





# Sports Nutrition Products

A Nordic Consumer Study

*Siv Elin Ånestad, Benedicte Hauge, Mari Bjerck og  
Alexander Schjøll*

## **Sports Nutrition Products**

A Nordic Consumer Study

TemaNord 2009:531

© Nordic Council of Ministers, Copenhagen 2009

ISBN 978-92-893-1860-0

Print: Kailow Express ApS

Cover:

Layout:

Cover photo:

Copies: 200

Printed on environmentally friendly paper

This publication can be ordered on [www.norden.org/order](http://www.norden.org/order). Other Nordic publications are available at [www.norden.org/publications](http://www.norden.org/publications)

Printed in Denmark



### **Nordic Council of Ministers**

Store Strandstræde 18  
DK-1255 Copenhagen K  
Phone (+45) 3396 0200  
Fax (+45) 3396 0202

### **Nordic Council**

Store Strandstræde 18  
DK-1255 Copenhagen K  
Phone (+45) 3396 0400  
Fax (+45) 3311 1870

[www.norden.org](http://www.norden.org)

## **Nordic co-operation**

*Nordic cooperation* is one of the world's most extensive forms of regional collaboration, involving Denmark, Finland, Iceland, Norway, Sweden, and three autonomous areas: the Faroe Islands, Greenland, and Åland.

*Nordic cooperation* has firm traditions in politics, the economy, and culture. It plays an important role in European and international collaboration, and aims at creating a strong Nordic community in a strong Europe.

*Nordic cooperation* seeks to safeguard Nordic and regional interests and principles in the global community. Common Nordic values help the region solidify its position as one of the world's most innovative and competitive.

# Content

Preface.....	7
Summary .....	9
1. Background of the study.....	13
1.1 Main objectives of the consumer study .....	14
1.2 Definition of sports nutrition products .....	15
2. Methodology .....	17
2.1 Introduction .....	17
2.2 Focus groups .....	18
2.3 Ethnographic field study.....	20
2.4 Quantitative data .....	21
2.5 External validity .....	28
Part I: Qualitative results .....	29
3. Results from focus groups .....	31
3.1 Introduction: About the respondents .....	31
3.2 Respondents' relationship to sports nutrition products.....	32
3.3 Natural classification of different sports nutrition products .....	34
3.4 Protein products are popular.....	38
3.5 Protein versus carbohydrates.....	39
3.6 Market trends .....	40
3.7 Training and body ideals .....	41
3.8 Usage situations.....	43
3.9 Sports nutrition and food.....	44
3.10 Knowledge about ingredients .....	46
3.11 Information sources.....	48
3.12 Purchase behaviour.....	49
3.13 Regulation of the market .....	50
3.14 Perceived boundary between sports nutrition and medicine and between sports nutrition and doping.....	51
3.15 Summary .....	52
4. Findings from the ethnographic field study .....	55
4.1 Introduction .....	55
4.2 The sites .....	55
4.3 The experiences.....	56
4.4 Summary .....	64
Part II: Quantitative results.....	67
5. Results from a Nordic consumer survey .....	69
5.1 The relations between exercise and sports nutrition products .....	69
5.2 Sports nutrition practices.....	77
5.3 Reasons for using sports nutrition products.....	87
5.4 Why do people choose not to use sports nutrition products?.....	91
5.5 Risk in using sports nutrition products? .....	93
6. Concluding remarks.....	97
References .....	101
Appendix A: Discussion guide used in focus groups.....	105
Appendix B: Recruitment guide to focus groups .....	111
Verveguide gruppesamtaler sportsprodukter .....	111

Appendix C: List of products included in the natural classification exercise in the focus groups .....	117
Appendix D: Quantitative questionnaire .....	119
Appendix E: Different tables .....	129

# Preface

National Institute for Consumer Research (SIFO) in Norway has written two reports on behalf of a project group under the Nordic Council of Ministers for Fisheries, Aquaculture, Agriculture, Food and Forestry. The project was administered by the Norwegian Food Safety Authority. This report investigates consumers' attitudes and behaviour in the category, the other report examines the organisation of the sports nutrition market.

Many people have contributed to this report. Among the authors the allocation of tasks has been as follows: Siv Elin Ånestad has written chapters 1, 3 and 6. Mari Bjerck has written chapter 4. Benedicte Hauge and Alexander Schjøll have written chapter 5. All authors except Benedicte Hauge have contributed to chapter 2. Siv Elin Ånestad has been the project leader.

Quite a few other colleagues at SIFO have contributed as well, and they deserve our thanks. The qualitative part was read by Ardis Storm-Mathisen, who provided many constructive comments. The quantitative part was read by Per Arne Tufte, who contributed with useful insights and suggestions. Taina Bucher has helped with proof reading. Gun Roos has read and commented the last version of the complete report.

We also received many constructive comments from our contact persons; Turid Ose at the Norwegian Food Safety Authority, Jeppe Matthiessen at the Department of Nutrition (Technical University of Denmark) and Søren Langkilde at the Danish Veterinary and Food Administration (DVFA), which is part of the Ministry of Food, Agriculture and Fisheries.

We learned a lot from the focus groups we conducted with consumers of sports nutrition products, as well as from talks with consumers during the ethnographic fieldwork. We thank our informants for providing us with information and taking the time to talk with us. Despite all assistance, the text might still contain errors or misunderstandings, which we as authors take full responsibility for.

March 2009

National Institute For Consumer Research



# Summary

This is the second of two reports SIFO has written on behalf of the Nordic Council of Ministers for Fisheries, Aquaculture, Agriculture, Food and Forestry about sports nutrition products in the Nordic countries. The project was administered by the Norwegian Food Safety Authority. While this report views the market from the demand side, from the consumer's point of view, the other report Schjøll et al. (2009), views it from the supply side, from the market actors' point of view. As far as we are aware these two reports constitute the first studies of sports nutrition products in the Nordic countries.

In both reports sports nutrition products are defined as food and drinks intended to meet the expenditure of intense muscular effort, especially for sportsmen (SCF 2001). However, neither the market actors, nor the consumers were particularly familiar with this definition.

The methodical approach in this study consisted of three parts; first, two focus groups with users of sports nutrition, second an ethnographic field work at a popular gym and an indoor 24 hour marathon in Oslo. This qualitative work was conducted in Norway only. Third, a quantitative web survey with 1 000 respondents was conducted in Norway, Sweden and Denmark respectively. The methodical triangulation has enabled us to see the phenomenon of sports nutrition products from different angles; to analyse the findings from the quantitative study in more depth due to the knowledge we acquired from the participants in the focus groups and by observing user behaviour in the category.

The aim of this study is to report on Nordic consumers' attitudes and behaviour in the sports nutrition category. A central finding from the focus groups is that sports nutrition is a category with fluid borders, both towards food supplements and food in general. There does not seem to be a clear definition of sports nutrition products, and respondents in the focus groups were not sure if for example multi-vitamin tablets marketed toward athletes and meal replacers should be characterised as sports nutrition products or not.

The quantitative results indicate that people who use sports nutrition products are more active compared to those who do not use sports nutrition products. Users of sports nutrition products exercise more often and tend to exercise in more social settings than non-users; more of the people who use sports nutrition products exercise in gyms or are members of sports teams. Even though sports nutrition products are heavily marketed in gyms, users most often purchase sports nutrition products in grocery stores. The easy availability of sports nutrition products through

many sales channels seems to be a major factor why such products are becoming more common to consume and sales numbers are increasing.

Findings from the quantitative survey suggest that people use sports nutrition products for a variety of activities. It is no longer confined only to specific sporting activities, such as weight-training. Still, we found that nearly one in three weightlifters use sports nutrition products every time they exercise. Generally, most people who answered the survey report that they use sports nutrition products now and then when exercising. Few answered that they only used it when competing, so sports nutrition usage seems to be more of an everyday practice. Among those who use sports nutrition products, 30 percent of weightlifters use it every time they exercise. 63 percent of those who exercise bicycling/spinning use it now and then and 53 percent of those that practice yoga/Pilates never consume sports nutrition products.

This indicates that sports nutrition products are usually consumed in association with exercise, but that it is not perceived to be a necessity by those who exercise. We did not find differences between men and women and intake frequencies. This indicates that gender is not a decisive factor when it comes to the level of consumption. It seems that the sporting activities that people are involved in are more determining for whether they use sports nutrition products or not. More of the respondents who practice medium intensity activities (walking/hiking, downhill skiing, yoga/pilates) do not usually use sports nutrition products. People who do weight-training and cycling/spinning use it most frequently.

The categories of sports nutrition products most often consumed are energy products, protein products and other products/meal supplements, respectively. Energy products are most used by cross country skiers, while weight-trainers are the heaviest users of protein. Handball is the sport with the highest share of other products/meal supplements users. From the survey we see that Norwegians consume sports nutrition products more often than Swedes and Danes. The tendency is that Norwegian respondents have used such products for a longer time.

Survey results show that sports nutrition products are normally consumed during and after exercise for better effect of the work out and faster restitution, respectively. It seems that sports nutrition products are consumed much because of convenience, in the hustle and bustle of everyday life. Main reasons for using sports nutrition products are; a busy schedule, lack of time, availability, practicality and variation. However, both users and non-users agree that sports nutrition can never replace a regular healthy diet. It is important to note that sports nutrition products are mostly used as a supplement to other food, more than a pure replacement. Focus group respondents seemed to have a higher tolerance for artificial foodstuffs in training situations than in other contexts. Because sports nutrition is firmly associated with gyms and training, it is per-

ceived as healthy even though respondents know that many of these products contain a lot of additives and preservatives.

From the ethnographic field work we saw that using sports nutrition products in relation to competitions implies a somewhat more complex and knowledge based relation to the products than during regular exercise. The survey results demonstrate that people buy sports nutrition where it is easily available; at grocery stores, sports stores, health food stores and national web sites. Convenience seems to be the most important factor when people purchase sports nutrition products. It was mostly men who reported purchasing sports nutrition products online.

Most of the respondents in the focus groups placed a large degree of trust in health authorities and believe that the sports nutrition products on the Norwegian market are regulated and safe. Quantitative findings from the survey on the other hand tell us that sports nutrition products are associated with some degree of risk both by users and non-users. Non-users are especially sceptical to products bought via Internet. The fear of side effects does not seem to be unfounded, some users have experienced side effects from sports nutrition consumption, especially nausea and stomach aches.

Comparing the findings from the market study and the consumer study, most findings point in a similar direction, but there are also some discrepancies. From the market study we learned that market actors are preoccupied with their reputation and strive to make consumers regard the sports nutrition market as serious. This is probably a main reason why market actors promote and place a lot of importance on research and documenting the effect of different products.

The high turnover of sports nutrition products in the Nordic countries may testify to an increased professionalization of sporting activities. From the focus groups we learned that many of the respondents were heavy users of sports nutrition products. These heavy users had in common that they invested a lot of resources in their sporting activities, which constituted a big part of their identity. Based on several information sources such as Internet discussion forums, gym staff and friends they had created their own philosophy of what to eat, drink and wear in connection with their sport. Using sports nutrition products helped them reach their exercise and body aims; whether this was to build muscles, lose weight, increase strength and endurance etc. Gyms seem to play a large role in promoting and making sports nutrition products available to the larger populace, gym staff commonly recommends that exercisers consume sports nutrition products before or after training. Market actors and Internet discussion sites also play an important role as advisors regarding what to eat and drink when exercising.

From the market report we see that sales numbers are high, a fact that is perhaps not reflected in how much respondents in the quantitative survey report spending on sports nutrition products. One explanation of this

discrepancy could be that the price per unit of sports nutrition is very high, and we have found that much of the sports nutrition products are bought on impulse. Respondents who buy sports nutrition products more on impulse may not be aware of how much they actually spend on such products a month, and therefore report lower expenditures.

# 1. Background of the study

The sale of sports nutrition products in the Nordic countries has expanded greatly in recent years. The market has increased both in sales numbers, variety of products offered and number of sales channels. Particularly products aimed to enhance performance and results from training seem to be rapidly increasing. Examples are protein products, energy bars, sport drinks and energy gels. The sports nutrition market has expanded in the last years, specifically when it comes to sales figures and range of products offered. There are more sports nutrition products and brands on offer, and specialized sports nutrition products are designed for different kinds of sport activities, as well as products especially designed for each gender.

The reasons for this increase in sales of sports nutrition products are many. Most importantly, we live in a time when there is a huge focus on beauty and health in the Western world. According to a survey conducted by Statistics Norway (SSB) in 2007, seven out of ten Norwegians over the age of 16 exercise at least once a week. This activity level has been stable since 2004. Brisk walking is the most popular form of exercise, followed by jogging, cycling and football among men, and dancing, riding and aerobics among women (SSB 2008c). It is more common to report exercising in cities than in rural areas. In rural areas 13 percent say they never do exercise. In the big cities 7 percent say the same (op.cit.).

A report from NOVA (Norwegian Social Research) shows that young people in Oslo between 14–17 years of age exercised more in 2007 than in 1996 (Bakken & Strandbu 2007). Training conducted at the commercial gyms and training centres have increased the most. The interviewed youth say they exercise because they want to lead a healthy lifestyle, keep fit and that training is social and fun (op. cit.).

Many Norwegians report trying to lose weight (Roos 2006). These body ideals are probably due to both structural and individual factors. At the structural level especially women are influenced by the fashion and cosmetics industry. At the individual level we have men's and women's own subjectivity, how they reproduce cultural body ideals of being thin or athletic with self-imposed discipline through dieting and training (Hauge 2007).

The social cultural body ideals for males and females are different. Sociocultural standards of beauty for women emphasise being slim while the male body ideal is to be strong and muscular. Media advertising and popular magazine articles play an important role in persuading women to be primarily concerned with weight and men to be focused on shape change (Labre 2002). Findings from our focus group with Norwegian

women aged 18–42 also show that these active women were concerned both with building muscles and being slim. One can say that nowadays the ideal body shape has changed from being thin to be toned. (Guen-douzi 2004).

At the same time as Norwegians have reported exercising more, data from Statistics Norway show that time spent on house chores such as cooking has been halved between 1971 and 2000 among those who do such chores each day. While more people in all age groups cook, the time spent on cooking food has decreased (SSB 2002). Staff in gyms says that sport bars are popular among people who go straight from work to the gym, or do not have enough time to prepare a proper meal before training. Such products are also commonly consumed right after training. Another reason may also be that consumers prefer food that is easy to consume before training. Sports nutrition products are practical and easy to use and can easily be carried in a purse or a bag.

At the end of the 1990s there were only a couple of sports nutrition products sold in some of the sport stores. Nowadays all sports stores offer complete product lines that are centrally placed in the stores. At the same time sports nutrition products are available in a wide range of sales channels – grocery stores, health food stores, gyms and even some hybrid fast food restaurants offer sports nutrition products (Schjøll et al. 2009).

The Nordic Council of Ministers' for fisheries, aquaculture, agriculture, food, and forestry, asked for an investigation of the Nordic market for and consumption of sports nutrition products. The study is divided into two parts; part 1 maps and analyses status and trends in the Nordic sport nutrition market, using the Norwegian market as a case study. The market analysis result is found in separate report from SIFO (Schjøll et al. 2009). Part 2 maps and analyses Nordic consumers' attitudes and behaviour in the sports nutrition market. This report presents the findings from part 2 of the project – the consumer study and is divided into a qualitative and a quantitative part. The qualitative data collection was conducted in Norway only, and is based upon ethnographic field work and two focus groups with men and women, respectively. The quantitative analysis is based on a survey of consumers of sports nutrition products conducted in Norway, Sweden and Denmark.

## 1.1 Main objectives of the consumer study

In the request dated 16.08.2006, the Norwegian Food Safety Authority on behalf of The Nordic Council of Ministers' asks for a consumer study that should contain the following elements:

- Consumers' insight into the sports nutrition category (brands, products, producers)

- Which information channels are used and what are consumers' attitudes toward them?
- Which sales channels are used, and what are important purchase criteria?
- Which consumer segment (age, sex etc.) buys which kinds of sports nutrition products?
- Why do consumers use sports nutrition? Which effects are these products found to have?
- Do consumers perceive any risks connected to sports nutrition?
- Who promotes sports nutrition (friends, coaches, team-mates, commercials, magazines, others)?
- Body ideals and the importance of sports nutrition for exercise and health
- Consumers' perceived boundary between sports nutrition and medicine, and between sports nutrition and doping
- Consumers' expectation toward the future sports nutrition market and product development
- Consumers' expectation toward health authorities with regard to regulation of the sports nutrition market.

This report covers all the above elements, either in the qualitative part or in the quantitative part, or in both.

## 1.2 Definition of sports nutrition products

Sports nutrition supply carbohydrates, proteins, minerals and fluids. Examples are sport drinks and sport bars. Ergogenic supplements claim to enhance performances in one way or another. Examples are caffeine, creatine and ginseng (The Norwegian Directorate of Health 2005b).

The sport nutrition products are covered by the framework directive on foodstuffs intended for particular nutritional uses (Council directive 89/398/EEC). The composition and manufacturing process of the products covered by this directive must be specially designed to meet the particular nutritional requirements of the persons for whom they are intended. A special directive for sports nutrition products is not yet developed within the EEC. It is natural to draw a line to food supplements, which function as supplements to the diet of all people, for example vitamins, minerals and omega-3 fatty acids. Sports nutrition products differ from food supplements because they generally have a shorter timeframe of effect. Sports nutrition products are meant to "help you get to the top of the hill then and there".

In this report we use the same market categories as given in EU's Scientific Committee on Food (SCF): "Report of the Scientific Committee on Food on composition and specification of food intended to meet the

expenditure of intense muscular effort, especially for sportsmen (adopted by the SCF on 22.06.2000, corrected by the SCF on 28.02.2001)". SCF divides sports nutrition products into four categories (SCF 2001):

1. *Carbohydrate-rich energy food products* used to restore the glycogenic storages in the muscles. These are products that should be digested during and after exercise, for example energy bars and gel.
2. *Carbohydrate-electrolyte solutions (C.E.S.)*. Compared to water as a control drink, a substantial body of scientific evidence supports the suggestion that during prolonged exercise drinks containing carbohydrates and electrolytes, in particular sodium, improve the performance.
3. *Protein and protein components*. There is no evidence available to support that extra protein intake is essential for maximal performance.
4. *Supplements* consisting of vitamins and minerals or other substances.

The sports nutrition segment includes; energy drinks, powders, liquid meal replacements, energy bars, creatine supplements and the like. These products are marketed as supplements before, during and after physical exercise. In this report we focus mainly on categories 1–3 because this allows us to delimit sports nutrition products from general food supplements, like e.g. weight loss products, also sold in gyms and health food stores.

This delimitation is central due to the fact that the market for food supplements, of which sports nutrition products is only a small subcategory, is enormous. The first three categories also seem to cover the products, consumers and actors in the market defined as sports nutrition products.

## 2. Methodology

### 2.1 Introduction

On the basis of the The Nordic Council of Ministers information needs concerning consumers and consumer trends, SIFO developed an in-depth study consisting of both a qualitative and a quantitative part. Through a quantitative approach we receive information on who buys sports nutrition and can make generalizations concerning purchase behaviour and usage patterns on the basis of age, sex, education, income and level of exercise. Through a qualitative approach (focus groups and ethnographic field study) we receive insight into the variables that hide behind the numbers; individuals' motivation for buying sports nutrition products in relation to perception of own health, emotions, beliefs, attitudes and experiences. We also receive information on perceived risks and advantages connected to sports nutrition, purchase- and decision behaviour, choice of information and sales channels, in sum what the phenomenon of sports nutrition represents in consumers' lives.

Due to the fact that little research has been conducted on Nordic consumers' attitudes and behaviour in the sports nutrition category earlier, we decided to conduct the qualitative study ahead of the quantitative survey. By first exploring and mapping the research objectives in a qualitative manner, we could be more confident that we were asking the relevant questions in the quantitative phase.

The use of sports nutrition is a complex phenomenon, and the qualitative phase enabled us to uncover new angles of interest and causation that neither SIFO nor the Norwegian Food Safety Authority could know a priori. The qualitative phase threw light on the purchase and use of sports nutrition from different interpretive angles, and in this manner helped us draw a more complete picture of the Nordic consumer of sports nutrition products, than a quantitative survey could do alone.

This chapter is organised as follows. First the focus group methodology is presented, and then we present how the ethnographic field study was conducted. These are the qualitative methods used in this report. We then present the methodology for the quantitative phase. The chapter ends with a short discussion of whether the findings can be transferred to the other Nordic countries that are not included in this report or not.

## 2.2 Focus groups

A qualitative approach gives us insight into the reasons different consumer segments have for using sports nutrition products. We collect data by letting the respondents describe their usage experiences and what is important for them with regard to buying and using sports nutrition products. Central characteristics of qualitative investigations are; small selection of respondents, open ended questions and flexible discussion structures. Qualitative investigations are based on talks with consumers. The researchers' interpretation is an integrated part of the data collection, and form the basis for new questions and new angles of interest as the talk proceeds. The qualitative phase of this study consisted of two focus groups and an ethnographic field work. Below we shortly discuss focus groups as qualitative methodology.

### 2.2.1 About focus groups as methodology

A focus group is an informal talk/discussion between 5–10 consumers, lead by an experienced moderator. The discussion is centred on a theme (here: sports nutrition products). The task of the moderator is to make sure that the discussion centres on areas that are important in relation to the present theme of discussion. The focus groups lasted two hours each and were conducted on SIFO's premises on Thursday 16th October (women) and Tuesday 21st October (men). The central questions of interest to the Norwegian Food Safety Authority were collected in a discussion guide prepared for the focus groups (see discussion guide used in the focus groups in appendix A). The discussion guide covered the following themes: Category insight, attitudes and use of sports nutrition, perceived effect of products, training and body ideals, natural grouping of different sports nutrition products, information and sales channels, and perceived boundary between sports nutrition and medicine, and between sports nutrition and doping, perceived risks and expectations concerning regulation of the market.

The advantages of focus groups is first and foremost the group dynamic; it stimulates creativity and discussion, respondents react to each others statements and through this process nuances and differences in opinions are revealed. At the same time focus groups give both researchers and the employer a unique opportunity to observe and learn from the discussion.

Target group:

Group 1: Men 18 – 55 years of age who buy and use sports nutrition

Group 2: Women 18 – 55 years of age who buy and use sports nutrition

The reason behind this division on the basis of gender is based on studies of food supplements, because there are generally few studies specifically

on sports nutrition products. International studies point to differences between the genders with regard to why and how food supplements are used: Men and women seem to use different types of supplements and have somewhat different reasons for using them (Block et al 1988, Ervin et al. 1999, Johansson & Solvoll 1999, McDowall 2007, O’Dea 2003, Slesinski et al. 1996). Both age and gender have been shown to be important factors that influence food supplement use (Jasti et al. 2003, Johansson & Solvoll 1999, Knudsen et al. 2001, Najm et al. 2003). Young men to a large degree use supplements to improve their physical condition (“build muscles”), while young women more often use supplements to improve their health and restitution, in addition to supplementing an inadequate diet (O’Dea 2003, McDowall 2007).

