefs, and behavioral intentions held by the public of a new phenomenon can be conceptualized into models, taking also into account the cultural relatedness and the social nature of the phenomenon. Despite its adaptability, the social representation theory is rather vague, and this is also admitted by the proponents of the theory (e.g., Moscovici, 1998). Problems arise when concrete empirical methods are used to test and verify this theory. For example, there is no consensus of what empirical evidence constitutes a central core, or what guidelines should be given to researchers looking for themata of a social phenomenon.

Moreover, there are no general instructions of *how* to conclude the existence of a social representation from elaborated statistical analyses, or how the analyses of social representations should be discerned from the analyses typical to attitude research, even though there are some methodologically more coherent suggestions for operationalization of these concepts (e.g., Doise, Clémence & Lorenzo-Cioldi, 1993). The incoherence and lack of systematic instructions may also signal that the social representation theory has not yet fully developed the theoretical consequences of its foundations (Bauer & Gaskell, 1999; Wagner, 1995). If that should be the case, then empirical methods are needed in the further development of the theory.

Thus, solving the problems of vagueness would be of great importance for the future development of the social representation theory, not only in dispelling the suspicions whether the social representation theory has any added value compared to the more traditional attitude and trait approaches, voiced by the advocates of the competing theories. Moreover, there have been critics not only from outside, but also inside the social representation theory, as the social representation schools of Aix-en-Provence and Geneva, for instance, are not in

complete harmony with Serge Moscovici's formulations (e.g., Bergman, 1998). In this study, some suggestions have been made for combining these differing theoretical thoughts.

On the other hand, the vagueness may also be seen as a virtue, enabling the use of various methods in data collection and in analyzing the data (e.g., Wagner et al., 1999), as multiple methods are recommended in the study of social representations (Farr, 1993b; Bauer & Gaskell, 1999). Indeed, nearly every method known to the social sciences has been used in the study of social representations (Breakwell & Canter, 1993; Lahlou, 1996).

As Moscovici (1998) has stated, the purpose of the social representation theory is not to strive to emulate the perfection of, for instance, physics, and thus, it has been deliberate not to give unambiguous definitions for each concept within the social representation theory. Quoting Moscovici (1998, p. 213):

“I wanted to voice my opposition to a requirement that social psychologists think they can satisfy by using the right words and whose general effect is certain sterility.”

The choice of the methods, thus, includes taking into account the complexity of the phenomena under investigation, and paying attention to the “diversity of voices” (Wagner et al., 1999).

One of the most demanding issues in social representation research is to demonstrate empirically how the historical dynamics are actualised through psychological dynamics, and how they are related to the historical development of a society (Doise, 1984). Social representations can be seen as *Vorstellungen*, substitutes or reflections, or *Darstellungen*, involving rituals and actions that are carried out in common (Moscovici, 1998, p. 228). However, to avoid methodological individualism of imagining representations within minds, the aim of the social representation theorists is to imagine them across minds, in people's concerted talk and actions (Wagner et al., 1999), or as put by Bauer and Gaskell (1999): embodied in communication *and* in individual minds, shared in a way similar to language. After all, we are dealing with knowledge whose objective it is to *create a reality* (Moscovici, 1998). As Hélène Joffe (2003, p. 68) concluded in her study of social representations of risk:

“Social representation theory's interest is not whether [it] is correct or erroneous [...] rather, the *raison d'être* of the theory lies in why and how society creates social representations, and the common sense that evolves from this.”

As a suggestion for future research, the development of a more systematic and concise methodology within the social representation approach would be necessary. Future studies of social representations of new foods should take into account the cultural relatedness of the

representations, and given that social representations are always formed in a specific social-historical context, international research would be of importance. Future studies would benefit most from interdisciplinary approach, as the one applied in this study, since connections to food science, cultural studies, psychology, and sociology are apparent. Most importantly, the many-sidedness of food and eating should be acknowledged and taken as a starting point, not regarded as a methodological constraint.

8. REFERENCES

- Abric, J.-C. (1984). A theoretical and experimental approach to the study of social representations in a situation of interaction. In R. M. Farr & S. Moscovici (Eds.), *Social representations*, 169-183. Cambridge: Cambridge University.
- Abric, J.-C. (2001). A structural approach to social representations. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (42-47). Oxford: Blackwell.
- Ajzen, I. (2001). Nature and operation of attitudes. *Annual Review of Psychology*, 52, 27-58.
- Allport, G. (1935). Attitudes. In C. Murchinson (Ed.), *Handbook of social psychology*. Worcester: Clark University.
- Arvola, A., Lähteenmäki, L., & Tuorila, H. (1999). Predicting the intent to purchase unfamiliar and familiar cheeses: the effects of attitudes, expected liking and food neophobia. *Appetite*, 32, 113-126.
- Augoustinos, M. (2001). Social categorization: towards theoretical integration. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (201-216). Oxford: Blackwell.
- Bäckström, A., Pirttilä-Backman, A. -M., & Tuorila, H. (2003). Dimensions of novelty: a social representation approach to new foods. *Appetite*, 40, 299-307.
- Bäckström, A., Pirttilä-Backman, A.-M., & Tuorila, H. (2004). Willingness to try new foods as predicted by social representations and attitude and trait scales. *Appetite*, 43, 75-83.
- Bauer, M. W., & Gaskell, G. (1999). Towards a paradigm for research on social representations. *Journal for the Theory of Social Behavior*, 29, 163-186.
- Bauman, Z. (2001). Consuming life. *Journal of Consumer Culture*, 9-29.
- Beardsworth, A., & Keil, T. (1997). *Sociology on the menu: an invitation to the study of food and society*. London: Routledge.
- Beardsworth, A., Haslam, C., Keil, T., Goode, J., & Sherratt, E. (1999). Contemporary nutritional attitudes and practices: a factor analysis approach. *Appetite*, 32, 127-143.
- Beck, U. (1992). *Risk society*. London: Sage.
- Belton, P. (2001). Chance, risk, uncertainty and food. *Trends in Food Science and Technology*, 12, 32-35.
- Bergman, M. M. (1998). Social representations as the mother of all behavioral dispositions? The relations between social representations, attitudes, and values. *Papers on Social Representations*, 7, 77-83.

- Berndsen, M., & van der Pligt, J. (2004). Ambivalence towards meat. *Appetite*, 42, 71-78.
- Billig, M. (1988). Social representations, objectification and anchoring: a rhetorical analysis. *Social Behavior*, 3, 1-16.
- Billig, M. (1996). *Arguing and thinking: a rhetorical approach to social psychology*. Cambridge: Cambridge University
- Breakwell, G., & Canter, D. (Eds.) (1993). *Empirical approaches to social representations*. London: Academic.
- Bredahl, L. (2001). Determinants of consumer attitudes and purchase intentions with regard to genetically modified foods – results of a cross-national survey. *Journal of Consumer Policy*, 24, 23-61.
- Cervellon, M.-C., & Dube, L. (2002). Assessing the cross-cultural applicability of affective and cognitive components of attitude. *Journal of Cross-Cultural Psychology*, 33, 346-357.
- Clémence, A. (2001). Social positioning and social representations. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (83-95). Oxford: Blackwell.
- Conner, M., & Armitage, C. J. (2002). *The social psychology of food*. Buckingham: Open University.
- Connors, M., Bisogni, C. A., Sobal, J., & Devine, C. M. (2001). Managing values in personal food systems. *Appetite*, 36, 189-200.
- Doise, W. (1984). Social representations, inter-group experiments and levels of analysis. In R. M. Farr & S. Moscovici (Eds.), *Social representations* (255-268). Cambridge: Cambridge University.
- Doise, W. (1992). L'ancrage dans les études sur les représentations sociales. *Bulletin de psychologie*, XLV, 405, 189-195.
- Doise, W., Spini, D., & Clémence, A. (1999). Human rights studied as social representations in a cross-national context. *European Journal of Social Psychology*, 29, 1-29.
- Drenowski, A., & Hann, C. (1999). Food preferences and reported frequencies of food consumption as predictors of current diet in young women. *American Journal of Clinical Nutrition*, 70, 28-36.
- Eagly, A. H. (1992). Uneven progress: social psychology and the study of attitudes. *Journal of Personality and Social Psychology*, 63, 693-710.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Fort Worth: Harcourt, Brace, Jovanovich.