We have positive experiences with dividing focus groups by gender. Shared experiences among respondents open up for good discussions. Respondents feel more comfortable talking about sensitive subjects such as their own body and health in the company of people of the same gender. With shared experiences as a point of reference this sameness enabled respondents to be more open concerning their use of sport nutrition products, bodily processes, beauty and health. By securing an even age spread in the groups, we also opened up for differences in experiences. Hence this gendered division helped us to learn more about what age and gender have to say for sports nutrition usage - which products are used and for what (health, beauty, building muscles, dieting, restitution, improving digestion and so forth). Furthermore respondents’ reservations concerning sports nutrition usage were discussed.

### 2.2.2 Recruitment to focus groups

The focus groups were conducted in Oslo, and recruitment to the focus groups were conducted by the professional Nordic data collection company Norstat. Respondents were first pre-recruited via Norstat’s web panel. To ensure that participants adhered to the criteria set for this research, respondents were then screened via telephone interviews, where recruiters checked that respondents fit the criteria set up for the methodology following a recruitment guide (see appendix B). The criteria for participation in the focus groups were:

Group 1 (only women):

- 18–55 years of age
- Use sports nutrition products minimum twice a month or more
- Even spread in type of sports nutrition used: energy products (drinks, gel, bar, tablets) protein products (drinks, bar) and carbohydrate concentrates

Group 2 (only men):

- 18 – 55 years of age
- Use sports nutrition products minimum twice a month or more
- 50 percent should use weight gain products and/ or protein products
- 50 percent should use an even spread of other sport nutrition products (energy products, carbohydrate concentrates etc.)

The slight difference in criteria between the female and the male group was made on the assumption that protein products have a large share of the market, but that it would be easier to recruit male protein users than to recruit female protein users. However, it seemed quite common to use protein products (especially bars) also among the female respondents.

A total of 10 people were recruited to each focus group. In the focus group we conducted with females 10 people participated. In the male focus group there were 8 participants. A normal turn out is between 6–9 people. Respondents were reimbursed for their time, each receiving a universal gift card worth 500 NOK.

### 2.3 Ethnographic field study

An ethnographic field study implies participating in given arenas where the action you want to study takes place (Stewart 1998, Wadel 1991, Nielsen 1996, Pelto & Pelto 1996). As part of the qualitative collection of data a small ethnographic field study was conducted at two sites. For the present purpose, a consumer study of sports nutrition products, a gym and a sporting event seemed to be natural places to observe and learn about the actual use and meaning production connected to sports nutrition products. When conducting the field studies our main focus was to observe both the physical surroundings and the social action that took place at the two arenas. Where there was an opportunity to do so we engaged in conversations with staff and with consumers of sports nutrition products. During these two visits the fieldworker always introduced herself to a random selection of individuals with whom she engaged in conversation.

Choosing a gym as a field arena implies that you meet with regular consumers of sports nutrition products in an everyday setting. It differs from the field study at sporting events in that it enabled interaction with the general exerciser and not only the enthusiasts and those heavily involved in sports activities. Further, a gym has a wide range of sporting activities, including Pilates, spinning and traditional weight-lifting. Therefore, doing a field study at a gym covers many indoor sporting activities where sports nutrition products may be used.

A sporting event is a very suitable arena to learn about sports nutrition products. It provides the possibility to see the spreading of information and advertisements for sports nutrition products from diverse market

actors and also to observe and ask the consumers about their use. It is important to keep in mind that those involved in sporting events, and particularly the one we attended, are serious athletes. The use of sports nutrition products at this event may accordingly be more extreme than usual. On that note, it is a context in which sports nutrition products are particularly widely used.

A field study provides more than mere descriptions. Besides listening and asking questions to grasp the subjective world of the consumers of sports nutrition, the ethnographic field study provides insight into how individuals actually use sports nutrition and in what ways they are offered to consumers. When uncovering a practice that is otherwise only described by the actors themselves observation of and participation in actual behaviour is very valuable. In this report, the findings from the field study are based on two visits, one to a gym; ELIXIA and the other to a sporting event; Bislett 24 & 12 hour indoor challenge. These findings should be seen in relation to the use and meaning assigned to sports nutrition by consumers in the focus groups.

## 2.4 Quantitative data

### 2.4.1 Introduction

The quantitative data were collected through a web survey in order to give an overview of perceptions and use of sports nutrition products in Scandinavia. The purpose of the survey was to develop more precise data about the users of sports nutrition products; what characterises them, what sports are they into, what products do they use, why do they use sports nutrition products and do they see any risks related to these products? This section presents the background of the web survey, and discusses the representativeness of the data.

The section is organised as follows: First of all a presentation of the web survey is given, and then we introduce the method of the respondent recruitment. Then we discuss the representativeness of the data before the section ends with a description of the open format questions.

### 2.4.2 The web survey

SIFO created a questionnaire<sup>1</sup> that was collected through the opinion poll agency Norstat. The questionnaire consisted of 21 questions that were divided into three thematic groups: exercise habits, sports nutrition consumption habits and general attitudes about sports nutrition. It was developed in Norwegian and then translated into Danish and Swedish.

---

<sup>1</sup>The questionnaire can be found in appendix D.

The respondents were selected from Norstat's web panel, a panel which consists of thousands of members. For each member Norstat has access to relevant background information like age, gender etc. When Norstat recruits to their panel, they use two methods: they encourage people to register on their web page<sup>2</sup> or invite people to register for the panel in connection with telephone surveys. Most of the respondents are recruited through the first method. Therefore the panel members, and hence our respondents, are self recruited. Because of this we do not have a probability sample in which each person in Scandinavia has the same probability of being drawn.<sup>3</sup> Such a sample can never be representative unless additional techniques are used to draw the respondents from this population of people. Normally Norstat either weights the sample after a variable with a distribution that is known for the total sample (example the whole population in a country) or strata are built. Strata mean that respondents are drawn after the known distribution of a background variable. If we know that 13 percent of all Norwegians live in the city of Oslo, the sample should have the same percentage of inhabitants as Oslo has. In this survey the method of building strata was used. Norstat used age, gender and place of living as strata in this survey. Income was not used because it turned out that income was not registered as a background variable, as originally envisioned by Norstat. Therefore all the respondents were asked about income a couple of days after they had answered the questions.

Norstat recruits potential respondents (members of their web panel) by mailing them an invitation to take part in a web survey. The aim of this survey was to recruit 1 000 respondents (among them 800 users and 200 non-users of sports nutrition products) from Norway, Sweden and Denmark, respectively. This was carried out by using a filter mechanism, which is described in the next section. Table E-1 in appendix E presents an overview of how many invitations were sent out and how many respondents completed the questionnaire in the three countries.

Norstat sent over 13 000 invitations to the Danish and Swedish panel members and around 3 500 to the Norwegian members. The response rate in Denmark and Sweden was considerably lower than in Norway.<sup>4</sup> Thus, the field period took longer time than expected. The period was planned to take three weeks (between November 28th and December 19th 2008), but had to be expanded in order to recruit enough respondents from Denmark and Sweden. For this reason, we decided to accept fewer Danish users of sports nutrition products. To a certain extent this fact says something about

---

<sup>2</sup>For this survey, they have registered on their national pages in Norway, Sweden and Denmark respectively. The Norwegian homepage has the URL Panel.no. The Swedish homepage is Panel.se, while the Danes use Panel.Norstat.dk.

<sup>3</sup>Because of this we will not use any goodness-of-fit-measures when we discuss representativeness in section 2.4.4.

<sup>4</sup>See table E-1 for an overview of response rate and other information about the recruitment carried out by Norstat.

the Danish, and to a lesser extent the Swedish, sports nutrition market: it appears that there are fewer Danish and Swedish users of sports nutrition products compared to Norwegian users since it was more difficult to recruit Danish and Swedish sports nutrition products users than Norwegian ones. Hence, the field period lasted from November 28th 2008 until January 5th 2009. It resulted in a distribution of respondents in the three countries as described in table 2-1:

**Table 2-1: Numbers of users and non-users of sports nutrition products in the sample after country.**

Do you use sports nutrition products?	Country			Total
	Norway	Sweden	Denmark	
Yes	801	797	759	2 357
No	200	205	241	646
Total	1 001	1 002	1 000	3 003

A total of 76 percent users and 24 percent non-users were recruited in Denmark, compared to 80 percent users and 20 percent non-users in Sweden and Norway. Even though the field period was extended and it was difficult to recruit enough people, the difference between users and non-users in the three countries are not drastic.

#### 2.4.3 The questionnaire's filter mechanism

An ideal within quantitative surveys is to seek representativeness in order to be able to apply the results to an entire population. To do this, each respondent is usually drawn randomly from a specified population where each member of the population has a known probability of being selected, as described in the previous section. This method could not be applied in this survey because the users of sports nutrition products are not likely to be a homogeneous group of people. If we were to draw our respondents randomly from the web panel according to the regular strata, such as age, gender and place of residence, we could possibly have ended up with a sample with very few users of sports nutrition products. Such a sample would not be interesting to analyse when the intention was to describe consumers of sports nutrition products.

A filter mechanism was created instead of recruiting respondents completely at random. The mechanism screened out users of sports nutrition products from non-users. This was accomplished by presenting all respondents with a small introduction about sports nutrition products and examples of such products (as presented in figure 2-1). The wording and set up was exactly the same in the three countries with two exceptions: The language of the questionnaire and the product examples. We expected that the term sports

nutrition products<sup>5</sup> could cause misconceptions. In order to counteract this, we used different examples of sports nutrition products with real brand names in the three countries. Figure 2–1 presents these examples:

**Figure 2–1: Example products used in the web survey in the different countries.**

Country	Examples used in the questionnaires
Denmark	Maxim, Proteinfabriken, Nutramino Aps
Norway	XL-1, Maxim, Proteinfabriken
Sweden	Maxim, Twinlab Creatine Fuel Powder, Shapy Recovery Protein, Protec NitroPlus

The respondents had to confirm that they either used or did not use sports nutrition products. Thus, we were able to control how many respondents used sports nutrition products and how many did not. We were primarily interested in collecting information about the users (consequently four in five respondents are users), but also wanted to gather some information about the non-users in order to compare these groups. Hence, both groups were asked some identical questions, but the users answered several more questions about their sports nutrition habits.

One great advantage of using a filter mechanism is that we are sure to get enough respondents who use sports nutrition products in the sample. It causes some challenges as well. As far as we know, no quantitative studies about the use of sports nutrition products in Scandinavia have previously been carried out. Consequently, we do not know the share of the population that uses such products, and neither can this study answer this question. This is a challenge that we have to take into consideration in our analysis; most of the respondents in this study have experiences with sports nutrition products and are therefore of interest in this context.

#### *2.4.4 The representativeness of the data – an overview*

The filter mechanism may make it difficult to get a representative sample. It would not be a good idea to weight the respondents after using such a method. For example we know that we have equal numbers of Norwegians and Swedes in the sample. At the same time Sweden has twice as many inhabitants as Norway. Therefore Norwegians are overrepresented and Swedes are under-represented in the sample. We could easily weight the respondents by using relative population size as weights. We have not done this because the respondents in our sample could identify with other factors than just nationality. An illustrating example could be that a Norwegian cross country skier identifies more with a Swedish skier than with a Norwegian who is involved in some other sports. That is, type of activity is more important than nationality. If this is correct we should not weight by nationality.

<sup>5</sup>In the web survey the term sports nutrition products was translated into Swedish as “sportskost-tillskott” Danish as “sports ernæring” and Norwegian as “sportsprodukt” and “sportsernæring”.

To sum up, the filter mechanism will probably make the sample less representative than it would be without it. On the other hand, if it was not done this way, we would get too few users of sports nutrition products. Therefore the sample is not representative for the whole Scandinavian population, but representative for users and non-users of sports nutrition products. For a given person from Scandinavian we need to know whether this person is a consumer of sports nutrition products or not before we can interpret his answers.

Even though Norstat stratified the sample after age and place of residence, we had to give priority to getting enough answers from users of sports nutrition products. Instead of having a sample that was in accordance with age and other background variables, we attempted to get 800 users in each country. For each respondent we have recorded the following background information:

- Age
- Gender
- Place of residence (country and county)
- Education
- Income

In the following we go through each of these background variables by presenting the sample and comparing the results to official statistics from each country.

#### Age and gender

We set the minimum age for participating in the survey to 15 years, but did not set an upper limit. When looking at the table below, we should maybe have considered doing so because people aged 99 years old are probably not physically active and therefore not interested in exercise in general and sports nutrition products in particular.<sup>6</sup>

**Table 2–2: Descriptive statistics for the respondents' age after country.**

Country	N	Descriptive statistics			
		Minimum	Maximum	Mean	Std. Deviation
Norway	1 001	15	99	38.2	15.9
Sweden	1 002	15	83	37.7	15.0
Denmark	1 000	15	83	42.5	17.6
Total	3 003	15	99	39.5	16.3

Section E.2 provides tables for each country that make it possible to compare the population with the sample with regard to age and gender.

<sup>6</sup>97 percent of the respondents were between 15 and 69 years old, so we cannot say that the sample is troubled by aged people.

Overall, we can say that the sample is not representative for the population in Norway, Sweden and Denmark for all age groups and genders. There are for instance fewer people over 60 years of age in the sample compared to the population in all three countries. This may be due to the fact that the web panel has a lower representation of members over 60 than the population as a whole. However, it can also be due to less interest in exercise and sports nutrition products among people in this age group.

#### Place of residence

The three Scandinavian countries are divided into smaller administrative units in different ways. Norway is divided into 19 counties (“fylker”), Sweden in 21 counties (“län”) and Denmark in 15 counties (“regioner”). We use the term “county” to describe these different regional administrative units. The sample is in accordance with the population in the three countries with regard to regional divisions. The tables are available in section E.3.

#### Education

The structures of the educational systems in the three countries are different, and this implies that it is difficult to compare the education variable between countries.

The education variable is not representative in this sample. There is a majority of people with higher education in Norway and lower education in Sweden. Statistics Denmark<sup>7</sup> claims that it is complicated to compare the eight official education levels to Norstat’s three. It is therefore hard to say anything precise about the representativeness of the Danish sample with regard to education. See section E.4 for details.

#### Income

We asked about income at household level in national currency by using income groups. By asking which group the respondent is located in, we typically get a higher response rate than if we ask about the exact income. On the other hand we might lose some information by applying this method. Due to different grouping of the income variable in the respective countries, the national currencies will not be converted into one common currency.

The income variable should be understood as gross income (before taxes) for the household the respondent is a part of. Hence, the income refers to both employment income and capital income. We do not know the total number of persons in each household.

---

<sup>7</sup>The information was acquired through personal communication (e-mail) with Susanne Sørensen in Statistics Denmark.

In Norway the mean gross income for households was 535 100 NOK in 2005. Based on register data (SSB 2007). This income level corresponds to the second largest income group in our sample (see table E-12 in section E-5), and in this sense we could say that the Norwegian sample is representative when it comes to income. However, this may be a misinterpretation since we have many respondents in the highest income groups, and since 20 percent did not report their income at all. Therefore is it difficult to conclude that the Norwegian sample is representative with regard to income.

The median net income (after taxes) for Swedish households was 230 351 SEK (SCB 2008c). We have not managed to find official statistics on gross income, like we asked about in the survey. Therefore we do not know whether the Swedish sample, as it is presented in table E-13 in section E.5, is representative or not with regard to income. We remember that respondents with low education were overrepresented in the Swedish sample. This may imply over-representation of respondents with low income, since education is usually positively correlated with income. Furthermore “no answer” is the most frequent answer on the income question in the Swedish sample. Therefore is it difficult to talk about representative data, even if we had found official statistics for mean/median income before taxes. We conclude that the Swedish sample cannot be described as representative when it comes to education and income.

The official income statistics from Statistics Denmark use other income categories than the ones we have in our data (tables E-14 and E-15 in section E.5). This makes it is difficult to say whether the Danish sample is representative or not when it comes to income.

#### *2.4.5 The open format questions*

In total we asked four open format questions in the survey. These questions asked the respondent to type in the answer, instead of just ticking pre-defined boxes, as in the other (closed format) questions. None of these four open format questions were given to the complete sample. For example the question “What kind of damaging effects are you afraid of if you use sports nutrition products?” was only given to non-users of sports nutrition products who said they did not use sports nutrition products because they were anxious about the harmful effects. Therefore N is quite low for the open format questions.<sup>8</sup>

---

<sup>8</sup>For one of these questions (question 16) about unexpected effects of sports nutrition products, the answers were coded manually. Norstat coded the answers after a coding list made by SIFO. This list was made after all the open answers had been examined. The answers on this question will be presented in section 5.5.2. The other responses from open format questions will be used sporadically in this report.

## 2.5 External validity

Norway was the only country studied in the qualitative phase (focus groups and field work). In the consumer survey we had Norwegian, Swedish and Danish respondents. The question is then how the qualitative results from one country can be transferred to the two other countries. This is called external validity (Yin 1989).

On the one hand the Nordic countries are quite similar in political, economic and cultural conduct and this points towards high external validity. On the other hand there are differences which can be hard to see when countries are compared. Such differences may go far back in time. When we find differences between countries in our data this may be due to more fundamental differences than just exercise habits etcetera. I.e. a spurious connection can arise if there is something fundamental that lies behind and influences many variables at the same time. Transferring results from one country to another must therefore be done carefully, and the results must be critically assessed before they are transferred from one Nordic country to the others.

## Part I: Qualitative results



## 3. Results from focus groups

### 3.1 Introduction: About the respondents

The female focus group consisted of ten respondents; the age spread in the group was 21 to 42 years of age. In the male focus group there were eight participants between 24 and 55 years. With a couple of exceptions, all respondents exercised several times a week, on average between 3–5 times a week. Three of the respondents, both male and female, regularly participated in bicycling competitions, and one male respondent was a dedicated weightlifter who exercised 6 times a week, sometimes even twice a day. There is no doubt that for the majority of these respondents, doing regular exercise was an important part of their life.

Most of the respondents were members of a gym and did a large part of their training sessions there. A very central part of our analysis is that the respondents' involvement in a gym training environment to a large degree influences their attitude toward and use of sports nutrition products. It was common for the respondents to regularly exercise strength and endurance at the gym, and then supplement with other types of training on their own, both outdoors and indoor activities. Among the men the most common forms of individual training were bicycling, swimming, skiing, jogging and football. At the gym the men trained strength and weight lifting. It was also common for the women to lift weights at the gym, but they seemed to participate more in aerobic, spinning, step and strength building classes led by a training instructor. Among the women the most common forms of individual training were dancing, yoga, pilates, skiing, bicycling and swimming. One of the female respondents exercised boxing.

The female respondents used a wide range of different sports nutrition products: protein powder, protein bars, energy bars and energy gels. However, energy drink consumption was not very common among the women. The use of protein powder divided the female group in two; those who either used or had a neutral stance toward it, and those who associated it with doping and had a very negative stance toward it. Protein bars, on the other hand, were unproblematic for all female respondents. Three of the female respondents used protein powder on a regular basis. Energy and protein bars were the most frequently consumed sports nutrition products in the female group. In the male group protein powder was the most used sports nutrition product. All except two of the male respondents used protein powder on a regular basis. Some also consumed energy gel, energy drinks, energy- and protein bars and creatine in addition to protein powder.

It is important to note here that the respondents did not perceive “sports nutrition” as a clearly defined category. When asked about which sports nutrition products they used, they began to discuss among themselves which products can be understood as sports nutrition products, and especially if multi-vitamin tablets and meal replacers can be understood as sports nutrition. They reached no clear conclusion or consensus on this point, but the tendency was to classify multi-vitamin products marketed as food supplements especially for athletes as a sports nutrition product, while meal replacers were not understood as sports nutrition products because this consumption was not connected to sporting activities.

Sports nutrition products were mostly used in connection with exercise; before, during or after. Energy gels, drinks and bars were often used during training, while both energy- and protein bars and protein powder/shakes were used before or after a work out, or before competitions. Energy gel use was especially connected to longer exercise sessions, bicycling and competitions.

There was a big difference in how often respondents consumed sports nutrition products, varying from every day to some days a week to a few times a month. Use of protein powder seemed to signify a stronger product involvement than the other sports nutrition products, in the sense that protein powder was commonly used on a more regular and planned basis than other types of products.

### 3.2 Respondents’ relationship to sports nutrition products

The respondents’ relationship to sport nutrition products can be summed up by the figure below. This figure is our analytical systematisation of respondents’ attitudes and behaviour in the sports nutrition category. We have placed it here at the beginning of the report to give a clear overview of the field. The different parts of this table will be commented and analysed later on in the report.

**Figure 3–2: Respondents' relationship to sports nutrition products.**

<b>Brands used</b>	<b>Types of products used</b>
Proteinfabrikken	Protein powder (milk & soy)
Maxim	Protein bar
Herbalife	Protein shake
Whey Tech	Energy gel
Atkins	Energy bar
Multipower	Energy drinks
Organic Food Bar	Creatine
	Meal replacement
<b>Lifestyle</b>	<b>Type of sports</b>
Youthful	Bicycling
Active	Lifting weights
From work to training	Gym classes (aerobics, spinning, step, strength, endurance etc.)
From training to home	
In a hurry	Boxing
Between meals	Hiking
Need of energy	Skiing
Little time to prepare healthy meals	Jogging
A lot of exercising	Football
Weight control	
<b>Training aid</b>	<b>Energy</b>
Encouragement	Gives me a kick
Reward	Makes me yield more
Gets me through the work out	Increased performance
Incentive to exercise	Get the maximum out of my body
Substitute for chocolate	Fuel on the tank
Restitution after training	Makes the body more flexible
Variation (of food)	Restitution between training sessions
<b>Negatives</b>	<b>Usage situations</b>
High sugar content	Before training
Energy products can make you gain weight	During training
Expensive	After training before dinner
Natural healthy food the best	Competitions
Little knowledge of ingredients	Between meals

The respondents had generally used sports nutrition products between 1 – 6 years. Some of the male respondents had used sports nutrition products for a longer period. Many were first introduced to sports nutrition products at their local gym, where it is usually widely available, centrally placed in the reception area and quite common to use. After gym classes (aerobics, step, spinning and the like) some gym instructors would stress the importance of eating right after training, and would recommend that they buy a protein or energy bar in the reception. Recommendations from friends at the gym were also important. Hence we can see that gyms have a central role in promoting and selling sports nutrition products. Some respondents began to use sports nutrition products after reading Internet forums containing training and diet advice, such as iform.no and Trim.no. A couple of the female respondents began using protein powder because their boyfriends did. They said they were sceptical in the beginning, but then they tried it and learned how much easier regular exercise became. One of the female respondents did not encounter sports nutrition through a training context, but began using protein powder for weight reduction.

The respondents' reasons for using sports nutrition products were many; it provides variation when it comes to exercise related food, gives more energy and better results from training, makes them lift more weights and push themselves to the limit, makes them better at their sport, and gives them an incentive to exercise.