- Eertmans, A., Bayens, F., & van der Bergh, O. (2001). Food likes and their relative importance in human eating behavior: review and preliminary suggestions for health promotion. *Health Education Research*, 16, 443-456.
- Falk, P. (1994). *The consuming body*. London: Sage.
- Farr, R. (1993a). Common sense, science and social representations. *Public Understanding of Science*, 2, 189-204.
- Farr, R. (1993b). Theory and method in the study of social representations. In G. Breakwell & D. Canter (Eds.) *Empirical approaches to social representations*. London: Academic.
- Farr, R. (1994). Attitudes, social representations and social attitudes. *Papers on Social Representations*, 3, 1-4.
- Farr, R. (1996). *The roots of modern social psychology 1872-1954*. Oxford: Blackwell.
- Fischler, C. (1980). Food habits, social change and the 'nature/culture' dilemma. *Social Science Information*, 19, 937-953.
- Fischler, C. (1998). Food, self and identity. *Social Science Information*, 27, 275-293.
- Fischler, C. (2000). Food selection and risk perception. Proceedings from the symposium "Food selection, from genes to culture". Available at: www.danoneinstitute.org/danone_institutes_initiatives/pdf/09_fischler.pdf. 20.1.2005.
- Fishbein, M., & Ajzen, I. (1972). Attitudes and opinions. *Annual Review of Psychology*, 23, 487-544.
- Flick U. (1998). *An introduction to qualitative research*. London: Sage.
- Flick, U. (2000). Qualitative inquiries into social representations of health. *Journal of Health Psychology*, 5, 315-324.
- Fraser, C. (1994). Attitudes, social representations and widespread beliefs. *Papers on Social Representations*, 3, 1-13.
- Furst, T., Connors, M., Bisogni, C. A., Sobal, J., & Winter Falk, L. (1996). Food choice: a conceptual model of the process. *Appetite*, 26, 247-266.
- Garlington, W. K., & Shimota, H. E. (1964). The change seeker index: a measure of the need for variable stimulus input. *Psychological Reports*, 14, 919-924.
- Gaskell, G. (2001). Attitudes, social representations, and beyond. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (228-241). Oxford: Blackwell.
- Giddens, A. (1991). *Modernity and self-identity*. Cambridge: Polity.

- Goldsmith, R. E., & Hofacker, C. F. (1991). Measuring consumer innovativeness. *Journal of the Academy of Marketing Science*, 19, 209-221.
- Goldsmith, R., & Flynn, L. (1992). Identifying innovators in consumer product markets. *European Journal of Marketing*, 26, 42-55.
- Goldsmith, R., d'Hauteville, F., & Flynn, L. (1998). Theory and measurement of consumer innovativeness. *European Journal of Marketing*, 32, 340-353.
- Grunert, K. G. (2002). Current issues in the understanding of consumer food choice. *Trends in Food Science & Technology*, 13, 275-285.
- Grunert, K. G., Lähteenmäki, L., Nielsen, N. A., Poulsen, J. B., Ueland, O., & Åström, A. (2001). Consumer perceptions of food products involving genetic modification – results from a qualitative study in four Nordic countries. *Food Quality and Preference*, 12, 527-542.
- Guimelli, C. (1993). Locating the central core of social representations: towards a method. *European Journal of Social Psychology*, 23, 555-559.
- Heinonen, V. (1998). *Talonpoikainen etiikka ja kulutuksen henki*. Academic dissertation. Helsinki: Bibliotheca Historica, 33. (In English: Peasant ethic and the spirit of consumption.)
- Hertzlich, C. (1973). *Health and illness – a social psychological analysis*. London: Academic.
- Holm, L. (2001). Family meals. In U. Kjaernes (Ed.), *Eating patterns. A day in the lives of Nordic peoples* (235-255). Oslo: Sifo.
- Holm, L., & Kildewang, H. (1996). Consumers' views on food quality. A qualitative interview study. *Appetite*, 27, 1-14.
- Holt, D. B. (2002). Why do brands cause trouble? A dialectical theory of consumer culture and branding. *Journal of Consumer Research*, 29, 70-90.
- Huotilainen, A., Pirttilä-Backman, A.-M., & Tuorila, H. How innovativeness relates to the social representation of new foods and to the willingness to try and use such foods. *Food Quality and Preference*, in press.
- Jaspars, J., & Fraser, C. (1984). Attitudes and social representations. In R. M. Farr & S. Moscovici (Eds.), *Social representations* (101-123). Cambridge: Cambridge University.
- Joffe, H. (2003). Risk: from perception to social representation. *British Journal of Social Psychology*, 42, 55-73.