### 3.3 Natural classification of different sports nutrition products

We conducted an exercise in the focus groups where we asked the respondents to classify a range of different sports nutrition products into groups that belong together. The moderator placed many different sports nutrition products on the table and asked the respondents to organise the products into different groups of products that they felt naturally belonged together (see appendix C for list of products included in the exercise). The respondents together decided on which criteria they would organise the products and received no cues or guidance from the moderator. They were free to make as many groups as they wished, and base the groups on the criteria (design, content, usage situation etc.) they found most natural. They were also asked to name the groups they made. The products included in the exercise are common on the Norwegian market. This exercise is important because it is a visual representation of respondents' mental classification of different products in the sports nutrition category. Interestingly both focus groups made similar groups – a protein group, a carbohydrates group, a combo group with products that contained both proteins and carbohydrates, an energy group with products used for competitions, a meal replacer group (which was not regarded as sports nutrition products), a sports drink group, a commercial group with products that were regarded as “fake” sports nutrition products, and creatine was placed by itself.

**Figure 3–2: Respondents' grouping of sports nutrition products in the focus groups.****1. Protein group****Characteristics:**

Main ingredient is protein

**Usage situation:**

Used before and after training  
Meal replacement  
Building muscles and strength  
Weight reduction

**Positive:**

There is a variety of forms; drinks, bars, powder  
The most popular sports nutrition product

**Negative:**

Expensive  
Does not taste very good  
Intimidating design and sizes  
Difficult to know the difference between soy and milk protein

**Main users:**

Both men and women  
Only design and size are adopted to gender, the content is the same  
People who exercise in gyms, building strength and endurance  
People who want to avoid carbohydrates

**2. Carbo group****Characteristics:**

Main ingredient is carbohydrate  
Contains a lot of sugar

**Usage situation:**

First and foremost after training  
For competitions  
For endurance sports

**Positive:**

Contains a lot of energy

**Negative:**

Very artificial  
Makes you gain weight

**Main users:**

People who want to gain weight  
Mostly men, especially thin men who want to gain weight  
Women generally try to avoid this group

**3. Combo group****Characteristics:**

Contains a mix of protein and carbohydrates

**Usage situation:**

For competitions  
For endurance sports  
Typical for bicycling

**Positive:**

Provides a middle course between proteins and carbohydrates  
Gives energy and builds strength

**Negative:**

Less control over additives than in pure protein

**Main users:**

Used mostly by men

---

4. Energy group/ competition group

---



**Characteristics:**

Contains a lot of sugar and carbohydrates  
Easy to carry

**Usage situation:**

Energy for competitions  
For endurance sports

**Positive:**

Perceived as less intimidating than the carbohydrates group,  
but similar effect  
Gives you an energy kick  
Helps you finish the race

**Negative:**

Makes you gain weight  
Artificial  
The gel is very concentrated, can give stomach pains

**Main users:**

For beginners, low threshold group  
Both men and women

---

5. Meal replacements

---



**Characteristics:**

Main ingredient is protein

**Usage situation:**

Weight reduction  
Meal replacement  
Perceived as a dieting product, not a sports nutrition product

**Positive:**

Helps you lose weight

**Negative:**

It is better to eat healthy food  
Not very healthy, but gives a light impression

**Main users:**

Typically used by women

---

6. Sports drinks

---



**Characteristics:**

Contains a high level of salt, sugar and magnesium

**Usage situation:**

Both men and women. During exercise

**Positive:**

Provides a lot of energy

**Negative:**

Very artificial  
Cause teeth damage

**Main users:**

For everybody

---

**7. Commercial junk group**
**Characteristics:**

Contains a lot of sugar and caffeine

**Usage situation:**

Not perceived as a sports nutrition product  
More used as drink mixer or soda water

**Positive:**

Nothing mentioned

**Negative:**

Fake energy  
Expensive

**Main users:**

Youth

---

**8. Creatine**
**Characteristics:**

A monohydrate that gives increased muscle strength  
Contains large amounts of natural mountain cranberry and meat

**Usage situation:**

Used to build strength and muscles between training sessions  
Should only be used periodically

**Positive:**

Helps you take out more of your power  
Speeds up your restitution

**Negative:**

Insecurity about what creatine is - is it a natural or synthetic product?  
Requires a more advanced level of knowledge

**Main users:**

Used by athletes who also use protein powder  
For people who do a lot of exercise  
Mostly men

Respondents worked together in this exercise. Some products were moved back and forth between groups, but they managed to agree relatively quickly on which products belonged in which groups. This shows that the groups made above are somewhat established consumer classifications of common sports nutrition products. As we can see the respondents' main categorisation was done on the basis of the products' main ingredient (protein, carbohydrates, mix of protein & carbohydrates and creatine). A sub group of high-energy carbohydrate products associated with the competition usage situation was also made, as well as a sub group of energy drinks. Also two groups that the respondents did not consider proper sports nutrition products were made: One group of meal replacers and one group containing "fake" sports nutrition products.

Especially two of the groups that were made in this exercise were hotly debated among the respondents – the protein group and the carbohydrates group. In the following section we investigate the respondents'

attitudes and use of the popular protein group and highlight the topical protein versus carbohydrates debate.

### 3.4 Protein products are popular

Talking about different sports nutrition products, the debate in both focus groups quickly turned to protein powder. In the male group almost all consumed protein powder and it was claimed to be a necessary component of a proper training regime. But in the female group protein powder caused discussion and became a theme that divided the group in two. Some of the women said they associated protein powder with doping: “I have always had a prejudice toward protein powder; it makes me think about doping”. These women associated protein powder with illegal substances, artificiality and extreme body building. However the respondents who were negative toward protein powder did not feel the same aversion toward protein bars – which they viewed as similar to energy bars. “Protein bars feel lighter or better than protein powder”. Hence protein bars were accepted and viewed as more natural.

The three women who used protein powder regularly in their exercise regime were introduced to protein powder through a boyfriend or through the group they trained with. “I use protein products. Most of the girls who train boxing do. To build muscles.” The boxer said she was sceptical toward protein powder in the beginning; it took her a long time to view protein powder as a useful sports nutrition product. The women who have a more neutral stance toward protein powder, said that it requires a certain level of knowledge to use protein powder, and that they do not know if they exercise enough to use it or know how much they should dosage. Some of the women were also afraid they would put on weight if they used it wrong.

The most used argument for consuming protein powder was that if one does a lot of exercise a very large supply of proteins is needed, and that it is difficult to find enough time to prepare proper meals. It was perceived as practical to supplement the diet with protein powder because then one can spend less time on food and eating, which is time consuming. Protein powder/shakes were usually consumed right after training, because then the body’s ability to take up proteins is viewed as very potent. This practice gives respondents enough energy to get home after training and make dinner without depleting the body’s energy. Proteins are perceived as the body’s building blocks.

Some of the respondents also consume proteins on days that they don’t exercise, but have a generally high activity level. They claimed that it is on the days off from training that muscles are built; that exercise breaks down the muscles and rest rebuilds them.

The boxer said she consumes protein shakes many times a day in order to receive enough nutrition – for example for breakfast or lunch at

work. Those who used protein as a food replacement viewed it as a short cut, as easily accessible food. They had also experienced that using protein in this fashion helped them to lose weight without losing muscle mass. They felt that regular protein consumption allowed them to eat more food and still lose weight, pointing to the fact that dieting products for women contain almost pure protein. Hence they claimed that it is common for women to use protein products, but then it is called diet products.

Overall the respondents' impression is that it is quite common to consume protein products, both powder, shakes and bars among people who exercise, especially those who build strength and endurance in gyms. The discussion moved on to different types of proteins, soy and milk, and which products contain the most calories - protein bars or protein powder? On these issues it seemed that the respondents had rather limited knowledge.

### 3.5 Protein versus carbohydrates

The respondents were very occupied with the difference between proteins and carbohydrates, which probably reflects the current market discourse and a popular turn in the market toward a popularisation of protein products. Both the male and the female respondents agreed on this point; the body needs both proteins and carbohydrates, but carbohydrate consumption is something that should be regulated. Especially female respondents were sceptical of carbohydrates, arguing that it is much better to consume protein bars than to consume energy bars.

The perceived differences between proteins and carbohydrates can be summed up as follows:

- Protein builds the muscles, is used more in the long run to construct a desired body shape – whether building muscles or losing weight.
- Protein consumption seems to be part of a more long term exercise plan, used more for strength related training.
- Protein intake right after training prevents depletion of the muscles and helps the body build up muscles between work outs. Typical “protein sports” are boxing and weight lifting.
- Respondents at times also use proteins isolated from training, for weight reduction or to fill the body's storage on a hectic weekday. Respondents do not use energy products isolated from training in the same fashion.

Carbohydrates are used more “here and now” to keep the energy level up throughout the training session. Carbohydrate products seem to be more used for condition and endurance related exercises, commonly longer training sessions. A typical “carbohydrate sport” is bicycling. “I

use energy bars and gels in relation to condition exercises such as bicycling, to keep going after 50 kilometres". In respondents view, carbohydrates contain a lot of sugar and therefore supply quick energy. Because of the high sugar content they believe carbohydrate products can make them put on weight. It seems that many of the respondents had become more careful with their carbohydrate consumption in the normal week-day. Carbohydrate products were mostly used at special endurance events when respondents need an extra kick; such as in marathons, competitions and long bicycling trips.

The respondents' attempts to restrict their carbohydrate intake can be understood in light of the general carbohydrates versus protein health discussion in Norwegian society, and the argument that to lose weight one should cut down on carbohydrate rich food such as pasta and bread and increase the intake of proteins (Bugge et al. 2008).

Some of the female respondents consumed energy bars as a reward after training, as a healthy substitute for chocolate. They perceived energy bars to be very similar to chocolate; both raise the blood sugar level quickly, but also breaks down relatively swiftly in the body so that the renewed energy one feel does not last very long. Protein bars, on the other hand, were not perceived to be as tasty as energy bars, but on the other hand the energy from a protein bar last much longer and make them feel full for a longer period of time.

An interesting aspect that was revealed through the respondents' protein discussion was the prevalent "body as a machine" discourse. Phrases that were commonly used when explaining the advantages of proteins were: "gasoline on the tank", "building blocks", "keep the machinery going for a longer time", "if you just put enough gas into the body it obeys you", "keeps the machinery flexible" and "fills up the storages". The metaphor for the body was a mechanized object such as a car, which should be filled with proper fuel (protein) to yield maximum power. The reason behind this might be the advertising language used in ads and commercials traditionally directed at men, which now more or less have been dispersed to gym environments in general. In the respondents' view, only bodybuilders consumed proteins in the 90s. Then ordinary men who excise began to use it, followed by more and more women in recent years.

### 3.6 Market trends

The respondents had observed several trends in the current market for sports nutrition. For example that it has become more common to use sports nutrition products also among women. Ten years ago the picture was very different, then sports nutrition was marketed first and foremost toward men. In the respondents' view, women in general have begun using sports nutrition products the last 5–6 years.

Respondents saw the increased consumption of sports nutrition products as connected to the increased focus on training and leading a healthy lifestyle in society as a whole. As a result people seem to have become more reflective about what they eat, trying to combat the obesity epidemic that has received a lot of negative attention in the mass media. As people have become more preoccupied with keeping in shape, more people have become members of a gym. The gym is an arena which propagates sports nutrition products, where consumption of sports nutrition is perceived as a rational training practice. This creates a market where consumers associate sports nutrition products with healthy lifestyle and training, and thus people feel healthy when they consume these products.

Respondents had also observed that there has been an enormous product development in the sports nutrition market. There are more types of sports nutrition offered to more segmented user groups. While there is a huge focus on technological development, respondents at the same time discern a focus on more natural products that are promoted through health food stores; ecological bars with less additives containing fruits and nuts, brands such as Organic Food Bar.

Another trend they have noticed is that there are more commercials and ads for sports nutrition products. It seems that the target group has expanded to include everyone; men and women, young and old. But stereotypically the people who are portrayed in the commercials are beautiful with athletic bodies. Through commercials sports nutrition products seem to be promoted as an easy and quick way to reach your goals and make you more beautiful and energetic.

### 3.7 Training and body ideals

When asked about why they do regular exercise, the respondents said that training; keeps them in shape, stabilizes their mood, gives them more energy, maintains their body, helps protect their health (they will need their bodies for many years still), it is fun and sociable, it gives them a sense of general well being, makes them stay slim and toned and increases their self esteem (exercising makes them feel slimmer and stronger and makes them believe in their abilities). In addition many say that they enjoy setting new goals for themselves and that they have become addicted to the good feeling after a hard work out. In sum we can say that respondents exercise both to get the body they want, to feel good about them selves and to get a sense of general well being.

To have a trained body is perceived as beautiful. The female respondents claimed that it is not primarily about weight. "There are plump women that look beautiful and thin women who don't look so good." But respondents agreed – people who exercise in general tend to have more beautiful bodies than those who don't.

When we first asked the female respondents about body ideals, they answered that the important thing is not first and foremost how you look, but how you feel. Being balanced was a central term for them. In this discourse, exercise is perceived as an element of a larger picture, a part of establishing an appropriate lifestyle that fits you. "If one exercises, one produces endorphins which are good for both the mind and the body. The most important thing is to be balanced in mind and body and not to overdo anything, not exercise too much". In their view training gives them energy and self confidence, and when they feel better, they emit a positive radiation which makes them look their best.

While the women focused on balance when asked about training and body ideals, the men focused more on performance. The men's training goals were not only connected to building a desired body shape, but also to performance. Knowing their own body and reaching their exercise goals were important ideals for the male respondents. They talked about getting to know their body, and giving the body the energy/fuel that it needed to be able to push their limits and get the maximum out of their body. The men also saw competition as an important element of sports; both competing against others and competing against themselves. "It is a good feeling when you see progress from each training session, when you push your body to the limit and it obeys you".

The men were rather upfront on the point that the male body ideal is to be muscular and athletic. They claimed that one can tell who exercises by their body shape. Their aim was to build more muscles and not become fat. One of the younger male respondents said he uses protein powder for each work out to build muscles. "I have begun to use proteins rather recently, because I am so small and skinny that I'm trying to build up some more muscles". To prepare for the summer seasons many of the male respondents do extra push ups, especially between March and June, to look their best in their swimming trunks.

When going deeper into the subject of body ideals and pushing the point, the women began to talk about the ideal female body: A slim woman with female curves. According to the respondents the ideal today is that also women should have strong and toned bodies, and they talked about not losing muscle mass. They claimed that for women it is especially important to have a nice butt and stomach. Hence in the women's "body talk" we can discern two parallel discourses; one is that there is no template for the female body; that different body shapes are beautiful, and that if you are balanced and feel good about yourself you are beautiful in yourself. At the same time they say that of course they want a beautiful body and describe how the ideal female body should look.

Even if women's bodies should be toned and strong, the female respondents were careful not to build too big muscles. In their opinion the female body should not have too much arm and stomach muscles. The boxer said that of the eight girls she trains boxing with, three or four of

them use protein. “There are different levels of muscle building among the girls. Girls have to use restraint when it comes to building, they should not look too big. My boyfriend is not so satisfied now because I’m starting to grow bigger muscles than him”.

The female respondents said they feel there has been a turn from a “body focus” to a “health focus” in the public discourse in recent years, which makes it is more legitimate to talk about health and well-being than to talk about body ideals. This reluctance to discuss the ideal female body can also be interpreted as a strategy to liberate themselves from a narrowly defined ideal that can be hard to live up to.

Looking at the whole spectrum of sports nutrition products a question remains: Does sports nutrition products help the respondents build the body shape they desire? Apparently to some degree, certainly by helping them fulfil the aims they have set for their training; by helping them get through a long and hard bicycling trip, by being a practical aid to reaching their training goals on busy weekdays. In this indirect manner one could perhaps say that sports nutrition products help respondents achieve the body shape and sense of well-being they are seeking.

### 3.8 Usage situations

The respondents’ use of sport nutrition products can be summed up by the following figure:

**Figure 3–3: Respondents usage of different groups of sports nutrition products.**

Usage situations	Why?
Before training	Aid - to get enough energy to exercise To fill the tank
During training	To get sufficient energy without becoming too full Emergency solution – to get through training Easy to carry Practical and easy to use Encouragement to exercise Aid - supplies energy Increased performance
After training before dinner	To make the body obey To not deplete the muscles To have enough energy to get home and make dinner Reward for training
Competitions (especially energy products)	Easy to carry Increased energy Increased performance Reward
Meal replacement (especially protein powder/shake)	Good durability Breakfast Between meals Weight loss Time saving Gives extra energy on active weekdays

“Between work and training” and “after training before dinner” were the most common usage situations reported. Respondents said they need energy before training to be able to exercise properly, and sports nutrition is both time saving, practical and supplies a lot of energy without making the stomach very full before training. Respondents said that at the gym there is a lot of focus on eating directly after training so that one does not deplete the muscles, thus making the whole exercise session futile. Eating right after training also gives them enough energy to get home and prepare a proper meal/dinner.

Seen in a gym context, easy accessibility is an important reason for using sports nutrition products. The products are on display in the spheres where the respondents do their training, making it easy to grab a bar or the like on the go.

Some of the female respondents said that deep down they are a little prejudice toward sports nutrition products, that they would prefer to eat food, fruit and nuts, also because sports nutrition does not taste very good. For them sports nutrition is simply functional; it is easy to use and gives them enough energy to last through the exercise. Other said that they do not need sports nutrition products to exercise, but by using these products they can heighten the demands they place on themselves and give a little extra.

Variation is another important point. “If I have already eaten five bananas that day, I feel like eating something else”. We should keep in mind that sports nutrition products are not necessarily used instead of ordinary food fit for exercise; bananas, fruit, nuts etc. but more as a supplement and variation.

Respondents claimed that using sports nutrition products when exercising makes them able to work out harder and perform better, they can put higher demands on their body, it gives them more energy, makes them more excited about training, the body feels more flexible and more rejuvenated after training. On the other hand, if they don't use sports nutrition products when training this can make them feel tired and negative.

### 3.9 Sports nutrition and food

All respondents agreed: Natural food is the best alternative. Throughout the discussion statements such as “one might as well have a crisp bread or a banana”, “ordinary Norwegian diet is all you need, it should be cooked from the bottom, not frozen or fabricated food”, “Litago [chocolate milk] is as good as the expensive protein powder and has the same effect” were uttered.

So why do respondents still use sports nutrition products when training? The answer seems to lie in an “ideals versus practice” dilemma.

Time, availability, practicality, variation and receiving a lot of energy from small amounts of food seem to be central reasons why the respondents' practice deviates from their ideals. "I do not have time to make tuna salad every day. I study full time and work 50 percent and do a lot of exercise...it is much easier to pull out that protein shake even though I know I should have eaten four eggs instead". It seems that many respondents use sports nutrition products as a necessary short cut, which makes them feel a bit guilty. In an ideal world they would rather eat healthy food. One of the respondents only consumed organic bars made from fruits and nuts. She did not get any bad conscience from this, because she viewed these products as "almost natural".

Food that is mentioned as beneficial in connection to training is especially; chocolate milk, lentil soup, crisp bread, banana, egg, tuna, canned mackerel, chocolate, fruits, nuts, oat porridge, grain and baby porridge. But in some situations, such as during strenuous exercise sessions and competitions, they felt that using sports nutrition serves a purpose, because sports nutrition products supply a lot of energy from small portions and helps them avoid stomach cramps.

It seems that the respondents had a much higher tolerance of more technologically developed and artificial products such as sports nutrition in the training context than during the rest of their day. This is probably connected to the "body as machine" thinking, when you put your body under maximum pressure, it is helpful to fuel it with energy rich food to reach your goal. The "body as machine" discourse in connection with physical activity is also found in the Norwegian hiking and skiing traditions. For example the respondents' parents used to give them chocolate and tell them "you need to refill your tank to have enough energy to keep going". Eating chocolate when hiking is expressed as something positive one does not need to feel guilty about. Eating chocolate lying on the coach is a different context which can make them feel guilty. As such the use of energy rich food as an incentive when exercising is not a new phenomenon.

Another interesting aspect is that sports nutrition products were perceived as both healthy and unhealthy at the same time. Because such products are placed in and associated with a healthy training context, they are viewed as healthy. On the other hand sports nutrition products are also viewed as unhealthy because the products are synthetically produced and many contain a lot of additives and sugar.

Below follows an extract from the food versus sports nutrition discussion which highlights some of the main points in the healthy/unhealthy debate:

A: Older respondent who seldom uses sports nutrition products

B: Younger weightlifter who uses sports nutrition products on a daily basis

A: “Before there used to be more focus on eating healthy and exercising right. I am sceptical of sports nutrition products; they are unnatural and contain a lot of additives”

B: “But now the training trend has changed, you are supposed to push even more when you exercise. When you exercise that much, it is impossible to consume enough healthy natural food to build up the body equally rapidly”

A: “I think its laziness, that you don’t care for eating properly and preparing food”

B: “But it is convenient”

A: “But what if there are side effects? Maybe it can be harmful!”

B: “I guess it has the same effect as a varied diet”

A: “I think these products are too concentrated to function in the same way as food”

B: “Protein can be compared to fish oil, it is easier to use than to boil fish and potatoes”

A: “But what if you eat too much?”

B: “No you cannot eat too much of it, that is the blessing of protein – the body disposes of the excess that it doesn’t need. It is not the same as with vitamin A for example, which can be harmful in too high doses. If you train a lot it is important not to let the body suffer. You need to give it both protein, creatine, fruit and vegetables. Because if the body becomes tired, you start using up your reserves, you need to be considerate with it. You get little effect from training if you train on an empty stomach”.

This discussion is interesting because two different viewpoints on sports nutrition products are pitted against each other. You have the sceptical voice, raising questions about possible side effects, and the young weightlifter who has been socialised in his weightlifting training environment and firmly believes that using sports nutrition products is a necessary part of fulfilling his training regime. The weight-lifter’s views are clearly constructed on the “body as machine” discourse; to make the body machine function optimally one needs to take care of it and fuel it with potent ingredients. He does not perceive sports nutrition consumption as unhealthy as long as he eats normal food in addition.

The discussion above also highlights the paradox that when sports nutrition is viewed in relation to doing exercise at the gym, it is viewed as healthy. But viewed in relation to ingredients and natural food, it is viewed as unhealthy.

### 3.10 Knowledge about ingredients

The respondents said they know the main ingredients in a sport nutrition product – such as protein or carbohydrates. But they usually do not know much about the other ingredients and additives in the product. This is partly based on the fact that they find it difficult to understand the list of ingredients on the pack, which consists of complicated names in Latin

and number codes, which makes it difficult to know what the ingredients really are. “I don’t know what they are and what they do in my body”. Respondents were insecure about what sports nutrition products really contain, but they were honest about the fact that they do not really worry too much about it. “I read on the back of the energy bars, but of course I don’t understand what the ingredients are. I read it, I open the pack, I eat it and I’m done”.

Even though they do not know what all the ingredients are, most of the respondents check the ingredient list. Many of the women make sure the products don’t contain aspartame, because there has been so much negative media focus on the claim that aspartame in light soft drinks can be even more harmful than sugar. They said they usually consume the sports nutrition products without knowing what all the ingredients are. This can make them a little sceptical and they report trying to limit their consumption of sports nutrition products somewhat. They were a bit frustrated with what they called the large amount of “intimidation propaganda” in the media. Their impression was that the public discourse on what is harmful and what is healthy constantly changes and different opinions proliferate, making it difficult to know what is true. Therefore they pick some piece of advice here and some there, and create their own philosophy on “what to consume when exercising”.

### *3.10.1 Perceived risks and side effects*

Generally the respondents saw few risks connected with sports nutrition products. They placed a large degree of trust in food authorities and believed that the products on the market were regulated and safe. Even though there are sometimes reports in the news about food containing ingredients that are not listed or are illegal, they had not connected these incidents to sports nutrition products. They believed that the reason why they see few risks connected with sports nutrition is that such products are marketed as healthy and distributed through the gym. Therefore sports nutrition usage is normalised and the products perceived as healthy. “I buy uncritically everything that is sold at the gym. Everything connected to the gym is supposed to be very healthy for you”.

However, the respondents were a bit sceptical of meal replacers. They felt that it is very unclear what these products really contain. Another risk they saw is the large amount of additives and preservatives in sports nutrition products. “It is not natural and we don’t know which effect using it has in the long run”.

One of the male respondents said that his mother, who is a nurse, had warned him that protein can be dangerous if one consume too much of it, since it binds water in the body and if you do not take care to drink enough water when you consume protein, this can cause kidney prob-

lems. The other male respondents dismissed this argument with the phrase “I know my protein”.

According to the respondents the products that had produced unwanted side effects were; energy gel, energy drinks and protein powder. Users of energy gel had experienced diarrhoea and stomach pains. “One cannot consume energy gel at the beginning of a race, one has to take it in the middle of the race so that you will get over the goal line and can run quickly to the toilet. Come to think of it must be very unnatural for the body to get such a strong energy kick as one does from the energy gel”.

A few respondents had also experienced stomach pains from energy drinks. Respondents believed it was the high level of sugar in these energy products that could produce an uneasy stomach. Energy drinks were also believed to harm your teeth.

Some respondents had also experienced uneasy stomachs from protein powder. However they claimed that this was only due to the fact that their bodies needed to get used to the new substance and that this reaction was part of the process of finding out which products and serving amounts fit their body. Hence they did not necessarily stop using protein powder because of the experienced side effects.

### 3.11 Information sources

The most commonly used sources of information were:

- Internet training discussion forums such as iform.no and Trim.no
- Staff at gyms
- Friends
- People at the gym
- Commercials and ads
- Sports magazines

Internet discussion forums seem to be the most popular information channel. These pages contain tips and recommendations from other users and producers on ingredients, how to build muscles, how to use sports nutrition products, how to lose weight, how to reach your training goals, different kinds of sports nutrition and so forth. Respondents said that it is mostly men who discuss and post information, but that many women read these pages.

They said that there is a lot of information on the Internet, but that it can be problematic because the information is spread mainly via commercial interests or other users. This can make it difficult to know what is objectively true, and they felt that they had to read several different information sources concerning the same product or theme to be able to get a somewhat nuanced picture. This could make the information seeking

process time and energy consuming and they expressed a need for more objective information from the health authorities available on Internet discussion forums.

Especially female respondents missed information on right dosage in relation to how much one exercises and body weight. Some of them felt insecure on this point and they would like to receive this information on pack designs or in brochures placed next to the sport nutrition shelves in stores and gyms. Male respondents said they miss information about documented effects.

The respondents also missed a clear and simple overview of common ingredients in sports nutrition products. They would have liked to be given a short description of these ingredients, explained in a simple language so that they would understand what they really are. Even though they found the producers responsible for following the rules, they saw a need for central coordination, a standardisation of ingredient names. The way it is today, producers use different names for the same ingredients, which make it very confusing and difficult to compare products. They asked the Norwegian Food Safety Authority to offer a web page that gives a clear overview of common ingredients in sports nutrition products, and place a link to this page on the popular Internet training discussion pages such as Trim.no and iform.no.

### 3.12 Purchase behaviour

The amount of money the respondents spent on sports nutrition products per month varied from 50–1 200 NOK. Those who primarily used energy products spent around 100–200 NOK a month, but those who consumed protein powder regularly spent around 700–1000 NOK a month. More male respondents used protein powder regularly, so that the average expenditure in the male groups was somewhat higher.

Many of the male respondents report consuming a protein box costing 700 NOK a month.

- Commonly used purchase channels were:
- Health food stores
- Grocery stores
- The gym
- Internet
- Sports stores
- Shopping at the Swedish border

Most important purchase criteria were:

- Availability
- Main ingredients (proteins or carbohydrates?)
- Price
- Approved substance
- Taste

With regard to purchase behaviour there was a discernible difference between respondents who primarily used protein powder and those who primarily used other types of sports nutrition products. For those who used protein powder, their sports nutrition usage was part of a more planned exercise regime, hence it became more natural to plan the purchase of products. Also these products are more expensive and come in larger sizes, making it more necessary to plan purchases. The respondents who primarily used gels, bars, drinks etc. were more likely to purchase the products on impulse. Hence more women bought sports nutrition sporadically than the protein using men.

It was more common among the male respondent to shop online. It was most common to buy sports nutrition products from well established Norwegian brands such as Proteinfabrikken.no, because they did not trust foreign distributors and web pages to the same extent. A usual practice was to team up with some training friends and buy together to get a discount.

Perceived advantages of Internet shopping was

- Easy to pick up at mail office
- You can buy whenever it suits you
- Cheaper than in stores
- Trust the Internet store as long as they are well known brands and Norwegian market actors

### 3.13 Regulation of the market

In general the respondents had a lot of trust in Norwegian health authorities; they trusted that the state ensures that there are no really harmful products on the Norwegian market. “I don’t think we have dangerous sports nutrition products in Norway, there is such a strict alimentary regulation”, “It is safer in Norway than any other country”, “Norway is very strict with regulating food. There are so many products that you can find in other countries that are not allowed in Norway because we have stricter laws”.

The respondents felt that the health authorities have a responsibility for keeping harmful products off the market, and they by and large believed that the authorities regulate all sports nutrition products on the

market. They generally had a large degree of trust, not only in health authorities but also in the gyms. “I believe that Norwegian authorities regulate what is dangerous for me. I think the same about the gym”.

But they saw a problem connected to regulating sales via the Internet. “There are no limits on the Internet and some products are blocked in customs, but not all. I know people who have ordered sports nutrition products online that are legal in other European countries but not Norway”. They also made the point that market actors, too, are responsible for following regulations. “Importers and producers have a big responsibility – but some only care about making money, that is why I trust the big brands more, the established ones”.

When asked if the health authorities should have even stricter regulations, respondents answer “no” on the basis that every consumer has to take responsibility for his or her own consumption. They drew a parallel to candy, where you also need to regulate yourself. “You have to know your body and feel how much sports nutrition you can consume. And if you should consume too much, it is never as dangerous as for example steroids”. Respondents saw sports nutrition products as a kind of food. Therefore each individual should be responsible for regulating their sports nutrition consumption in the same manner as they should regulate their food intake.

Many respondents claimed that clear information is the key to regulating the market. They missed clear and objective information on; possible side effects from use, ingredients, dosage in relation to body weight and exercise levels, information on the relation between sugar and aspartame and common additives in sports nutrition products. They recommended that the health authorities place recommendations on training and sports nutrition products on the popular Internet discussion forums such as *iform.no* and *Trim.no*.

### 3.14 Perceived boundary between sports nutrition and medicine and between sports nutrition and doping

The boundary between sports nutrition and medicine was not viewed as very problematic. The respondents claimed that there is a clear line; there are different and stricter rules for medicines, which have to be tested for several years to be approved. In addition sports nutrition products do not have healing properties, and medicine does not usually give increased performance. Hence most respondents perceived medicine and sports nutrition as two separate worlds. However there were a couple of critical voices who commented that some products sold in health food stores become illegal, or they find out that they are effective and make them into medicines.

At first sight the respondents saw the boundary between sports nutrition and doping as very clear – doping is illegal, sports nutrition is legal. However after a short reflection the respondents viewed this legal/illegal boundary as somewhat more problematic. They commented that in reality there is a more fluid boundary between legal and non-legal substances. Health authorities are continually doing research and updating the doping list. Products that did not use to be illegal are suddenly placed on the doping list – such as caffeine tablets. So perhaps something that has been discussed in the focus groups as legal can end up as an illegal substance next year. Athletes who are caught doping commonly say that they thought it was a sports nutrition product. It can also be the dosage that makes something illegal, not the substance itself (for example caffeine).

However they saw a clear line between steroids and sports nutrition products, steroids are hormones and dangerous. The respondents became very engaged when they discussed doping; they interrupted each other and talked loudly. They all had very negative attitudes toward doping; “it affects people’s hormones and they become aggressive from it. You need proteins, you don’t need steroids.”

But not all products on the doping list were perceived as equally clear cut. In the “Doping handbook” there are many substances that are not in fact steroids, but come from ephedrine, for example nose spray and asthma medicine. Also painkilling liniment that is absorbed in the body can be reflected in a test. According to one of the respondents only the brands Maxim and Multipower are approved by the Elite Sports Centre (Toppidrettssenteret)<sup>9</sup> in Oslo. “I stick to these brands. Because I train at the Elite Sports Centre, we are doping tested regularly.” It is of course more important for professional bodybuilders than ordinary people who exercise to know which products are on the doping list.

The weightlifter said that doping is sold at some gyms, usually to people at a somewhat lower level who want to build muscles quickly without exercising a lot. He viewed drugs as a short cut. “A lot of the drug trade is lead by builders who buy abroad and sell to amateurs at their gym. This finances their own use. Many of these are extremely built and do not have a job, they live only from selling drugs”.

### 3.15 Summary

In respondents’ view it has become more common to use sports nutrition, also for women who exercise and people who do not train a lot. They believed this trend is connected to the increased focus on beauty and health in Norwegian society. The use of sports nutrition seems to be es-

---

<sup>9</sup>The Elite Sports Centre is a gym for professional athletes run by the Norwegian Olympic and Paralympic Committee and Confederation of Sports (NIF).

pecially connected to the gym environment, which has promoted and normalised the use of such products. Protein products have become more popular lately, also among women. However it is more accepted and common to consume protein bars than protein powder among the female respondents. Most of the male respondents used protein powder. Especially the female respondents reported trying to avoid carbohydrates, which they believe can make them gain weight.

Exercising was a big part of the respondents' lives, on average they trained three to five times a week. They exercised both to get a general feeling of well-being, but also to preclude poor health and get a toned and good looking body. The female body ideal was represented as a slim woman with a toned and curved body. Female respondents underlined that it is important for women not to build too big muscles. The male body ideal was connected to being athletic and muscular without being fat.

Respondents gave several reasons for using sports nutrition products. It was used as an aid to do exercise in a busy week; on the way from work to the gym or right after training. Respondents were careful to eat right after training so that the body did not start to deplete the muscles. It was also common to use sports nutrition during competitions.

However, the respondents agreed that natural healthy food is the best. On this point we can observe a discrepancy between the respondents' ideals and practice. In practice they use sports nutrition because of a busy schedule, lack of time, availability, practicality and variation. It is important to note that sports nutrition products are used as a supplement to other food, and not as a pure replacement. The respondents seem to have a higher tolerance for artificial foodstuffs in training situations than in other contexts. Because sports nutrition is firmly associated with gyms and training, it is perceived as rather healthy even though the respondents know many of these products contain a lot of additives and preservatives.

The respondents knew the main ingredient in a product, but they did not have insight into all the other ingredients in these products. They missed more clear information about the ingredients that are commonly used in sports nutrition products. A problem is that producers use different names for the same ingredients, which makes it difficult to get an overview and compare ingredients in different products.

Generally respondents saw few risks connected to sports nutrition products. They placed a large degree of trust in the health authorities and believed that the products on the market are regulated and safe. They also felt that they have a responsibility to know their own body and regulate their own intake of sports nutrition, in the same manner as they do with other types of food.

The most common information channels were friends at the gym and Internet training discussion forums such as *iform.no* and *Trim.no*. One problem connected to online discussion forums was that the information found here is usually posted by individual users and market actors, which

makes it difficult to know if the information is objective and correct. They asked that objective information and research results from health authorities are made available on these internet forums.

Purchase behaviour was by and large connected to the type of sports nutrition products consumers used. Use of protein powder/shakes seems to be part of a more regular training regime which requires more planned purchases. Energy sports nutrition products were more often bought on impulse and more sporadically. Many of the male respondents bought protein powder via the Internet, especially through Proteinfabrikken.no. They had most trust in the established brands that are sold via Norwegian online retailers.

The boundary between sports nutrition and medicine was seen as clearer than the boundary between sports nutrition and doping, which was perceived as more fluid. They commented that because of continual research and updates of the doping list, some products that used to be legal could appear on the doping list next year, such as caffeine tablets.

# 4. Findings from the ethnographic field study

## 4.1 Introduction

This chapter deals with on-site experiences with sports nutrition and its users experienced through ethnographic fieldwork. Our data consist of conversations as well as observations from visits at the two different field sites. The experiences with sports nutrition products denote both the physical encounters made on-site, and the experiences of the individual users of sports nutrition. Thus, this chapter reveals both the observational and personal experiences of the fieldworker, the individual users and the market of sports nutrition products at the two arenas.

## 4.2 The sites

As mentioned earlier the fieldwork was conducted at a gym, ELIXIA, and a sporting event, Bislett 24 & 12 hour indoor challenge. These visits at two different sites with two different vantage points generated varied information concerning the direct experiences with sports nutrition products. Whereas gyms produce everyday experiences with sports nutrition products, sporting events provide more specialized experiences by serious athletes.

### 4.2.1 *Elixia*

We chose the gym ELIXIA due to its representation in other Nordic countries and its fairly large size. ELIXIA is one of the two biggest gym chains in Norway with 30 gyms and a turnover of 366 millions NOK in 2007. The gym we visited offered both endurance and strength building exercises, which we have seen are important types of training where sports nutrition products are used. The ELIXIA we visited sold products in different forms; sports water, shakes, protein drinks, energy drinks, protein bars and energy bars. At the gym we spoke with several members of the staff (personal trainers, instructors, receptionists and sellers of drinks and foodstuffs) and observed the physical surroundings as well as some purchases of sports nutrition products.

#### *4.2.2 Bislett 24 & 12 hour indoor challenge*

The sports event we took part in, Bislett 24 & 12 hour indoor challenge, is an event where the competitors<sup>10</sup> run continuously for 12 or 24 hours. The winners (male and female categories) were the competitors who had run the longest distance at the end of 12 or 24 hours. This implied having to eat and drink before, during and after the race in order to maintain energy to complete the race. The contestants each had their own table lined up with their own food and sports nutrition products to eat and drink before, during and after the race. In addition they were provided for by the organisers of the event, who supplied them with different types of food (for example two hot meals during the 24 hour run) and sports nutrition products (for example energy drinks) along the way. The opportunity to study and observe the competitors' different focus on foodstuffs was an important reason why this event was chosen as a field of study. In addition, the small event included contestants from various parts of the world, which made it possible to observe the differences and similarities in food practices between competitors from different countries.

### 4.3 The experiences

This part, concerned with the experiences of sports nutrition and its users, will treat how sports nutrition products are presented at both sites and assess its availability for consumers. Through various on-site conversations it will further reveal how sellers/promoters and individual users talk about sports nutrition products and assess its role in the practice of sports. It will also discuss how food and sports nutrition products are related to one another.

#### *4.3.1 "Meeting" sports nutrition products*

At the entrance of ELIXIA we were met by posters of people in motion drinking water from a bottle. Although there were no direct advertisements for sports nutrition at the gym, the focus on sports nutrition products was evident in its physical appearance. The in-store placement of the sports nutrition products was highly visible and drew our immediate attention once we entered ELIXIA.

The gym offered products other than sports nutrition, such as fresh food, bananas, water and soda water, but the sports nutrition products were most visible and dominated the shopping area behind the counter and information desk. They were all placed in eye height, easy to view from the counter. Sports nutrition was therefore easily within reach and

---

<sup>10</sup> 120 contestants participated in the competition.

highly visible as described in the marked analysis, report no. 1. This undeniable focus on sports nutrition therefore seemed to place sports nutrition products in a unique position over the food offered at the gym.

Sports nutrition did not only attract attention through the gym's placement of the products, but were also given a central position through verbal recommendations given by staff members. From our focus groups we learned that several of the participants had been encouraged to purchase sports nutrition products by instructors and other staff members at gyms. Some even claimed that these encouragements were their motivation for using sports nutrition. This could take place at the end of an aerobics class where the instructor would recommend the class to "go buy a sports bar" in order to restore the body after a work out session.

The encounter with sports nutrition at the gym seems to be a direct meeting with the products for sale both through product placement and verbal communication, and not with advertisements or branding of products, as was the case at the sports event. When we first arrived at the sport event Bislett 24 & 12 hour indoor challenge, which took place indoors under the terraces of Bislett stadium, we were struck by Maxim's sports nutrition brand name, which appeared everywhere; huge posters along the racing track, on the walls, on the contestants bib-numbers etc. Once we continued further in and looked around we observed several contestants eating bars, drinking shakes and sports water, all with the brand name Maxim firmly placed on the packaging as well as on the contestants' chests. As such, sports nutrition products seemed to be "everywhere".

It was not the products, or at least not the sale of them, but the brand name that was in focus at the initial meeting with sports nutrition at the sports event. There were no stands that provided samples of products and no sales of sports nutrition products occurred. What we found was several long tables dedicated to the contestants' private food, drinks and sports nutrition products. These tables were filled with sports nutrition products and different types of food and drinks. In addition a table was set up by the organizers with drinks and food available for the contestants.

Even though there were no stands providing samples for the general public, the contestants were given a gift bag with energy gels and different sports bars from the main sponsor Maxim. As seen in the picture below many of these products dominated the individual tables. The focus on sports nutrition was visible through the fact that the main sponsor of the event was a sports nutrition brand. Sports nutrition products in general also seemed to be located at every table of the individual contestants and were something that everybody drank or ate before and during the race. In addition, huge piles of sports water set aside for the contestants was located along the racing track, adding to the impression that sports nutrition products were "everywhere".

**Figure 4–1: Picture of individual tables at the sport event Bislett 24 & 12 hour indoor challenge.**



The meeting with sports nutrition illustrated here was experienced through the form of a highly visual sponsorship, product placement and verbal recommendations. It denotes some of the ways in which consumers encounter sports nutrition products. One does not have to be a field-worker in order to notice the importance that is placed on sports nutrition products at these sites, but how available are these products to the different consumers? The next part will deal with this question.

#### *4.3.2 Availability*

As seen in the above section, sports nutrition products were highly visible at the gym. Products were placed within easy access in a shopping area at the entrance placed behind the gym's reception desk. Sports water and other liquid sports nutrition products were placed in a refrigerated counter right next to the soda, and although it seemed as if they to a certain extent tried to separate the liquid sports nutrition products from the water and soda, they were just as easily visible and accessible. Energy and protein bars were placed on shelves next to the fridge, together with chocolates and “necessity” products such as towels and yoga mats.

This mixing of products, from Coca-Cola light to protein shakes and yoga mats to energy bars, gives broader access to the general consumer than if the products were separated as a group on its own away from the other products. Normalising sports nutrition and placing it with other “necessity” products could be seen as providing the sports nutritional products with a broader availability. The products were just as easy to access for the member as the non-member, although there were no commercials outside or in windows advertising their supply of sports nutrition products.

At the sports event, the contestants each had their own table with food and sports nutrition products to eat and drink during the race. In addition they were provided for by the organisers of the event, who supplied them with different types of food and sports nutrition products along the way. For the general public, i.e. the spectators, however, there was no access to sports nutrition products. The event had no stands where samples of sports nutrition were handed out and no sports nutrition products were sold. The contestants, on the other hand, were given a bag of sports nutrition products containing energy gels and different types of bars from the event's main sponsor; Maxim. They were also provided with sports water during the event at joint "supply" stations.

As seen in this part, the access to sports nutrition products varies at the two sites. Whereas in the gym there is easy access to sports nutrition products for both members and non-members, the sports event provided effortless, nearly unlimited access to the competitors, while no products were available for spectators.

#### *4.3.3 Talking about sports nutrition products*

Whereas the two previous sections have dealt with the observable parts of the fieldwork this section will treat the verbal data; namely the conversations with staff at the gym and consumers of sports nutrition products at the sporting event. In the next two sections we will examine how people talk about sports nutrition and what importance it has for the individuals involved.

Selling rapid food on-the-go such as yogurts, salads, bananas and different forms of sports nutrition was important for the gym staff in order to provide their members with a certain level of service. Talking about sports nutrition products as a form of service relates to an explicit concern from the staff that the members consume some form of nutrition within 30 minutes after the exercise. Personal trainers, instructors and other members of the staff promoted sports nutrition products as a particularly "fast fix" which could provide their members with rich concentrated nutrition on-the-go in a handy size. Placing sports nutrition amongst "necessity" products, as seen above, seems to uphold the image of sports nutrition as a service to customers.

The importance of sports nutrition products, according to the staff at the gym, was that the body is in need of quick carbohydrates and protein after exercise and that sports nutrition provides this in a concentrated form. It could also provide quick energy, and products that contain larger amounts of carbohydrates, the staff explained, would be effective for men who wish to gain weight. Even though they offered food that was ready made, the staff often recommended sports nutrition in one form or another, and accordingly that was what people preferred. Seeing and talking about sports nutrition products as a form of service to custom-

ers/members thus meant that the gym could provide their customers/members with seemingly important nutrients on their way from one place to another.

However, there were some discrepancies in the language about how healthy and good these sports nutrition products were. Especially bars and energy drinks were considered to contain too much sugar to be as effective to consume as chocolate. Some of the staff members themselves deliberately kept away from certain products, even though they spoke highly of these products to customers. One of them proclaimed that he neither used, nor recommended sports nutrition products to customers. He argued that food and sports nutrition would give the same effect depending on the exercise and energy level, but that food was healthier due to the high sugar and carbohydrate level in sports nutrition products.

During a conversation with two of the staff members, they got into a lively discussion concerning what to recommend to customers and on the basis of what. One of the female members of the staff explained how she recommended a carbohydrate reduced drink for her customers after training. A male staff member interrupted her to discuss the level of carbohydrates necessary, and argued that men who wish to gain weight would prefer more carbohydrates after training. During their discussion they agreed that what they recommended depended on who they spoke with, and the type, intensity and goal of their training.

The way that the staff members talked about sports nutrition products as a service to their members and explained how they recommended products by its ingredients and their effects on the body resembles what we found during our conversations with the contestants at the sports event. Sports nutrition and its presumed role in the practice of sports are thus the theme for the next section.

#### 4.3.4 Sports nutrition products and their role in the enactment of sports

As the organisers of the sports event provided the contestants with sports nutrition products in the form of hand outs prior to and during the competition, it could be seen as providing their customers with an important service, not unlike what we found in the gym. The contestants at Bislett 24 & 12 hour indoor challenge were concerned with eating and drinking before, during and after the competition. Here, as at the gym, not only food, but sports nutrition products were important.