- Jonas, M., & Beckmann, S. (1998). *Functional foods: Consumer perceptions in Denmark and England*. MAPP Working paper no 55. Århus: Center for market surveillance, research and strategy for the food sector.
- Kajanne, A., & Pirttilä-Backman, A.-M. (1996). Toward an understanding of laypeople's notions about additives in food: clear-cut viewpoints about additives decrease with education. *Appetite*, 27, 207-222.
- Karisto, A., Prättälä, R., & Berg, M.-A. (1993). The good, the bad, and the ugly. Differences and changes in health-related lifestyles. In U. Kjaernes et al. (Eds.), *Regulating markets, regulating people. On food and nutrition policy* (185-204). Oslo: Novus.
- Karisto, A., Takala, P., & Haapola, I. (1998). *Matkalla nykyaikaan: elintason, elämäntavan ja sosiaalipolitiikan muutos Suomessa*. Porvoo: WSOY. (In English: On the way to modernity: changes in standard of living, way of life and social policy in Finland.)
- Koivisto, U.-K., & Sjöden, P.-O. (1996). Reasons for rejection of food items in Swedish families with children aged 2-17. *Appetite*, 26, 89-103.
- Lähteenmäki, L., Grunert, K., Ueland, O., Åström, A., Arvola, A., & Bech-Larsen, T. (2002). Acceptability of genetically modified cheese presented as real product alternative. *Food Quality and Preference*, 13, 523-533.
- Lahlou, S. (1996). A method to extract social representations from linguistic corpora. *The Japanese Journal of Experimental Social Psychology*, 35, 278-291.
- Lahlou, S. (2001). Functional aspects of social representation. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (131-146). Oxford: Blackwell.
- Lindeman, M. & Stark, K. (1999). Pleasure, pursuit of health or negotiation of identity? Personality correlates of food choice motives among young and middle-aged women. *Appetite*, 33, 141-161.
- Lindeman, M., & Stark, K. (2000). Loss of pleasure, ideological food choice reasons and eating pathology. *Appetite*, 35, 263-268.
- Lyman, B. (1989). *A psychology of food: more than a matter of taste*. New York: Van Nostrand Reinhold.
- Mäkelä, J. (2001). The meal format. In U. Kjaernes (Ed.): *Eating patterns. A day in the lives of Nordic peoples* (125-158). Lysaker: SIFO.
- Marková, I., Moodie, E., Farr, R., Drozda-Senkowska, E., Erös, F., Plichtová, J., Gervais, M.-C., Hoffmannová, J., & Mullerová, O. (1998). Social representations of the individual: a post-communist perspective. *European Journal of Social Psychology*, 28, 797-829.
- Martins, Y., Pelchat, M. L., & Pliner, P. (1997). "Try it; it's good and it's good for you": Effects of taste and nutrition information on willingness to try novel foods. *Appetite*, 28, 89-102.

- Maslow, A. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396.
- McCarthy, M., O'Sullivan, C., & O'Reilly, S. (1999). Pre-identification of first buyers of a new food product. *British Food Journal*, 11, 842-856.
- McFarlane, T., & Pliner, P. (1997). Increasing willingness to taste novel foods: effects of nutrition and taste information. *Appetite*, 28, 227-238.
- Mennell, S., Murcott, A., & van Otterloo, A. H. (1992). *The sociology of food: eating, diet and culture*. London: Sage.
- Miles, S., & Frewer, L. J. (2001). Investigating specific concerns about different food hazards. *Food Quality and Preference*, 12, 47-61.
- Moliner, P. (1995). A two-dimensional model of social representations. *European Journal of Social Psychology*, 1, 27-40.
- Moliner, P., & Tafani, E. (1997). Attitudes and social representations: a theoretical and experimental approach. *European Journal of Social Psychology*, 27, 687-702.
- Moscovici, S. (1973). Foreword. In C. Herzlich, *Health and illness: a social psychological analysis* (ix-xiv). London: Academic.
- Moscovici, S. (1976). *La psychoanalyse, son image et son public*. Paris, PUF. 2nd edition.
- Moscovici, S. (1981). On social representations. In J. P. Forgas (Ed.), *Social cognition. Perspectives on everyday understanding* (181-209). London: Academic.
- Moscovici, S., & Hewstone, M. (1983). Social representations and social explanations: from the "naïve" to the "amateur" scientist. In M. Hewstone (Ed.), *Attribution theory, social and functional extensions* (98-125). Oxford: Blackwell.
- Moscovici, S. (1984). The phenomenon of social representations. In R. M. Farr & S. Moscovici (Eds.), *Social representations* (3-69). Cambridge: Cambridge University.
- Moscovici, S., & Vignaux, G. (2000). The concept of themata. In K. Duveen (Ed.), *Social representations. Explorations in social psychology* (156-183). Cambridge: Polity.
- Moscovici, S. (2001). Why a theory of social representations? In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (8-35). Oxford: Blackwell.
- Mugny, G., & Carugati, F. (1989). *Social representations of intelligence*. Cambridge: Cambridge University.
- Murcott, A. (1984). *The sociology of food and eating. Essays on the sociological significance of food*. Aldershot: Gower.

- Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, 83, 602-627.
- Nemeroff, C., & Rozin, P. (2000). The makings of the magical mind: the nature and function of sympathetic magical thinking. In K. Rosengren, C. Johnson, & P. Harris (Eds.), *Imagining the impossible* (1-34). Cambridge: Cambridge University.
- Olsen, S. O. (1999). Strength and conflicting valence in the measurement of food attitudes and preferences. *Food Quality and Preference*, 10, 483-494.
- Petty, R., Wegener, D., & Fabrigar, L. (1997). Attitudes and attitude change. *Annual Review of Psychology*, 48, 609-647.
- Philogène, G. (1994). African American as a new social representation. *Journal for the Theory of Social Behaviour*, 24, 89-109.
- Philogène, G. (2001). A theory of methods. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (39-41). Oxford: Blackwell.
- Pliner, P. (1982). The effects of mere exposure on liking for edible substances. *Appetite*, 3, 283-290.
- Pliner, P., & Hobden, K. (1992). Development of a scale to measure the trait of food neophobia in humans. *Appetite*, 19, 105-120.
- Potter, J., & Litton, I. (1985). Some problems underlying the theory of social representations. *British Journal of Social Psychology*, 24, 81-90.
- Povey, R., Wellens, B., & Conner, M. (2001). Attitudes towards following meat, vegetarian and vegan diets: an examination of the role of ambivalence. *Appetite*, 37, 15-26.
- Raudenbush, B., & Frank, R. A. (1999). Assessing food neophobia: the role of stimulus familiarity. *Appetite*, 32, 261-271.
- Rilke, R. M. (1929/1993). *Letters to a young poet*. New York: W.W. Norton.
- Ritchey, P., Frank, R., Hursti, U.-K., & Tuorila, H. (2003). Validation and cross-national comparison of the food neophobia scale (FNS) using confirmatory factor analysis. *Appetite*, 40, 163-173.
- Rogers, E. (1983). *Diffusion of innovations*. New York: Free Press. 3rd edition.
- Roos, G., Prättälä, R., & Koski, K. (2001). Men, masculinity and food: interviews with Finnish carpenters and engineers. *Appetite*, 37, 47-56.
- Rozin, P., & Vollmecke, T. A. (1986). Food likes and dislikes. *Annual Review of Nutrition*, 6, 433-456.
- Rozin, P. (1990). Development in the food domain. *Developmental psychology*, 26, 555-562.