Those we spoke with told us that it was important to “fill up”<sup>11</sup> in the period prior to the competition, in order for the body to cope with the

---

<sup>11</sup> A frequent used term is “to carboload” which refers to the testers deliberate storage of carbohydrates in the body prior to the competition.

strain of a 12 or 24 hour run. This mainly consisted of different types of carbohydrate rich food, but also different types of sports nutrition products that were meant to increase the body size. Right before the competition began, we observed several contestants consuming bars and drinking shakes and sports drinks. All in all eating and drinking seemed an important part of preparing the body for the competition.

The contestants explained that during the race maintaining a certain level of energy required a continual consumption of nutrition in the form of food and sports nutrition products. Tables filled with all sorts of food, drinks and sports nutrition products belonging to each contestant witnessed the massive weight that was put on maintaining that energy level. Discussing the contents of the tables with some of the contestants revealed the ways they saw sports nutrition products as exceptional both in form and function.

The contestants regarded sports nutrition products as unique in terms of gaining access to fast carbohydrates and fast energy. According to the contestants preparing food for themselves that contained all the “right” ingredients in exact measurements at such a concentrated level was a hassle. The exact dosage offered in small packages such as in packs of sports nutrition made it easier for them to plan for the right consumption during the race. It also enabled them to grab the small packages and eat during the competition. In addition it provided them with the possibility to choose between different flavours all the while maintaining the same nutritional value. For example shakes and bars in different flavours prevented them from getting bored and nauseous from the same taste.

It was in particular one of the products for which the contestants saw no substitutes, and that was energy gel. The gel’s ability to provide a high amount of energy quickly made it irreplaceable and an important product for the practice of sports. Consuming a small package of gel during a race, the contestants believed, would increase their performance substantially. One of the contestants explained that the gel was very effective, maybe too effective as it gave an enormous boost very quickly. Taken without particular knowledge of its effects could be disastrous. This is consistent with statements from a couple of the female participants in the focus group, who explained that it could cause an unwanted side effect of instant stomach ache which, during competitions, would be considered catastrophic. Another of the females claimed that it gave a too rapid energy effect and almost compared the effects of energy gel to intoxication.

In the conversations about sports nutrition products, the contestants and the staff members at the gym drew constant parallels to food. Saying that nothing can compete with energy gel and that sports nutrition products are unique due to their concentrated form, nutritional value and portioned packaging was often followed by statements claiming that ordinary food could not provide the same thing. The concentrated form and nutritional value of sports nutrition products were often linked to increased

achievements related to sports, and considered a necessity in providing the right nutrition at the right time.

There was little doubt among the contestants we spoke to at the sports event about the effect of sports nutrition products for their performance. However, including sports nutrition did not seem to exclude regular food. In the following we shall discuss the findings by placing sports nutrition products and food up against each other, from the point of view of the informants.

#### *4.3.5 The relation between food and sports nutrition products*

A relevant issue in the conversations about sports nutrition is the constant comparison between regular food and sports nutrition products. Even though the fieldworker brought the theme up for discussion, the contestants, whether intentionally or not, constantly drew a parallel between food and sports nutrition products. This was also true for the conversations with the staff at the gym. In conclusion we will deal with this relationship as we found it both through conversations and observations in the field.

As we saw in the gym, food such as yoghurts, fruits and salads provided as convenience foods in the gym were neither given the same visual space nor the same attention as sports nutrition products. This could imply a lower priority of regular foods at the gym. It could also imply that sports nutrition products in general are more popular among customers at the gyms than regular foods, or that the gym chain simply wants to sell more sports nutrition and therefore makes sure it is given more attention.

Even so, the staff at the gyms also gave food a prominent place in what they consider to be a healthy sports diet. For example, a personal trainer claimed that yoghurt and a banana would give a healthier and more efficient training than eating bars and drinking energy drinks. The staff further stressed that the one should not replace the other. For example, a staff member recommended the combination of a fitness shake and a banana rather than a shake and a bar. According to him, this would provide quick carbohydrates and healthy fruit sugar instead of slow carbohydrates and artificial sugar.

The combination of real food with sports nutrition products was also evident in what we observed and discussed with contestants during the sports event. Prior to the competition the contestants were given a bag of sports nutritional products from their main sponsor Maxim, and the sports drink Powerade was handed out during the competition. The individual tables of food also to a large degree consisted of sports nutrition products and we observed people eating and drinking sports nutrition products right before the run. Together with the huge branding of Maxim this implies an explicit focus on sports nutrition products. Still, the contestants and the organisers combined sports nutrition products with regular food both prior to and during the competition.



pastries, biscuits etc. In observing the contents of the tables more closely, we found that there were differences in the sports nutrition products and food between the competitors from different countries.

We did a quick comparison of three tables of different nationalities; English, Danish and Norwegian. We found that the English and Danish contestants had lined up more snacks, sodas, white bread and “pure” food types such as ham, than the Norwegian. The Norwegian table on the other hand consisted of various types and forms of sports nutrition such as sports

drinks, energy and protein bars, energy gels, in addition to nuts, chocolate milk, water and chocolate covered meringue bun (see picture for more specifics). Whereas most of the foreign contestants had sodas such as Pepsi or Coke at their tables, the Norwegian contestants had water, sports drinks and in general much more sports nutrition products than any of the other nations represented.

This goes to show the different uses of food in competitions and the role of sports nutrition products in these countries. It is important to keep in mind that this special event represented all kinds of combinations of food and sports nutrition products and as such holds a unique position that is not representative of all sports. The participants in this contest also hold a unique knowledge of the combinations of food and sports nutrition in relation to sports, and although their selection might seem random it is definitely planned and put in a specific order before the competition.

#### 4.4 Summary

This chapter has dealt with the material found on site through ethnographic fieldwork. Despite gaining data from two distinct locations for our fieldwork, the material denotes much of the same: Sports nutrition appeared to be highly visible at both places through products and branding, there was easy access to products for contestants and members, and they were considered by staff and contestants to be a necessity in training as well as in competitions. Our conversations in the field further revealed the role of sports nutrition products in the practice of sports. It acts as a competitor to food when it comes ready-made, in small packages and in a highly concentrated form.

The advantage of sports nutrition products seems to be linked to an idea of sports nutrition as a quick fix to maximize performances. Food and the making of nutritious food, on the other hand, require time, effort and knowledge. Its advantage lies in those situations where time is a scarcity; running from work to training and back home when a quick nutritious snack is needed. As we have seen at the gym, their focus on consuming some sort of food within 30 minutes after training and further recommendations to go grab a bar or drink adds to the advantage of

sports nutrition. When encouraged to do so it might be considered easier to purchase a bar in a hurry between stops than to prepare and bring food from home.

The same applies to the context of competitions, where sports nutrition products provide the most concentrated forms of nutrition and show great effects in a relatively short time. As seen in competitions, the sponsoring and free provision also favours sports nutrition products over food. Even so, it seems that food still holds a relatively strong position in a healthy sports diet and that the possibility to combine the one with the other upholds a strong complementarity between them.



## Part II: Quantitative results



# 5. Results from a Nordic consumer survey

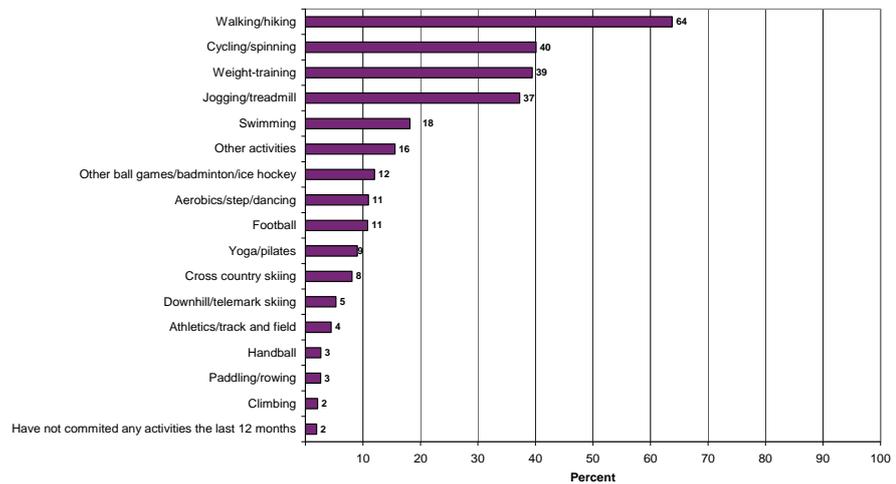
## 5.1 The relations between exercise and sports nutrition products

This section discusses how exercise affects the consumption of sports nutrition products by presenting an overview of the exercise habits of users and non-users and then by analyzing how users of sports nutrition products choose to keep fit.

### 5.1.1 Exercise – an overview

This section presents a short overview of what activities the total sample (both users and non-users of sports nutrition products) has engaged in over the last 12 months, according to gender, age and country.

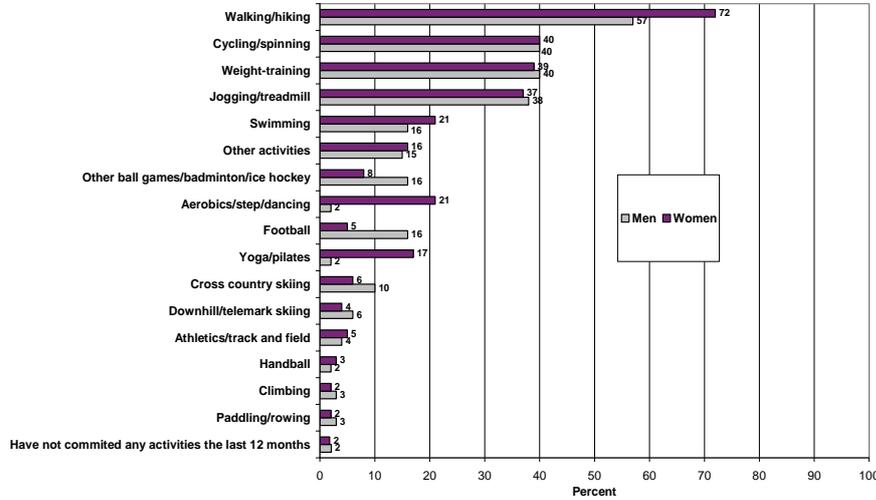
**Figure 5–1: Activities the respondents have engaged in over the last 12 months. Percent.**



N=3 003. (Possible to select more than one answer.)

64 percent of the sample walk or go hiking, while around 40 percent ride their bicycles/go spinning and 39 percent do weight-lifting. Almost two out of five either run indoors or outdoors (37%). 16 percent have engaged in other activities; it is conceivable that this includes combat sports, motor sports or animal training of various kinds. Two percent of the sample has not engaged in any activities the last 12 months.

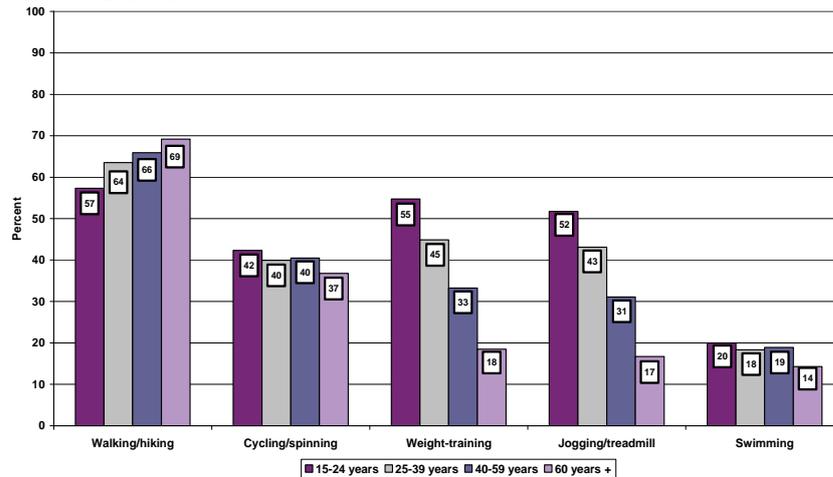
Figure 5-2: Activities the respondents have engaged in over the last 12 months by gender.



N=3 003 (1 405 women, 1 598 men). (Possible to select more than one answer.)

Men and women engage in similar activities, with a few exceptions. Two activity categories show large differences between men and women. More women (72%) walk/hike compared to men (57%), while more men play football (16%) compared to women (5%). Also fewer men do aerobics/step/dancing and yoga/pilates compared to women. On the other hand, fewer women are involved in other ballgames/badminton/ice hockey and cross country skiing than men. About the same share of the sample cycle/go spinning, do weight-training and run (about 40% for men and women in all three activity categories).

Figure 5-3: The five most frequent activities the respondents have engaged in over the last 12 months.

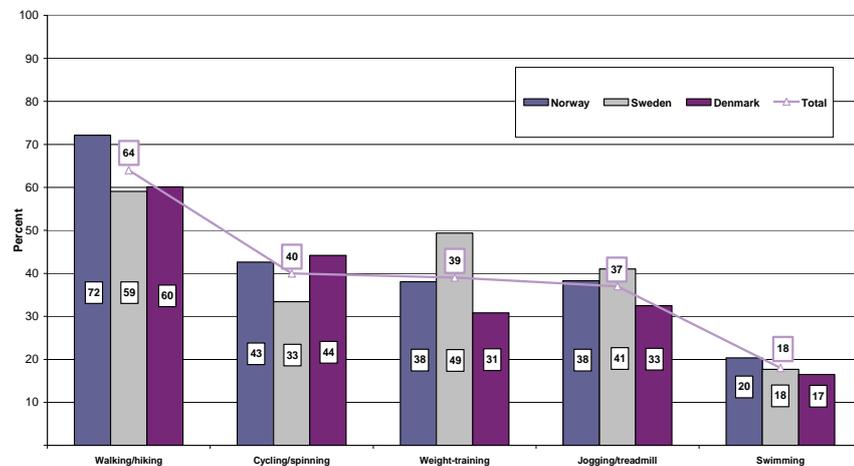


N=3 003.<sup>13</sup> (Possible to select more than one answer.)

<sup>13</sup> N=15-24 years: 661, 25-39 years: 1 009, 40-59 years: 830, 60+ years: 503. Due to the fact that the respondents may engage in several activities the percentages do not sum up to 100.

Figure 5–3 indicates that most activities vary between age groups, with cycling/spinning as the exception where about 40 percent of all age groups are involved. Walking/hiking is the activity that most people engage in, regardless of age. However, fewer people over 60 are involved in all activities compared to the other age groups. Fewer older people are engaged in the five listed activities and the share declines with increasing age. Six percent of the respondents over 60 years have not engaged in any activities the last 12 months, compared to around one percent in the other age groups.

**Figure 5–4: The five most frequent activities the respondents have engaged in over the last 12 months. Percentage of total number of answers**



N=Denmark: 1 000, Sweden: 1 002, Norway: 1 001.

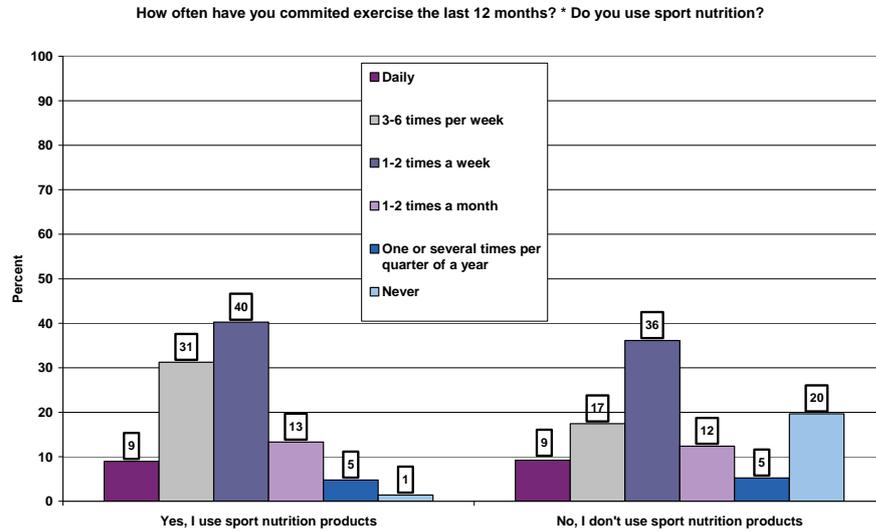
In general, Norwegians, Swedes and Danes have similar activity habits. Fewer Swedes and Danes walk/hike than Norwegians, more Danes and Norwegians bicycle than Swedes, and more Swedes do weight-training and run compared to inhabitants in the two other countries.

#### Sports nutrition products and physical exercise

The name sports nutrition products suggests that it is reasonable to assume that people who use sports nutrition products are engaged in sports activities. Weight-training is an activity that has traditionally been connected to consumption of sports nutrition products, but today manufacturers market their products towards a larger market.<sup>14</sup> This section analyses the relations between exercise and the use of sports nutrition products. Is it still the weight-lifters who use sports nutrition products most often, or do other people with other interests also buy the products? The section also focuses on the specific products that different people use for a variety of activities.

<sup>14</sup> See Schjøll et al. (2009).

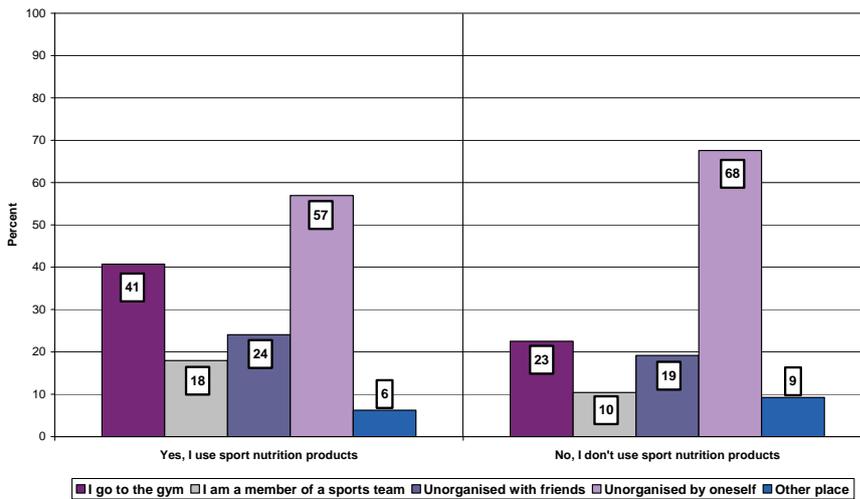
**Figure 5–5: Frequency of physical exercise the respondents have engaged in over the last 12 months. Percentages by usage and non-usage of sports nutrition products.**



N=2 971.

Figure 5–5 indicates that 40 percent of the respondents who use sports nutrition products exercise daily or 3–6 times a week, compared to 26 percent of those who do not use these products. The largest difference between the two groups is seen in the “never” category. One in five who do not use sports nutrition products have never exercised the last 12 months, compared to one percent of those who use these products. We can therefore say that there seems to be a relation between exercise frequency and the use of sports nutrition products.

**Figure 5–6: Organisation of activities. Percentage of total number of answers.**

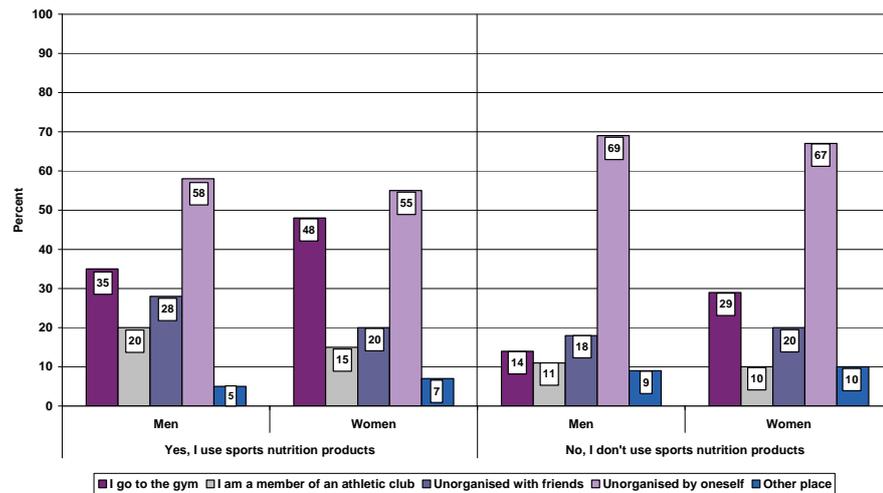


N=3 003.

Figure 5–6 shows that the use of sports nutrition products varies with the setting in which people exercise. More of the people who use sports nutrition products go the gym (41%), are members of a sports team (18%) or exercise with friends (24%) compared to those who do not use these products. Both users and non-users organise their activities mainly by themselves, but a higher share of those who do not use sports nutrition products choose to exercise by themselves.

When comparing how people in different age groups choose to organise their activities, a larger share of those over 60 years choose to exercise unorganised by themselves compared to the younger age groups.<sup>15</sup> More people in the younger age groups are members of a sports team or go to the gym compared to the oldest age group. This is the case when we look at all respondents, both users and non-users. Figure 5–7 brings forth the relationship between location of exercise, use of sports nutrition products and gender.

**Figure 5–7: Organisation of exercise after use of sports nutrition products and gender. Percentages by organisation of exercise.**

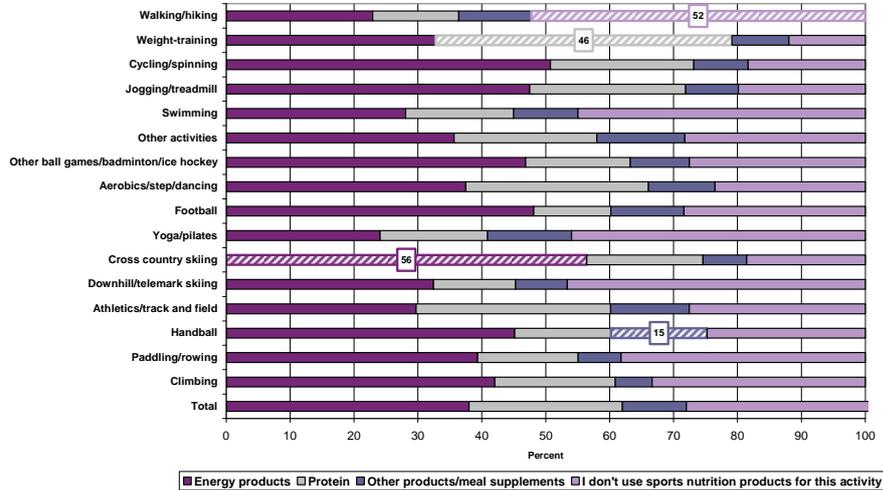


N=2 945.

We see differences between users and non-users, men and women, when it comes to how they choose to organise their activities. 48 percent of the women who use sports nutrition products go to the gym compared to 35 percent of men. The most preferred form of exercise is to do it by oneself, no matter if one uses sports nutrition products or not. Still, more of the respondents who do not use sports nutrition products choose to go to the gym compared to those who do not use these products.

<sup>15</sup> 47 percent of those aged 15–24 years exercise by themselves, while 65 percent of those over 60 years do the same. Among the age group between 15–24 years, 44 percent go to the gym, while the share of those 60 years and older is 24 percent. 26 percent of the age group between 15–24 years are members of a sports team, compared to 12 percent of those over 60.

**Figure 5–8: Types of sports nutrition products used by type of exercise. Percentages within exercise type.**



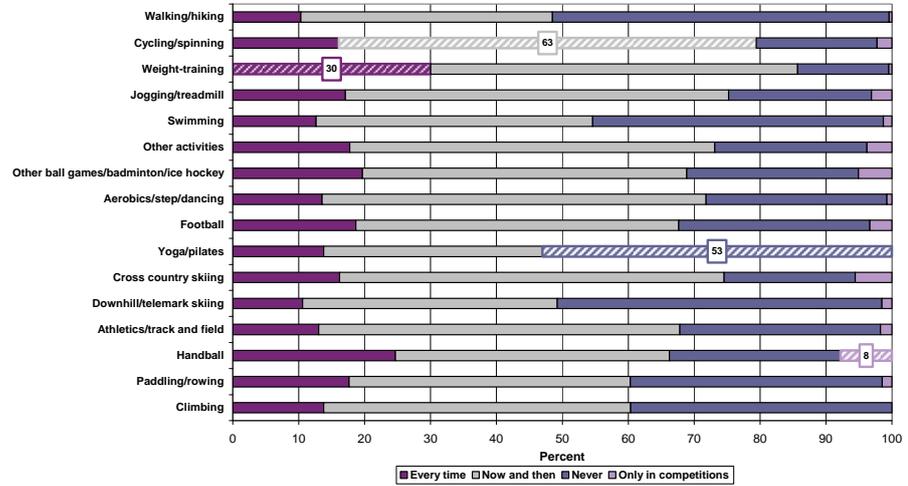
N = 2 357.

Figure 5–8 shows consumption of different kinds of sports nutrition products that are used when carrying out different activities given that the athlete do use some sort of sports nutrition products. A total of 38 percent use energy products, 24 percent use protein products, ten percent use other products<sup>16</sup>/meal supplements, and 29 percent do not use sports nutrition products for their respective activities.

We see a clear tendency that some activities have a higher consumption of certain sports nutrition products. The four hatched areas are the ones with the highest frequency within each product category. The highest frequency of users of energy products is found among the cross country skiers (56%), bikers (51%) and footballers (48%). When it comes to protein products; the weight-trainers have the largest share (46%), but also those who do track and field (30%) and aerobics/step/dancing (29%) use these products. Handball players (15%) have the highest share of users of other products/meal supplements, followed by people who do other activities (14%) or yoga/pilates (13%). In the final category; those who do not use sports nutrition products for their specific activities the highest shares are found among people who walk/hike (52%), those who go skiing (47%) and people who do yoga/pilates (46%).

<sup>16</sup>By other products we mean some sort of rest category, which includes products that the respondents were not able to place in the other categories.

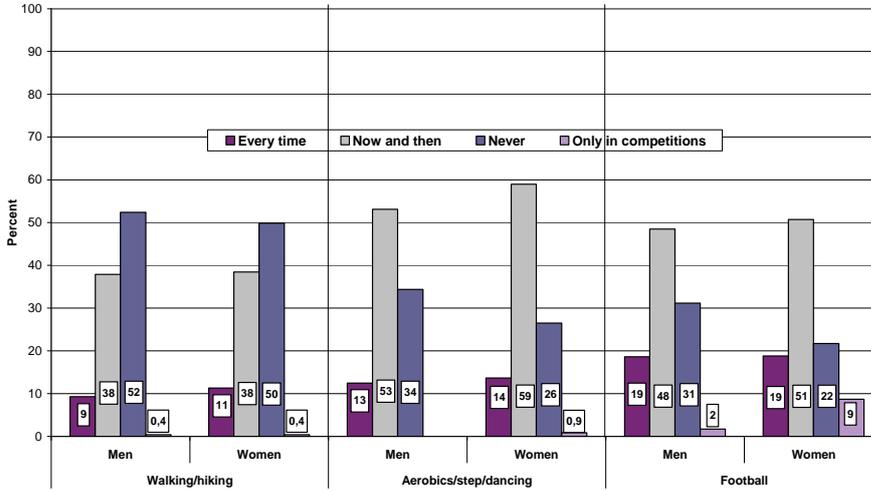
**Figure 5–9: Frequency nutrition products use by type of exercise. Percentages within activities.**



N = 2 357.

Figure 5–9 shows the relationship between intake frequency of sports nutrition products and different types of exercises. The activities are sorted by the frequency of the different activities, and as the figure demonstrates there are only a few activities that differ from the others when it comes to how often sports nutrition products are consumed. The four shaded areas are the ones with the highest percentage within each intake category. 30 percent of those who do weight-training use sports nutrition products every time they lift weights, while 63 percent of those who cycle/spin use it now and then, 53 percent of the yoga/pilates people never take sports nutrition products and eight percent of the handball players only use it in competitions. This figure shows that there is a possible relation between weight-training and use of sports nutrition products, as almost 90 percent use sports nutrition products either every time or now and then when they lift weights. It also demonstrates that it is quite common to use sports nutrition products for several activities. Figure 5–10 goes more thoroughly into what types of sports nutrition products are related to different activities.

**Figure 5–10: Frequency of sports nutrition products use for three selected exercises. Percentages within gender.**



N=Walking/hiking: 1 454, aerobics/step/dancing: 266, football: 300.<sup>17</sup>

Figure 5–10 shows that the largest differences in activities between men and women were found among footballers (majority of men) and people who did aerobics/step/dancing (majority of women). In addition to the most popular activity; walking/hiking, these activities were selected in order to analyse if there were differences between the frequency of consumption and gender.

Generally, we see no large differences between men and women when it comes to different activities and their use of sports nutrition products. The largest difference in percentage points is seen in the football category, where 31 percent of the men who play football never use sports nutrition products, compared to 22 percent of the female football players.

### 5.1.3 Summary

This section 5.1 presented an overview of the sample's participation in physical exercise and the use of sports nutrition products in connection with physical activities. Walking/hiking, cycling/spinning, weight-training, jogging and swimming are five activities that a large number of Scandinavians are involved in. This is the case with both men and women. When it comes to age, we see that a larger proportion of the young do weight-training and jogging compared to the older age-groups. The level of involvement declines with increasing age, with walking/hiking as the exception. The activity levels are about the same when we compare the three countries. A higher share of Norwegians walk/hike compared to the Danes and Swedes, and more Swedish people do weight-

<sup>17</sup>N=walking/hiking: Men: 710, women: 744. Aerobics/step/dancing: Men: 32, women: 234. Football: Men: 23, women: 69.

training than people in Denmark and Norway. Overall, the activity habits are seemingly the same in Norway, Sweden and Denmark.

We found that people who use sports nutrition products exercise more often compared to those who do not use sports nutrition products. 20 percent of those who do not use sports nutrition products have not done any exercise. Among the users of sports nutrition products, more of them go to the gym or are members of athletic clubs compared to those who do not use sports nutrition products. When looking at the relations between consumption of sports nutrition products and what activities people are involved in, we saw that the largest share of energy product users were found among cross country skiers. Protein products were used most of all by weight-lifters, while handball players had the highest share of those who used other products/meal supplements. The activity that had the highest share of people who did not use sports nutrition products for their respective activities was walking/hiking.

The section also discussed intake frequencies of sports nutrition products for different activities. The highest intake frequency was found among those who did weight-training: 30 percent used sports nutrition products every time they worked out. Over half the people who did yoga/pilates never used sports nutrition products when exercising. The section also called attention to the possible relation between intake frequency of sports nutrition products and gender. However, we did not find a connection between gender, intake frequencies and different activities; men and women have similar intake frequencies across activities.

Altogether, it appears that involvement in different activities matters more than gender for the consumption of sports nutrition products. Some activities have a closer connection with the use of sports nutrition products, such as weight-training, and it seems like this has a normative function for those involved. This is particularly evident in the last figure of this section, where the consumption frequencies were about the same for both genders across activities.

## 5.2 Sports nutrition practices

This section brings insight into the consumers' practices when buying sports nutrition products. It discusses how many years they have used sports nutrition products, and how much money they spend on it. It also focuses on where they buy sports nutrition products and why they choose to buy it from exactly these channels.

### 5.2.11 How long have Scandinavians used sports nutrition products and how much do they spend on it?

First of all the duration of the sample's use of sports nutrition products is discussed and next the amount spent on sports nutrition products is presented.

**Table 5–1: How many years have you used sports nutrition products? Descriptive statistics for Norway, Sweden and Denmark.**

Descriptive statistics				
Country	N	Mean	Std. Deviation	Grouped Median
Norway	796	6.3	7.5	3.4
Sweden	796	4.6	5.3	2.9
Denmark	750	5.7	7.5	2.7
Total	2 342	5.6	6.9	3.0

P-value (mean)=0.000

Table 5–1 shows that Norwegians on average have used sports nutrition products longer compared to the other countries; the mean value (years used sports nutrition products) for Norway is 6.3 years. The corresponding value for Sweden is 4.6 years, and Denmark 5.7 years. The mean value for the total sample is 5.6 years, and the median is 3 years for all countries.

Normally, we assume that income has an effect on how much each respondent spends on various commodities, and also sports nutrition products. The three following tables show the relations between income and mean amount spent on sports nutrition products in each country. Each table is presented in their respective currencies.

**Table 5–2: Descriptive statistics. Approximately how much have you spent on sports nutrition products the last four weeks?**

Descriptive statistics				
Income in NOK	N	Mean	Std. Deviation	Grouped Median
Less than 200 000	46	146	208	85
200 000–299 000	55	235	461	107
300 000–399 000	88	266	410	128
400 000–599 000	139	227	281	158
600 000–799 000	175	200	317	110
800 000 or more	131	219	318	133
No answer	167	255	433	133
Total	801	226	356	109

Sorted by income levels in Norway, quoted in NOK.  
ANOVA (F-test, mean) P-value=0.479

For Norway the mean values vary from 146 to 266 NOK and the mean for the entire Norwegian sample is 226 NOK. People with a household income level between 300 000 and 399 000 NOK have spent the highest average amount on sports nutrition products the last four weeks; 266 NOK. We

cannot see any clear relations between income levels and amount spent on sports nutrition in Norway since the total average is relatively high compared to the income level means. The ANOVA test also supports this result, as the results are not statistically significant. Income does not seem to influence consumption of sports nutrition products in Norway.

**Table 5–3: Descriptive statistics. Approximately how much have you spent on sports nutrition products the last four weeks?**

Income in SEK	Descriptive statistics			
	N	Mean	Std. Deviation	Grouped Median
100 000 or less	39	170	387	83
100 001–200 000	63	269	422	164
200 001–300 000	123	270	417	169
300 001–400 000	99	214	263	137
400 001–500 000	105	242	331	110
500 001–600 000	108	206	249	145
600 001–700 000	57	198	293	123
700 001–800 000	23	129	155	87
800 001 or more	34	348	775	144
No answer	146	215	280	134
Total	797	230	356	109

Sorted by income levels in Sweden.  
ANOVA (F-test, mean) P-value=0.306

For Sweden the mean values vary from 129 to 348 SEK and the mean for the entire Swedish sample is 230 SEK. People with a household income level over 800 001 SEK have spent the highest average amount on sports nutrition products the last four weeks; 348 SEK. The table 5–3 shows no clear indications of a relation between income levels and amount spent on sports nutrition products in Sweden; the difference between income levels are even greater than the one seen in Norway. We see no tendencies that those who make the most also spend the most on sports nutrition products and vice versa. This is evident in the income level group between 700 001–800 000 SEK, where the mean is the lowest among the Swedes. This may be due to few observations in this income category. As the ANOVA test indicates are these results not statistically significant. Therefore we have no “income effect” in Sweden.

**Table 5–4: Descriptive statistics. Approximately how much have you spent on sports nutrition products the last four weeks?**

Income in DKK	Descriptive statistics			
	N	Mean	Std. Deviation	Grouped Median
Less than 200 000	81	122	206	68
200 000–299 999	75	129	186	54
300 000–399 999	83	189	374	86
400 000–499 999	84	141	258	81
500 000–599 999	73	109	158	69
600 000–699 999	77	149	211	60
700 000–799 999	38	181	355	80
800 000–899 999	29	111	136	71
900 000–999 999	10	107	137	63
1 000 000 or more	15	423	1270	85
No answer	194	219	807	58
Total	759	167	493	71

Sorted by income levels in Denmark.  
ANOVA (F-test mean) P-value=0.165

For Denmark the mean values vary from 107 to 423 DKK and the mean for the entire Danish sample is 167 DKK. People with a household income level over 1 000 000 DKK have spent the highest average amount on sports nutrition products the last four weeks; 423 DKK. The table 5–4 shows no clear indications of a relation between income levels and amount spent on sports nutrition products in Denmark either. The variations between the income groups may also here be caused by few observations in some income categories.

Altogether, income does not seem to have an effect on the amount spent on sports nutrition products. As already mentioned, this may be due to few observations in some income categories, which implies that the statistical uncertainty is higher in these groups.

We will now see if there is a difference between gender and how much money that is spent on sports nutrition products. Table 5–5 discusses the possible relation between gender and amount spent on sports nutrition products.

**Table 5–5: Descriptive statistics for money spent on sports nutrition products the last four weeks by gender and country.**

Country	Gender	Descriptive statistics			
		N	Mean	Std. Deviation	Grouped Median
Norway	Women	376	201	308	201
	Men	425	248	393	248
	Total	801	226	356	226
Sweden	Women	295	232	404	232
	Men	502	229	324	229
	Total	797	230	356	230
Denmark	Women	373	130	658	130
	Men	386	203	207	203
	Total	759	167	493	167

P-values (mean): Norway=0.064, Denmark=0.042, Sweden=0.904

As table 5–5 emphasises; there are significant differences between gender and amount spent on sports nutrition products in Denmark, but not in Sweden and Norway. The Swedish and Norwegian samples have a majority of men, which implies that it is more difficult to get significant differences between genders. Men in Denmark and Norway spend more money on sports nutrition products compared to women, but then again, they probably make more money than women. Swedish men and women spent about the same amount on sports nutrition products. Women in Denmark spent the lowest amount; 130 DKK. This suggests that gender influences the choice of activities, which again affects how much money people spend on sports nutrition products.

With table 5–6 we go from gender to age effects.

**Table 5–6: Descriptive statistics for money spent on sports nutrition products the last four weeks after age group and country.**

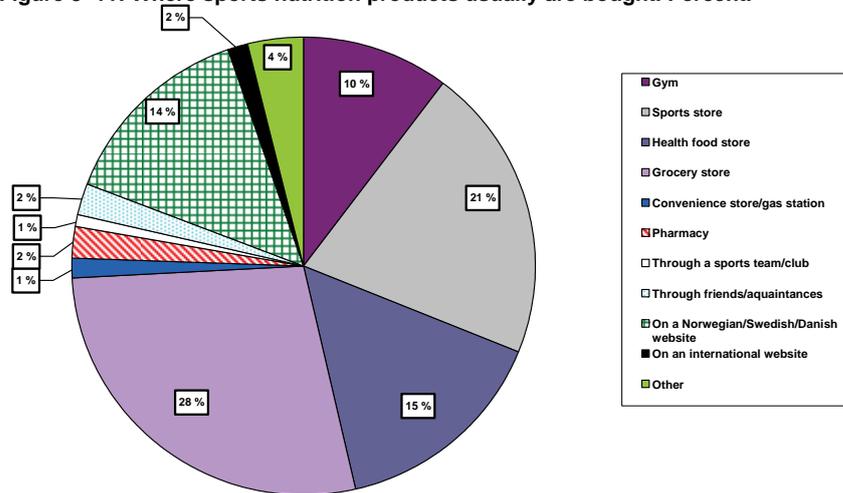
Country	Age group	Descriptive statistics			
		N	Mean	Std. Deviation	Grouped Median
Norway	15–24 years	218	240	453	110
	25–39 years	301	225	282	109
	40–59 years	200	227	363	129
	60 years +	82	189	290	114
	Total	801	226	356	109
Sweden	15–24 years	202	300	501	157
	25–39 years	315	201	227	117
	40–59 years	203	236	370	152
	60 years +	77	147	246	75
	Total	797	230	356	109
Denmark	15–24 years	168	183	430	75
	25–39 years	252	124	212	55
	40–59 years	210	204	735	86
	60 years +	129	170	468	80
	Total	759	167	493	71

P-values (mean): Norway=0.748, Sweden=0.003, Denmark=0.351

From the table we see that age does not seem to influence the amount of money spent on sports nutrition products in Norway and Denmark. However from the wide mean spread between the youngest and oldest users of sports nutrition products in Sweden, there seems to be an age effect in this country. This may be due to the sports engaged in the different countries. We remember from section 5.1.1 that the Swedes engage more in weight-training and running than the Norwegians and the Danes. These are probably activities that more young people are engaged in, where it is more common to use sports nutrition products.

### 5.2.2 Shopping habits – where and why

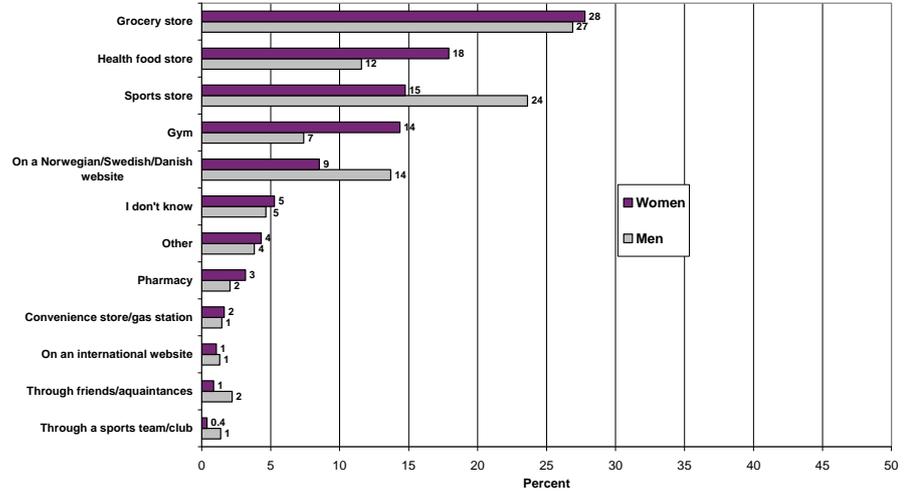
Figure 5–11: Where sports nutrition products usually are bought. Percent.



N = 2 241.

Figure 5–11 shows that one in three buys sports nutrition products from grocery stores (28%). People tend to choose grocery stores that are located close to their homes (ACNielsen 2003), so convenience may be an important factor here. One in five gets it in sports stores (21%), and 15 percent buy it in health food stores. Friends/acquaintances do not seem to be an important factor for shopping sports nutrition products, only two percent buy sports nutrition products through friends. We have reason to believe that these habits differ between men and women, because they have different exercise habits and to a certain degree choose to organise their activities differently. Figure 5–12 investigates this.

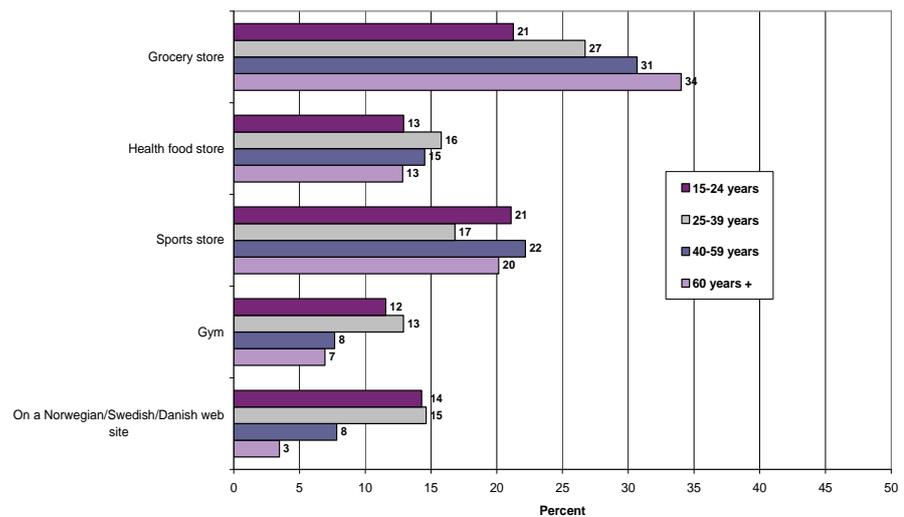
**Figure 5–12: Where sports nutrition products usually are bought. Percentages by gender.**



N=2 357.

Figure 5–12 gives an account of the different sales channels where men and women, respectively, buy sports nutrition products. Many men (27%) and women (28%) buy sports nutrition products from grocery stores. More women than men buy it in health food stores (18%) and gyms (14%), while more men than women shop sports nutrition products in sports stores (24%) and on national internet pages (14%). Few people choose to buy sports nutrition products from international web sites (around 1% for each gender category).

**Figure 5–13: Where sports nutrition products usually are bought. Percentages by age.**



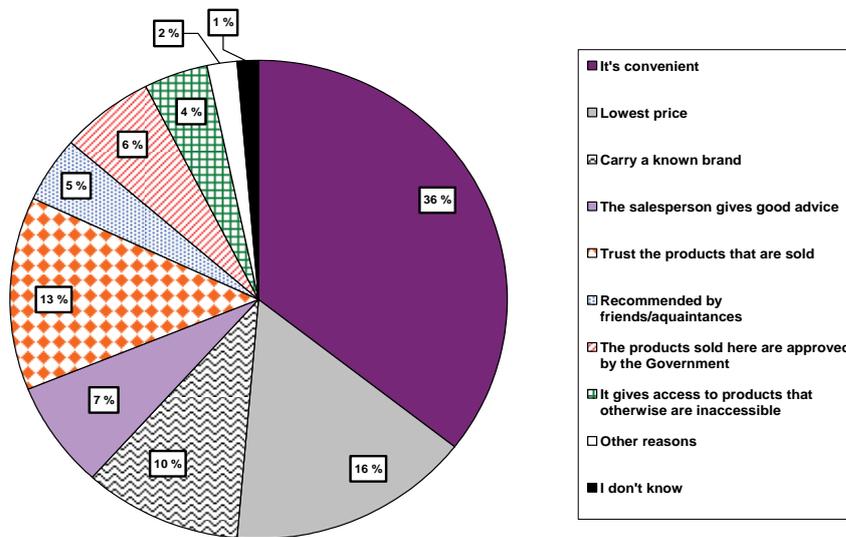
N=2 357.