- Rozin, P. (1996). Towards a psychology of food and eating: from motivation to module to model to marker, morality, meaning, and metaphor. *Current Directions in Psychological Science*, 5, 18-24.
- Rozin, P., Fischler, C., Imada, S., Sarubin, A., & Wrzesniewski, A. (1999). Attitudes to food and the role of food in life in the USA, Japan, Flemish Belgium and France: possible implications for the diet-health debate. *Appetite*, 33, 163-180.
- Rozin, P., Haidt, J., & McCauley, C. (1993). Disgust. In M. Lewis & J. Haviland (Eds.), *Handbook of emotions* (575-594). New York: Guildford.
- Rozin, P., Spranca, M., Krieger, Z., Neuhaus, R., Surillo, D., Swerdlin, A., & Wood, K. (2004). Preference for natural: instrumental and ideational/moral motivations, and the contrast between foods and medicines. *Appetite*, 43, 147-153.
- Saba, A., & Messina, F. (2003). Attitudes towards organic foods and risk/benefit perception associated with pesticides. *Food Quality and Preference*, 14, 637-645.
- Simonson, I., Carmon, Z., Dhar, R., Drolet, A., & Nowlis, S. M. (2001). Consumer research: in search of identity. *Annual Review of Psychology*, 52, 249-275.
- Slovic, P. (1987). Perception of risk. *Science*, 236, 280-285.
- Sloan, E. (2002). The top 10 functional food trends: the next generation. *Food Technology*, 56, (4) 32-57.
- Southerton, D. (2001). Consuming kitchens. Taste, context and identity formation. *Journal of Consumer Culture*, 1, 179-203.
- Sparks, P., Hedderley, D., & Shepherd, R. (1992). An investigation into the relationship between perceived control, attitude variability and the consumption of two common foods. *European Journal of Social Psychology*, 22, 55-71.
- Sparks, P., & Shepherd, R. (1994). Public perceptions of food-related hazards: individual and social dimensions. *Food Quality and Preference*, 5, 185-194.
- Staerklé, C. & Doise, W. (2005). Oikeuksien etiikka ja velvollisuuksien etiikka: yhteiskunnan muutos ja pysyvyys arkiajattelussa. In A.-M. Pirttilä-Backman, M. Ahokas, L. Myyry & S. Lähteenoja (Eds.). *Arvot, moraali ja yhteiskunta. Sosiaalipsykologisia näkökulmia yhteiskunnan muutokseen* (279-303). (In English: Ethic of rights and ethic of duties: societal change and stability in everyday thinking.) Helsinki: Gaudeamus.
- Steenkamp, J.-B., & Baumgartner, H. (1995). Development and cross-cultural validation of a short form of CSI as a measure of optimum stimulation level. *International Journal of Research in Marketing*, 12, 97-104.
- Stephoe, A., Pollard, T., & Wardle, J. (1995). Development of a measure of the motives underlying the selection of food: the food choice questionnaire. *Appetite*, 25, 267-284.

- Tulloch, J., & Lupton, D. (2002). Consuming risk, consuming science. The case of GM foods. *Journal of Consumer Culture*, 2, 363-383.
- Tuorila, H., Meiselman, H. L., Bell, R., Cardello, A. V., & Johnson, W. (1994). Role of sensory and cognitive information in the enhancement of certainty and liking for novel and familiar foods. *Appetite*, 23, 231-246.
- Tuorila, H. (2001). Keeping up with the change: consumer responses to new and modified foods. *Food Chain 2001 Programme Abstracts*, 38-40.
- Tuorila, H., Lähteenmäki, L., Pohjalainen, L., & Lotti, L. (2001). Food neophobia among the Finns and related responses to familiar and unfamiliar foods. *Food Quality and Preference*, 12, 29-37.
- Wagner, W. (1995). Social representations, group affiliation, and projection: knowing the limits of validity. *European Journal of Social Psychology*, 25, 125-139.
- Wagner, W. (1996). Queries about social representation and construction. *Journal for the Theory of Social Behaviour*, 26, 95-120.
- Wagner, W., Duveen, G., Farr, R., Jovchelovitch, S., Lorenzo-Cioldi, F., Marková, I., & Rose, D. (1999). Theory and method of social representations. *Asian Journal of Social Psychology*, 2, 95-125.
- Wagner, W., & Kronberger, N. (2001). Killer tomatoes! Collective symbolic coping with biotechnology. In K. Deaux & G. Philogène (Eds.), *Representations of the social: bridging theoretical traditions* (147-164). Oxford: Blackwell.
- Wagner, W., Kronberger, N., & Seifert, F. (2002). Collective symbolic coping with new technology: knowledge, images and public discourse. *British Journal of Social Psychology*, 41, 323-343.
- Zajonc, R. (1968). Attitudinal effects of mere exposure. *Journal of Personality and Social Psychology*, 9.

APPENDIX A1. SOCIAL REPRESENTATION QUESTIONNAIRE

Table shows factor loadings above the value of 0.30 of items in years 2001, 2002, and 2004. R = Reversed scale.