Figure 5–13 shows that age is of great importance when it comes to where people buy sports nutrition products. One in three over 60 years

buys sports nutrition products in grocery stores, compared to one in five among those between 15 and 24 years. Compared to the younger age groups fewer people over 40 years buy sports nutrition products on national web pages (3 and 8% in the two oldest age categories) and at the gym. As seen in figure 5–7 (how is your exercise organised), fewer of those over 60 years go to the gym compared to the younger age groups and this affects the shopping habits of the older respondents. When it comes to Internet shopping, we know that fewer elderly people have Internet connection at home. In Norway, 18 percent of people between 55 and 64 years and 41 percent between 65 and 74 years do not have internet access (SSB 2008b). This seems to be one reason why fewer of the older respondents buy sports nutrition products over the Internet compared to the younger age groups.<sup>18</sup>

Factors such as gender and age seem to affect where people choose to buy sports nutrition products. It is also interesting to learn why people choose to buy sports nutrition products from these different channels. Figure 5–14 gives an overview of reasons why people buy sports nutrition products from the respective sales channels:

Figure 5–14: Why the specific sales channel is used. Percent.



N=3 614 answers<sup>19</sup> (Possible to select up to three altern

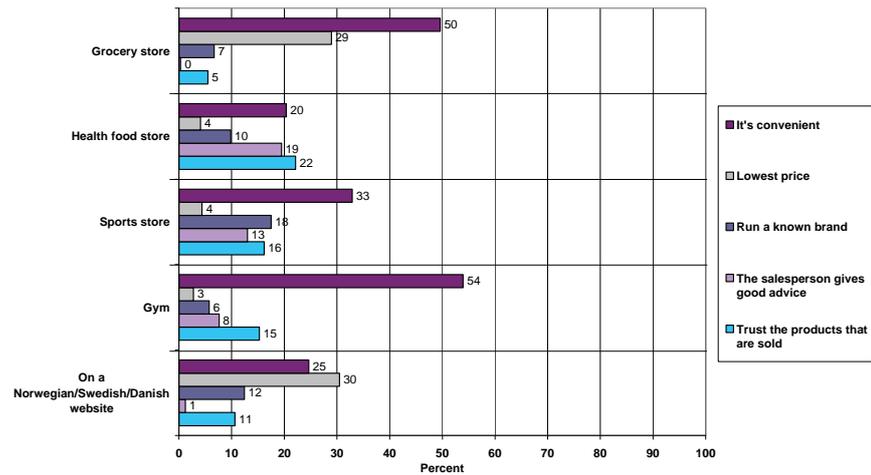
The answer “it’s convenient” seems important; 36 percent of the answers agreed with this option. Low price (16%) and confidence in the products that

<sup>18</sup> Access to Internet is mandatory, as we did a web survey. We therefore guess that the differences would be larger when we compare the actual population as access to internet varies with for instance age.

<sup>19</sup> This figure is calculated based on the total number of answers given, and not the number of respondents. Each respondent could choose up to three alternatives, so the 2 357 respondents gave a total of 3 614 answers (on average each informant selected 1.5 alternatives).

are sold (13%) are the second and third most selected alternatives. This indicates that is important to the consumers to feel safe when shopping sports nutrition products. Why people choose to shop in the five most preferred sales channels is the subject of figure 5–15.

**Figure 5–16: Reasons to shop in different sales channels after the five most used channels. Percent within sales channel.**

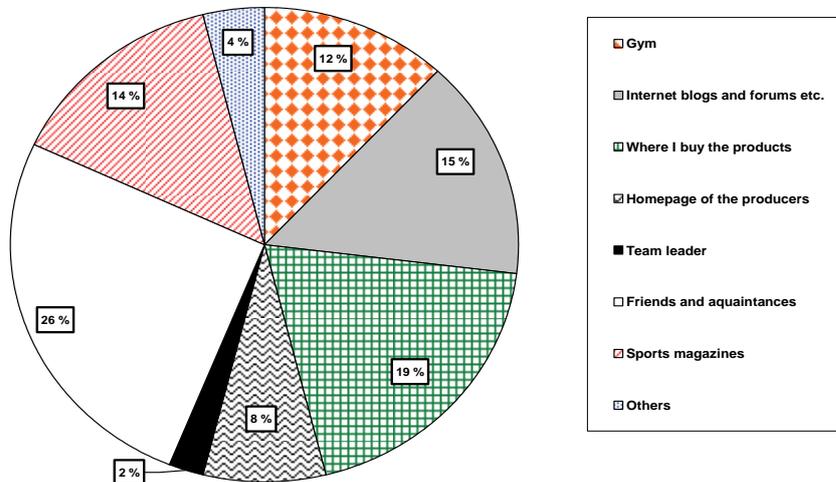


N=2 679. (74% of the total answers to this question.)

Figure 5–15 shows the five most utilised sales channels and the top five reasons to shop sports nutrition products from precisely these five channels. 50 percent of the people who buy sports nutrition products from grocery stores do it because it is convenient and has the lowest price (29%). Health food stores are selected because the customers trust the products sold (22%); it is simple (20%) and the salesperson gives good advices (19%). One in three customers buys sports nutrition products in sports stores because it is convenient, 18 percent because they carry a known brand and 16 percent because they trust the products sold. 54 percent of those who buy sports nutrition products from the gym, do so because it is convenient. 15 percent trust the products that are sold in the gym. National websites are used because they have the lowest price (30%), and are convenient (25%).

It is also of interest to examine where consumers of sports nutrition products receive information about the products. Especially stores can provide customers with information about the products.

**Figure 5–17: Where consumers receive information about sports nutrition products. Percent.**



N = 3 777 answers. (Possible to select up to three alternative answers.)

Figure 5–16 shows the use of various sources of information about sports nutrition products. One in four gets information from friends and acquaintances (26%), and 19 percent acquire information where they buy their sports nutrition products. Friends and other acquaintances seem to be the most important source of information about sports nutrition products. Receiving information from such sources can be advantageous, but there is also a potential drawback. The advantage is that one receives information from someone trustworthy and familiar. Typically the information will be more targeted to the specific user compared to general product information. On the other hand, information from friends is always interpreted. In this situation information is not going directly from the producers of sports nutrition products or salespersons to the actual user. This implies a higher risk of misinterpretation as the information flows through an extra chain. This effect can be strengthened by the fact that friends normally are not experts in sports nutrition products, but base themselves on their own experiences.<sup>20</sup>

We note that the team leader does not seem to be important when it comes to providing information about sports nutrition products. This supports the finding from the market survey (Schjøll et al. 2009), which said that little sports nutrition products are sold through sports teams.

### 5.2.3 Summary

This section discussed sports nutrition practices. It started with an overview of how long people on average have used sports nutrition products. On average, Norwegians have used sports nutrition products for 6.3

<sup>20</sup>This is sometimes called the two step hypothesis in communication (Katz & Lazarsfeld 2006).

years, Swedes for 4.6 years and Danes for 5.7 years. Norwegians spent on average 226 NOK on sports nutrition products the last four weeks; Swedes spent 230 SEK and Danes 167 DKK. None of these results were statistically significant when split into income groups due to few observations in some income categories. The results are therefore highly uncertain. When it comes to how much men and women respectively spent on sports nutrition products the last four weeks; the results from Denmark are statistically significant. In general, men spent higher amounts on sports nutrition products than women in Denmark and Norway. Among the Swedes, women spent slightly more on sports nutrition products than men. On average Norwegian men spent the highest amount compared to the other countries (248 NOK the last four weeks).

The section continued with an analysis of shopping habits. 28 percent purchase sports nutrition products from grocery stores, 21 percent in sports stores and 15 percent from health food stores. More women buy it in health food stores and at the gym compared to men, who in turn buy it in sports stores and on national Internet pages. More old people (over 60 years) buy sports nutrition products in grocery stores compared to the other age groups. The youngest age groups (15 to 24 years and 25–39 years) purchase sports nutrition products from the gym and national websites more often than the older age groups (40–59 years and 60 years +).

Overall, 36 percent buy sports nutrition products from the respective sales channels because it is convenient, and 16 percent because the stores they shop in have the lowest price. Grocery stores are recognized as a convenient sales channel and have the lowest price. Health food stores are used because the users trust their products and it is convenient, but also because the salesperson gives good advice. Sports stores are acknowledged due to their well-known brands and because the customers trust their products. Most of the people who shop at the gym do so because it is convenient, while national websites are used because they have the lowest price and are convenient to use. Most people get information about sports nutrition products from friends and at the sales venue where they the products.

### 5.3 Reasons for using sports nutrition products

In order to find out the reasons for using sports nutrition products we gave the respondents ten statements and asked them to rank them. All of the statements started with “I use sports nutrition products because ...” Each statement was ranked on a five digit scale where 5 represented “totally agree” and 1 “totally disagree”. The respondents could answer “do not know” as well. The rest of the numbers (2, 3 and 4) were not associated with any text explanation. The numbers are normally equivalent to 2=partly disagree, 3=neither agree nor disagree, and 4=partly agree.

**Table 5–7: Mean ranking of statements about reasons for using sports nutrition products, by country.<sup>21</sup>**

Statement no.	I use sports nutrition products because ...	Mean			Total	P-value
		Norway	Sweden	Denmark		
A	... I need to have something in order to last until the next meal	2.46	2.39	2.51	2.45	0.241
B	... I need to have something to eat in a hurry before exercise	2.67	2.47	2.37	2.51	0.000
C	... I need to have something to eat in a hurry after exercise	2.85	2.95	3.11	2.97	0.002
D	... it's convenient	3.17	2.73	3.05	2.98	0.000
E	... then I stand more exercise/greater duration	3.29	3.45	3.02	3.27	0.000
F	... I then build muscles faster	2.41	2.96	2.49	2.64	0.000
G	... it improves the effect of the exercise	3.06	3.25	3.00	3.11	0.002
H	... it helps the restitution/increases the blood sugar	3.41	3.17	3.44	3.34	0.000
I	... others in my environment do it	2.03	1.82	1.64	1.83	0.000
J	... someone recommended me to do it	2.37	2.39	2.30	2.35	0.432

The table 5–7 shows that statements related to duration and restitution respectively (statements E and H) received the highest mean, which implies the highest degree of agreement. That is, people agree most with these statements. The statement indicating use because “others in my environment do it” (statement I) received the lowest mean, which means that the respondents to a lesser degree agree with this statement. We then know that our respondents agree least with this statement. Together these three rankings indicate that consumption of sports nutrition products is not a trend phenomenon. It is not used just because you notice other people using it; it is used because it is believed to have an effect on the exercise.

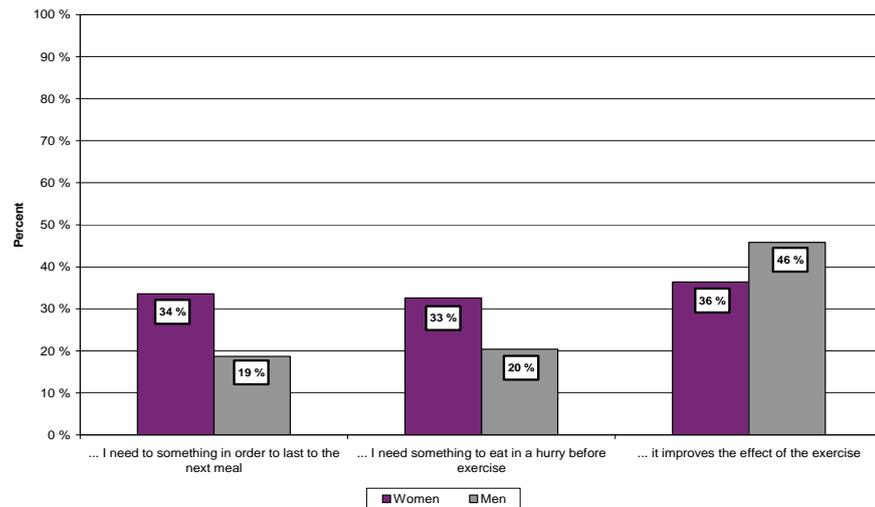
We also see that there are country effects since there are significant differences in ranking between respondents in different countries. Exceptions are the first and the last statements.

Sports nutrition products are to some extent consumed because it is “convenient”, especially among Norwegians. In this way these products can be viewed as something that is eaten “on-the-go”, or when regular food is not available. Sports nutrition products are viewed as convenience products.

<sup>21</sup>The scale goes from 1-5 where 5 is totally agree and 1 is totally disagree. It was possible to answer “do not know”. N=Norway: 801, Sweden: 797, Denmark: 759.

We might expect a gender effect in the attitudes towards sports nutrition products. The three statements with the highest percentage differences in ranking between women and men in table 5–7, are presented in figure 5–17. The figure shows percentage of respondents who “partly agree” and “totally agree” (ranking 4 and 5 respectively) sorted by gender.

**Figure 5–17: The three reasons to use sports nutrition products with the highest percentage difference in ranking between men and women.**



Percentage of respondents who partly agree and totally agree.<sup>22</sup>

The statement about using sports nutrition products in order to last until the next meal (statement A) is the statement with the highest gender difference. To a greater extent women seem to use the products as between-meal than men. It is further interesting that more men than women believe that sports nutrition products have a better effect on training. Maybe men are less sceptical towards the products they use than women? When people buy a product they imagine that it works because then they do not feel that they have been fooled and wasted their money. Such feelings can vary between the genders.

Users' and non-users' attitudes towards sports nutrition products

In order to see whether users of sports nutrition products view the products differently than the non-users we presented every respondent with a number of statements which they were asked to rank. The set up was similar to the previous section: Each expression was to be ranked on a five digit scale where 5 represented “totally agree” and 1 “totally disagree”. The respondents could answer “do not know” as well. The numbers in table 5–8 should be interpreted in the same way as in table 5–8, which implies that the higher the mean, the higher the degree of agreement.

<sup>22</sup>The scale goes from 1-5 where 5 is totally agree and 1 is totally disagree. It was possible to answer “do not know”. N=1 313 for men and 1 044 for women.

**Table 5–8: Mean ranking of statements about sports nutrition products sorted by users and non-users.<sup>23</sup>**

Statement no.	Expression	Mean			P-value
		Users	Non-users	Total	
A	Sports nutrition products are completely harmless	2.85	2.22	2.75	0.000
B	I have confidence that the producers of sports nutrition products stick to the regulation	3.32	2.56	3.19	0.000
C	I have confidence that the authorities manage to keep dangerous products off the market	3.09	2.44	2.97	0.000
D	Sports nutrition products that are sold on Internet is as safe as sports nutrition products bought in a shop	2.24	1.67	2.14	0.000
E	Sports nutrition products can never replace a healthy diet	4.34	4.53	4.37	0.000

Table 5–8 shows substantial differences between users and non-users of sports nutrition products. In general the non-users seem to be more sceptical of the products than the users since their means are lower than for the users. In general, the non-users answered “do not know” more often compared to the users (not reported in the table). This may indicate that non-users have less knowledge about sports nutrition products than the users, which is obvious, of course. Here we must underline that we do not test actual knowledge, only the perceived knowledge our respondents have. In surveys like this it is a problem that respondents over-report their knowledge in order to appear smarter or better informed.

When it comes to sports nutrition products replacing a healthy diet, users and non-users quite agree: Both groups say that it is important to eat regular food, not only sports nutrition products.

### 5.3.2 Summary of reasons for using sports nutrition products

The main reasons for using sports nutrition products among the respondents are their believed positive effects both during and after exercise. During exercise they help to endure more exercise and greater duration. After exercise the recovery period is believed to be shortened when sports nutrition products are used.

Sports nutrition products do not seem to be used because others use it or because it was recommended by someone. In a gym, for example, it is not associated with “showing off”, or a signal of how experienced you are as an exerciser.

<sup>23</sup>The scale goes from 1-5 where 5 is totally agree and 1 is totally disagree. It was possible to answer “do not know”.

We only found small differences between the Scandinavian countries when it comes to reasons for using sports nutrition products. What we did find was gender effects. Men use sports nutrition products more for restitution than women, while women to a greater extent consume sports nutrition products in other settings than just physical activity. For example women eat it when it is a long time until the next meal and when they rush to the exercise and do not have time for regular food. Here we must underline that men and women consume different kinds of products. Meal replacements are more often used by women than men, and such products are designed not to be used with sports. In fact they are not classified as sports nutrition products.

Sports nutrition products are viewed differently among users of the products and the non-users. Non-users doubt the effect of the products both in connection with exercise and when shaping the ideal body. That does not mean that users are very enthusiastic about the products, they are sceptical as well, but not so much as the non-users. What they do agree upon is that sports nutrition products can never replace a regular diet.

We conclude that sports nutrition products are almost entirely used in association with sports because the users believe the products improve the effect of the training.

#### 5.4 Why do people choose not to use sports nutrition products?

Table 5–9 presents some predefined answers why sports nutrition products are not being used. Each respondent could give several answers, and the table shows the percentages of each reason.

**Table 5–9: Reasons why non-users of sports nutrition products do not such products. Percentages within each country.<sup>24</sup>**

Reason	Country			Total
	Norway	Sweden	Denmark	
Exercise too little/on too low a level to have effect	17	16	10	14
Do not believe in the effect	21	18	20	19
Afraid of harmful effects	4	7	9	7
Too expensive	14	14	16	15
The products are not easy to obtain for me	0	0	0	0
Do not know enough about the effects	9	13	9	10
Have never considered using it	21	15	19	18
Afraid that the products contain elements that are viewed as doping	2	2	4	3
Know too little about what the products contain	8	11	10	10
Bad taste of products	2	2	1	1
Others	2	2	2	2
Do not know	0	0	0	0
Total	100	100	100	100
Number of answers	443	489	556	1 488

<sup>24</sup> Each respondent could give several answers.

Two reasons for not using sports nutrition products are especially evident across all three countries, although some other reasons also gain much support on a cross-national basis. On the one hand they question the effects that these products are claimed to have. On the other hand they report never having considered it in the first place. We believe that these two reasons are fundamentally different. In the case of the first reason the non-users have taken an active choice against sports nutrition products, while in the latter case no consideration has been made. Therefore there is no simple explanation why sports nutrition products are not being used. The picture is complex. Furthermore, we notice no worries about sports nutrition products containing illegal drugs. Indirectly this indicates trust towards the producers of sports nutrition products and the governments that control the market.

We know now why sports nutrition products are not being used. Then it is interesting to see what products are used as substitutes. In each country the non-users of sports nutrition products were asked what kind of products they use in connection with exercise. The answers are shown in table 5–10.

Each respondent could give several answers. Therefore the unit of measure here is not individuals, as in the previous question, but answers.

**Table 5–10: Alternative products used by non-users of sports nutrition products in connection with physical exercise. Percentage within each country.<sup>25</sup>**

Product	Country			Total
	Norway	Sweden	Denmark	
Banana	19	25	18	20
Other fresh fruit	14	13	17	15
Dried fruit, example raisins	4	4	6	5
Muesli bar	2	2	3	2
Nuts	8	8	5	6
Vegetables	7	3	8	6
Yoghurt	6	6	5	6
Water (tap water/mineral water)	28	25	23	25
Juice	3	4	4	4
Chocolate/sweets	3	4	3	3
Crisp bread	4	3	4	4
Bread/bun	1	2		1
Soda pops (regular/diet)	2	2	4	3
Other products	1	2	2	1
Nothing	0	0	0	0
Total	100	100	100	100
Number of answers	501	450	594	1 545

<sup>25</sup> Each respondent could give several answers.

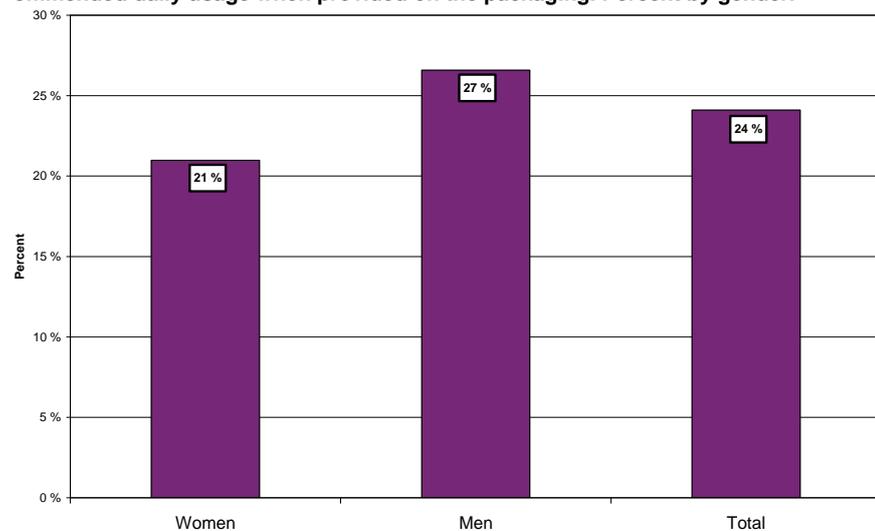
As we can see from the table 5–10, water and bananas are the two products that are most often used instead of sports nutrition products.<sup>26</sup> This is as expected since water and bananas are easily consumed, often before, during and after exercise in order to avoid stitch. Except from “other fresh fruits” there are huge variations in the answers provided, but only within each country, not between the countries.

## 5.5 Risk in using sports nutrition products?

### 5.51 Do people follow instructions for use?

A recommendation on how to use the products is provided on some of the packages of sports nutrition products. It is interesting to see whether these recommendations are followed by users of sports nutrition products. This is done in figure 5–18.

**Figure 5–18: Percentage of sports nutrition products users who do not follow recommended daily usage when provided on the packaging. Percent by gender.**



N=1 044 women and 1 313 men. P-value=0.005.

Overall 24 percent of sports nutrition products users do not follow the recommended usage when it is indicated on the packaging. We also see a gender difference. Women are (as usual?) better at following the recommendations than men. Of course over- and under-reporting may be widespread here.

The respondents who said they did not follow the recommended usage were asked to answer an open format question: “Why do you not follow

<sup>26</sup>Of course users of sports nutrition products could use these products as well, but we have not asked them about this.

the recommended daily usage when it is provided on the packaging?” In total we got 409 text answers to this question. Some typical answers were infrequent use (therefore overuse is believed to have no harmful effects). Furthermore, many respondents reported that they used the products less than the recommendation stated. Not surprisingly the most frequent answer referred to a lapse of memory, they forgot to read the recommendation.

In the questionnaire we also presented some statements about the market in general. They are placed in table 5–11.

**Table 5–11: Ranking of statements related to sports nutrition products sorted by users and non-users.**<sup>27</sup>

Statement no.	Expression	Mean			P-value
		Users	Non-users	Total	
A	Sports nutrition products are completely harmless	2.85	2.22	2.75	0.000
B	I have confidence that the producers of sports nutrition products stick to the regulation	3.32	2.56	3.19	0.000
C	I have confidence that the authorities manage to keep dangerous products off the market	3.09	2.44	2.97	0.000
D	Sports nutrition products that are sold on Internet is as safe as sports nutrition products bought in a shop	2.24	1.67	2.14	0.000

Looking first at trust in the producers and the government’s ability to regulate (statement B and C respectively) we see that non-users do not trust the producers or the government as much as the users do when it comes to sports nutrition products. This could explain why they are non-users: They do not know enough about the products or do not trust the market and its regulators. Here the cause and effect relationship may go in a circle: Trust implies usage, which again implies knowledge. Increased knowledge will again build trust, and then the circle starts again. If this is the case we do not know what is cause and what is effect. Analysis is thus very difficult.

We also see that the non-users are more concerned about sports nutrition products bought on the Internet than the users. This is probably due to a lack of information. It is likely that the non-users have never visited a serious web page where sports nutrition products can be bought, only heard about the illegal web pages.