Comp.	Item	2001					2002					2004				
		F1	F2	F3	F4	F5	F1	F2	F3	F4	F5	F1	F2	F3	F4	F5
Resistance to and suspicion of novelties	1. There are too many new kinds of food available nowadays.	.64					.67					.67				
	2. New foods are just a silly trend.	.63				.34	.68					.63				
	3. I prefer familiar and safe foods.	.46					.53					.61				
	4. There are some doubts about novelties.	.46					.47					.45				
	5. Traditionally made food is the best in the world.	.45					.43					.54				
	6. Functional food is like a nuclear power plant: efficient but dangerous.	.45					.45					.43				
	7. Contemporary food is artificial compared with the food that people ate when I was a child.	.44					.47					.36				
	8. Zeal about health causes unnecessary stress.	.44			-.30		.40					.41				
Adherence to technology	9. New food technology is trustworthy.		.64					.58				.60				
	10. I believe in the potential of new food technology.		.62					.64				.57				
	11. Resisting genetic food is just longing for the past.		.62					.61				.56				
	12. Gene technology can provide solutions to global food problems.		.60					.63				.69				
	13. Genetic modification in food production is nothing more than aiding nature.		.59			.36		.55				.67				
14. People are afraid of genetically modified food because they are not familiar.		.48					.46				.41					
Adherence to natural food	15. I value things being in accordance with nature.			.73					.80				.71			
	16. I trust in organically grown food.			.68					.72				.76			
	17. In my opinion, organically grown products are no better than conventionally grown. (R)			.62					.59				.65			
	18. I feel good when I eat clean and natural food.			.59					.57				.57			
19. I would like to eat only food with no additives.			.57					.54				.47				
Food as an enjoyment	20. Eating is very important to me.				.75				.72				.55			
	21. For me, delicious food is an essential part of weekends.				.74				.69				.70			
	22. Eating is a highlight of the day.				.69				.66				.63			
	23. I treat myself to something really delicious.				.59				.50				.59			
Food as a necessity	24. I don't care what I eat, as long as I'm not hungry.					.57				.61						.64
	25. I don't care how my food is produced.				-.40	.55				.43						.43
	26. It makes no difference to me what kind of food is served at parties.					.54			-.47	.44			-.49			.45
	27. I don't really need information about new foods.	.42				.46				.46	.42					.41

APPENDIX A2. SOCIAL REPRESENTATION QUESTIONNAIRE IN FINNISH

Comp.	Item
Resistance to and suspicion of novelties	1. Kaikenlaisia uusia ruokia on nykyään liikaa tarjolla. 2. Uudet ruoat ovat turhaa muutihömpötystä. 3. Kyllä sitä mieluiten syö tuttua ja turvallista ruokaa. 4. Kyllä uutuuksia aina jonkin verran epäilee. 5. Perinteisesti valmistettu ruoka on maailman parasta. 6. Terveysvaikutteinen ruoka on kuin ydinvoimala: tehokas mutta vaarallinen. 7. Nykyruoka on keinotekoista verrattuna siihen, minkälaista ruoka oli lapsuudessani. 8. Terveysintoilu aiheuttaa ihmisille turhaa stressiä.
Adherence to technology	9. Uusi ruokateknologia on luotettavaa. 10. Uskon uuden ruokateknologian mahdollisuuksiin. 11. Geeniruoan vastustaminen on vain menneen ajan kaipuuta. 12. Geeniteknologiasta voidaan löytää ratkaisu maailman ruokaongelmiin. 13. Geenimuuntelu elintarviketuotannossa on vain luonnon auttamista, ei sen kummempaa. 14. Geeniruokia pelätään, koska niitä ei tunneta.
Adherence to natural food	15. Arvostan kaikessa luonnonmukaisuutta. 16. Luotan luonnonmukaisesti tuotettuun ruokaan. 17. Mielestäni luomutuotteet eivät ole sen parempia kuin tavanomaisesti kasvatetut. 18. Puhtaasta ja luonnollisesta ruoasta saan hyvän olon. 19. Haluaisin syödä vain lisäaineetonta ruokaa.
Food as an enjoyment	20. Syöminen on minulle erittäin tärkeä asia. 21. Minulle ehdoton osa viikonloppua on ruoalla herkuttelu. 22. Syöminen on päivän kohokohta. 23. Hemmottelen itseäni ostamalla jotain oikein hyvää ruokaa.
Food as a necessity	24. Minulle on yksi ja sama mitä syön, kunhan nälkä pysyy poissa. 25. Minulle on yksi ja sama miten syömäni ruoka on tuotettu. 26. Minulle on yhdentekevää, millaista ruokaa juhlissa tarjotaan. 27. En juuri kaipaa tietoa uusista ruoista.

APPENDIX B. ORIGINAL PAPERS I-V