### 5.5.2 Experienced risk

16 percent of the sports nutrition products users have experienced positive or negative unexpected effects of the use. These users were given

<sup>27</sup>The scale goes from 1-5 where 5 is totally agree and 1 is totally disagree. It was possible to answer ”do not know”.

two follow-up questions.<sup>28</sup> We asked them to state what kinds of unexpected effects they had experienced. These answers were coded manually after a coding grid and placed in groups. The percentages in these groups are shown in table 5–12:

**Table 5–12: Positive and negative unexpected effects from using sports nutrition products. Percent.**

Positive effects	Percentage	Negative effects	Percentage
Faster effect than expected	5	Nausea	13
Improved immune system	1	Problems with stomach, bowel	22
Loss of weight	7	Skin problems	5
Increased sex drive	3	Increased weight	9
Stimulating	3	Allergic reactions	5
Others	32	Problems with teeth/ viscid	3
		Headache	2
		Others	31
Total	100	Total	100
N	75	N	64

More energy than expected is the most frequent unexpected positive effect of sports nutrition products. It was more difficult to group the negative effects, since most of the answers were placed in the rest category “others”. We notice that some users have experienced problems with digestion (including nausea) after the use of sports nutrition products. Producers of sports nutrition products should be made aware of this, so that they can avoid very sweet products.

### 5.5.3 Summary of risk factors

Both users and non-users see risk factors associated with using sports nutrition products, but the non-users are more concerned about harmful effects of the products than the users. This perception may come from a lack of trust in both the producers and regulators of the market of sports nutrition products. This can of course be a regular fear of the unknown, but the very strong fact that sports nutrition products sold on the Internet are viewed as less safe than products bought in regular shops says something else. In general the Internet is a sales channel which is very difficult to regulate, therefore the public may believe that products bought there are more harmful than other sports nutrition products.

The users of sports nutrition products have both positive and negative unexpected experiences with the use. On the positive side they mention faster and greater effect than expected. On the negative side a variety of problems are present, but stomach trouble and nausea seem to be common negative experiences.

<sup>28</sup>They only had to answer at least one of them.



## 6. Concluding remarks

The methodical approach in this study consisted of three parts; first two focus groups with users of sports nutrition products, followed by an ethnographic field work at a popular gym and an indoor 24 and 12 hour run in Oslo and a quantitative web survey conducted in Norway, Sweden and Denmark. The methodical triangulation has enabled us to see the phenomenon of sports nutrition products from different angles; to check the qualitative findings and to elaborate on the quantitative findings. Conducting focus groups with users gave us an opportunity to study the discourse and attitudes connected with sports nutrition products. The ethnographic fieldwork enabled participation in the sites where sports nutrition products are consumed, and allowed us to observe and learn how sports nutrition products are used in lived practical realities. The quantitative survey has given us concrete statistical findings on central questions such as which consumer segments use sports nutrition products in connection with which sports. This methodical approach has made it possible to analyse the findings from the quantitative study in more depth due to the knowledge we acquired from listening to the participants in the focus groups and observing user behaviour in the category.

A central finding from the focus groups is that sports nutrition products are a category with fluid borders. There does not seem to be a clear definition of sports nutrition products, and respondents in the focus groups were not sure if for example multi-vitamin tablets marketed toward athletes and meal replacers should be characterised as sports nutrition products or not. The relationship between food and sports nutrition products is also perceived to be somewhat fluid. For example energy drinks and malt beer are placed side by side in the gym refrigerators and used in a similar manner. At first sight the respondents see the boundary between sports nutrition products and doping as crystal clear, but after some reflection they agree that because of continuous research by health authorities, products that are viewed as legal and harmless today can perhaps be listed as doping or drawn from the sports nutrition market next year. They believe that one reason for this is that the product development in the sports nutrition category has expanded greatly in recent years and a lot of new products are continually being released on the market.

Our initial hypothesis was that sports nutrition products are mainly used by people who do physical exercise in one way or another. In our analysis of the quantitative findings we examined the difference in the use of sports nutrition products between people who exercise and people who do not. The quantitative results indicate that people who use sports nutrition products exercise more than those who do not use sports nutri-

tion products. The link between sports nutrition products and exercise is clear: among the users less than two percent had not done any form of sports the last four weeks, while among the non-users this number was 19 percent. Users of sports nutrition products exercised more often and tended to exercise in more social settings than non-users: more of the people who used sports nutrition products exercised at gyms or were members of sports teams. Gyms are important sales channels for sports nutrition products and are arenas where such products are heavily marketed. The easy availability of sports nutrition products at central training arenas such as gyms may be a reason why sports nutrition products have become more common to consume and sales numbers are increasing.

Findings from the quantitative survey suggest that people use sports nutrition products for a variety of activities. It is no longer confined only to specific sporting activities, such as weight-training. Still, we found that nearly one in three people who do weight training use sports nutrition products every time they exercise. This was the activity group with the highest intake frequency of sports nutrition products among all activity categories. Generally, most people who answered that they used sports nutrition products reported that they use these now and then when exercising. Few answered that they only use it when competing, so sports nutrition products use seems more of an everyday practice. This indicates that sports nutrition products can be consumed when exercising, but that it is not perceived to be a necessity for people who exercise. We did not find differences in intake frequency between men and women. This indicates that gender is not a decisive factor when it comes to consumption of sports nutrition products during exercise. It seems that the sporting activities people are involved in are more important for whether they use sports nutrition products or not.

The quantitative survey shows that energy products are the most widely used sports nutrition products, while it is less common to use protein products or other types of sports nutrition products. These quantitative findings differ somewhat from the findings from the Norwegian focus groups, where protein products were used by many of the respondents. A reason for this discrepancy can be that quite a few of the focus groups respondents proved to be rather heavy users of sports nutrition products and many were engaged in endurance and strength training in gyms.

Survey results show that sports nutrition products are normally consumed during and after exercise for better effect of the work out and faster restitution, respectively. It also seems that sports nutrition products are consumed because of convenience, in the hustle and bustle of everyday life. Especially women reported using sports nutrition products to keep up with a high activity level. The quantitative survey shows that both users and non-users agree that sports nutrition products can never replace a regular healthy diet. The relationship between healthy food and sports nutrition products was also a central issue among the focus group

respondents. Focus groups respondents underlined that natural healthy food is always the best. On this point one can observe a discrepancy between the respondents' ideals and practice. In practice they used sports nutrition products because of a busy schedule, lack of time, availability, practicality and variation. It is important to note that sports nutrition products are mostly used as a supplement to other food, rather than a pure replacement. Respondents seem to have a higher tolerance for artificial foodstuffs in training situations than in other contexts. Because sports nutrition products are firmly associated with gyms and training, it is perceived as healthy even though respondents know many of these products contain a lot of additives and preservatives.

From the ethnographic field work we saw that using sports nutrition products in connection with competitions implies a somewhat more complex and knowledge based relation to the products than use during regular exercise. As seen in the competition we observed, planning and participating in that competition involved a great deal of organisation of food and sports nutrition products. For those we spoke with who were heavily involved in training and competitions, sports nutrition products were irreplaceable. This high valuation of sports nutrition products is related to the fact that it was easier for the contestants to plan the intake of nutrition both prior to, during and after a competition when using sports nutrition products. The contestants claimed that the form of these products; being ready made, light packaged and concentrated in their nutritional form, made the planning as well as the consumption of sports nutrition products more convenient than regular food. For example energy gel was considered invaluable because it provided a quick energy boost that no other product or food could provide, in a small and easy-to-open packaging. From our field work it seems that sports nutrition products are used in much the same manner in competitions as during regular training, although they may be used in a slightly more extreme and carefully planned manner during competitions.

The survey results demonstrate that people buy sports nutrition products where it is easily available; at grocery stores, sports stores, health food stores and national websites. Convenience seems to be most important when people buy sports nutrition products. The wide availability of sports nutrition products may be an important factor behind the high sales figures. The products are easily available at important arenas where people spend much of their time; where they buy food, exercise and seek information on sports nutrition products. In the focus groups it was mostly men who reported purchasing sports nutrition products online. They commonly purchased protein powder of a well known brand via a Norwegian online retailer, such as [Proteinfabrikken.no](http://Proteinfabrikken.no).

The results from the web survey show that information about sports nutrition products is primarily acquired from friends and the sites where sports nutrition products are bought. Internet blogs and forums are central

channels where respondents gather information. This finding is in accordance with the results from the focus groups. One problem connected with gathering information online is the perceived lack of objective information. According to focus group respondents most of the information available on Internet discussion forums is posted by other users and commercial interests. They therefore feel they have to read up on several sources to get a somewhat nuanced picture. They wish the health authorities would provide objective and concrete information and research results on online discussion forums such as iform.no and Trim.no. One aspect that focus group respondents found especially confusing is producers' practice of giving the same ingredients different names. This makes it difficult to know what products really contain and compare the content of different products. Respondents ask health authorities to post a short list of ingredients that are commonly used in sports nutrition products and explain what these ingredients are and how they function in the body in a simple and straightforward language.

Most of the respondents in the focus groups placed a large degree of trust in the health authorities and believed that the sports nutrition products on the Norwegian market are regulated and safe. They also emphasised that they have a responsibility to know their own body and regulate their own intake of sports nutrition products, in the same manner as they do with other types of food. The focus group respondents in general also seemed to have a large degree of trust in market actors and gym staff; that these instances did not promote products that could be harmful.

Quantitative findings from the survey on the other hand tell us that sports nutrition products are associated with some degree of risk both by users and non-users. In general many non-users were sceptical, and that is in fact an important reason why they did not consume sports nutrition products. Non-users were especially sceptical of products bought via Internet. Non-users seemed to have less faith in the regulation of the sports nutrition market than users. The fear of side effects does not seem to be unfounded, some users had experienced side effects from consumption of sports nutrition products, especially related to nausea and stomach aches.

# References

- ACNielsen (2003): Market trends 2003.
- Bakken, Anders & Åse Strandebu (2007): Aktiv Oslo-ungdom. En studie av idrett, minoritetsbakgrunn og kjønn. NOVA Rapport 2/07, Oslo: NOVA. URL: <http://www.nova.no/index.gan?objid=12814&subid=0> [Date of reading: 30.01.2008]
- Block, Gladys; Chris Cox; Jennifer Madans; George B. Schreiber; Lisa Licitra & Nan Melia (1988): "Vitamin supplement use, by demographic characteristic." *American Journal of Epidemiology*. 127 (2): 297–309.
- Bugge, Annechen; Randi Lavik & Kjersti Lillebø (2008): Nordmenns brød- og kornvaner i stabilitet og endring. Fagrapport nr. 2–2008, Oslo: SIFO. URL: <http://www.sifo.no/page/Publikasjoner//10081/74767.html> [Date of reading: 30.01.2008]
- Council of European Union (2008): Report from the Commission to the European Parliament and the Council on the implementation of Council directive 89/398/EEC on the approximation of the laws of the member states relating to foodstuff intended for particular nutritional uses. URL: <http://register.consilium.europa.eu/pdf/en/08/st11/st11288.en08.pdf> [Date of reading: 03.02.2008]
- Ervin, R. Bethene; Jacqueline D. Wright & Jocelyn Kennedy-Stepenson (1999): Use of dietary supplements in the United States, 1988–94. Series 11, no. 244, Hyattsville: National Center for Health Statistics. URL: [http://www.cdc.gov/nchs/products/pubs/pubd/series/sr11/pre-241/sr11\\_244.htm](http://www.cdc.gov/nchs/products/pubs/pubd/series/sr11/pre-241/sr11_244.htm) [Date of reading: 17.02.2009]
- Guendouzi, Jackie (2004): "She's very slim": talking about body-size in all-female interactions. *Journal of Pragmatics*. 36 (9): 1635–1653.
- Hauge, Benedicte (2007): Kroppserfaringer og slankevaner. En kvalitativ studie av kvinner som slanker seg. Fagrapport nr. 5–2007, Oslo: SIFO. URL: <http://www.sifo.no/page/Publikasjoner//10081/72768.html> [Date of reading: 8.12.2008]
- Jasti, Sunitha; Anna Maria Siega-Riz; & Margaret E. Bentley. (2003): "Dietary supplement use in the context of health disparities: Cultural, ethnic and demographic determinants of use." *Journal of Nutrition*. 133 (6): 2010–2013. URL: <http://jn.nutrition.org/cgi/reprint/133/6/2010S> [Date of reading: 17.02.2009]
- Johansson, Lars & Kari Solvoll (1999): Norkost 1997. Landsomfattende kostholdsundersøkelse blant menn og kvinner i alderen 16–79 år. Rapport nr. 2/1999, Oslo: Statens råd for ernæring og fysisk aktivitet. URL: [http://www.shdir.no/vp/multimedia/archiv/00003/IS-0168\\_3745a.pdf](http://www.shdir.no/vp/multimedia/archiv/00003/IS-0168_3745a.pdf) [Date of reading: 17.02.2009]
- Katz, Elihu & Paul F. Lazarsfeld (2006): Personal influence: the part played by people in the flow of mass communications. 2nd edition. New Brunswick: Transaction.
- Kirk, Sara F. L.; Janet E. Cade, Jennifer H. Barret & Mark Conner (1998): "Diet and lifestyle characteristics associated with dietary supplement use in women." *Public Health Nutrition*. 2 (1): 69–73. URL: [http://journals.cambridge.org/download.php?file=%2F8FC1BAAF0381F5710A95B24422A4165A\\_tomcat1\\_\\_PHN\\_PHN2\\_01\\_S1368980099000099a.pdf&ftype=9&code=53be271e65cd49f07ed3eff3d6c22b2f#xml=http://journals.cambridge.org/data/userPdf/](http://journals.cambridge.org/download.php?file=%2F8FC1BAAF0381F5710A95B24422A4165A_tomcat1__PHN_PHN2_01_S1368980099000099a.pdf&ftype=9&code=53be271e65cd49f07ed3eff3d6c22b2f#xml=http://journals.cambridge.org/data/userPdf/) [Date of reading: 17.02.2009]
- Knudsen, Vibeke K.; Lone B. Rasmussen; Jóhanna Haraldsdóttir; Lars Ovesen; Inge Bülow; Nils Knudsen; Torben Jørgensen; Peter Laurberg & Hans Perrild (2002): "Use of dietary supplements in Denmark is associated with health and former smoking." *Public Health Nutrition*, 5 (3): 463–468. URL: [http://journals.cambridge.org/download.php?file=%2F3C52CC8D46F7CDB4708B26A59D8154A2\\_tomcat1\\_\\_PHN\\_PHN5\\_03\\_S1368980002000654a.pdf&ftype=9&code=17a16f8a63e5c12191f4e05f6aebbcf2#xml=http://journals.cambridge.org/data/userPdf/](http://journals.cambridge.org/download.php?file=%2F3C52CC8D46F7CDB4708B26A59D8154A2_tomcat1__PHN_PHN5_03_S1368980002000654a.pdf&ftype=9&code=17a16f8a63e5c12191f4e05f6aebbcf2#xml=http://journals.cambridge.org/data/userPdf/) [Date of reading: 17.02.2009]

- Labre, Magdala Peixoto (2002): "Adolescent Boys and the Muscular Male Body Ideal". *Journal of adolescent health*. 30 (4): 233–242.
- Lovdata (2004): Forskrift om drikker til bruk ved krevende fysiske anstrengelser. URL: <http://www.lovdata.no/cgi-wift/ldles?doc=/sf/sf/sf-19930301-0196.html> [Lesedato: 22.7.2008]
- McDowall, Jill Anne (2007): "Supplement use by young athletes." *Journal of Sports Science and Medicine*. 6 (3): 337–342. URL: <http://jssm.org/vol6/n3/9/v6n3-9text.php> [Date of reading: 17.02.2009]
- Najm, Wadie; Sibylle Reinsch; Fred Hoehler & Jerome Tobis (2003): "Use of complementary and alternative medicine among the ethnic elderly." *Alternative therapies in health and medicine*, 9 (3): 50–57.
- Nielsen, Finn Sivert & Ånund Brottveit (1996): *Nærmere kommer du ikke. Håndbok i antropologisk feltarbeid*. Bergen: Fagbokforlaget.
- Nordic Council (2009): CITI01: Population 1 January by time, citizenship, age, reporting country and sex. URL: <http://ww3.dst.dk/pxwebnordic/Dialog/varval.asp?ma=CITI01&ti=CITI01%3A+Popultion+1+January+by+reporting+country%2C+time%2C+citizenship%2C++sex+and+age.+&path=../Database/2.%20Population/Population%20size%20and%20changes/&lang=1> [Date of reading: 25.01.2009]
- The Norwegian Directorate for Health (2005): *Kosttilskudd*. URL: [http://www.shdir.no/ernaering/kostholdsrad/idrettsut\\_vere/kosttilskudd\\_31194](http://www.shdir.no/ernaering/kostholdsrad/idrettsut_vere/kosttilskudd_31194) [Date of reading: 9.12.2008]
- O'Dea, Jennifer A. (2003): "Consumption of nutritional supplements among adolescents: usage and perceived benefits". *Health education research*. 18 (1): 98–107. URL: <http://her.oxfordjournals.org/cgi/reprint/18/1/98> [Date of reading: 17.02.2009]
- Pelto, Pertti J. & Gretel H. Pelto (1996): *Anthropological Research. The structure of inquiry*. Cambridge: Cambridge University Press.
- Roos, Gun (2006): *Kropp, slanking og forbruk. SIFO-survey hurtigstatistikk*. Prosjektnotat nr. 9-2006, Oslo: SIFO. URL: [http://www.sifo.no/files/file66670\\_prosjektnotat\\_2006-9\\_kropp\\_og\\_forbruk\\_web.pdf](http://www.sifo.no/files/file66670_prosjektnotat_2006-9_kropp_og_forbruk_web.pdf) [Date of reading: 08.12.2008]
- Schjøll, Alexander; Mari Bjerck; Eivind Jacobsen & Siv Elin Ånestad (2009): *The Nordic Market for Sports Nutrition Products. A Market Analysis Using Norway as Case*. TemaNord 2009:530
- Scientific Committee on Food (SCF) (2001): *Report on the Scientific Committee on Food on composition and specification of food intended to meet the expenditure of intense muscular effort, especially for sportsmen*. URL: [http://ec.europa.eu/food/fs/sc/scf/out64\\_en.pdf](http://ec.europa.eu/food/fs/sc/scf/out64_en.pdf) [Lesedato: 31.7.2008]
- Slesinski, Mary Jane; Amy F. Subar & Lisa L. Kahle (1996): "Dietary Intake of Fat, Fiber and Other Nutrients Is Related to the Use of Vitamin and Mineral Supplements in the United States. The 1992 National Health Interview Survey." *The Journal of Nutrition*. 126 (12): 3001–3008. URL: <http://jn.nutrition.org/cgi/reprint/126/12/3001> [Date of reading: 17.02.2009]
- Statistics Norway (SSB) (2002): *Tid brukt til ulike typer husarbeid blant personer 16–74 år. 1971, 1980, 1990 og 2000*. Tall for alle og for kvinner og menn. Gjennomsnitt per dag i timer og minutter. URL: <http://www.ssb.no/samfunnsspeilet/utg/200204/04/tab-2002-10-08-02.html> [Date of reading: 16.02.2009]
- Statistics Denmark (DST) (2008b): *KRHFU1: Befolkningens høyeste fuldførte uddannelse (15–69 år) efter område, herkomst, uddannelse alder og køn*. URL: <http://www.statistikbanken.dk/statbank5a/default.asp?w=1280> [Date of reading: 25.01.2009]
- Statistics Denmark (DST) (2008c): *INDKP2 Indkomst i alt efter region, enhed, køn og indkomstinterval*. URL: <http://www.statistikbanken.dk/statbank5a/default.asp?w=1280> [Date of reading: 25.01.2009]
- Statistics Norway (SSB) (2007): *Inntektsrekneskap for hushold. Gjennomsnitt. 2004 og 2005*. Kroner. URL: <http://www.ssb.no/emner/05/01/ifhus/arkiv/tab-2007-05-15-02.html> [Date of reading: 25.01.2009]
- Statistics Norway (SSB) (2008a): *Personer 16 år og over, etter utdanningsnivå, kjønn og alder. 2007*. Prosent. URL: <http://www.ssb.no/emner/04/01/utniv/tab->

- 2008-08-21-03.html [Date of reading: 25.01.2009]
- Statistics Norway (SSB) (2008b): Percentage with different kinds of Internet subscriptions, by household type, household income, sex, age, education and employment situation. 2nd quarter of 2008. URL: [http://www.ssb.no/english/subjects/10/03/ikthus\\_en/tab-2008-09-18-02-en.html](http://www.ssb.no/english/subjects/10/03/ikthus_en/tab-2008-09-18-02-en.html) [Date of reading: 27.01.2009]
- Statistics Norway (SSB) (2008c): Tabell 05784 Personer som i løpet av de siste 12 mnd har deltatt på ulike treningsaktiviteter, etter landsdel (prosent). URL: [http://statbank.ssb.no/statistikkbanken/Default\\_FR.asp?PXSid=0&nvl=true&PLanguage=0&tilside=selectvarval/define.asp&Tabellid=05784](http://statbank.ssb.no/statistikkbanken/Default_FR.asp?PXSid=0&nvl=true&PLanguage=0&tilside=selectvarval/define.asp&Tabellid=05784) [Date of reading: 30.01.2009]
- Statistics Norway (SSB) (2009): Tabell 03031 Folkemengde, etter kjønn, alder og sivilstand (F). URL: [http://statbank.ssb.no/statistikkbanken/Default\\_FR.asp?PXSid=0&nvl=true&PLanguage=0&tilside=selecttable/MenuSel.asp&SubjectCode=02](http://statbank.ssb.no/statistikkbanken/Default_FR.asp?PXSid=0&nvl=true&PLanguage=0&tilside=selecttable/MenuSel.asp&SubjectCode=02) [Date of reading: 25.01.2009]
- Statistics Sweden (SCB) (2008a): Folkemängd i riket, län och kommuner 31/12/2007 och befolkningsförändringar 2007. URL: [http://www.scb.se/templates/tableOrChart\\_\\_\\_\\_228181.asp](http://www.scb.se/templates/tableOrChart____228181.asp) [Date of reading: 25.01.2009]
- Statistics Sweden (SCB) (2008b): Utbildningsnivå för befolkningen 2007, 16–74 år. URL: [http://www.scb.se/templates/Product\\_\\_\\_\\_9565.asp](http://www.scb.se/templates/Product____9565.asp) [Date of reading: 25.01.2009]
- Statistics Sweden (SCB) (2008c): Disponibel inkomst för hushåll efter hushållstyp. Medianvärden i tusentals kronor och 2006 års priser. URL: [http://www.scb.se/templates/tableOrChart\\_\\_\\_\\_163552.asp](http://www.scb.se/templates/tableOrChart____163552.asp) [Date of reading: 25.01.2009]
- Stewart, Alex (1998): *The ethnographer's method*. Thousand Oaks: Sage.
- Wadel, Cato (1991): *Feltarbeid i egen kultur, en innføring i kvalitativt orientert samfunnsforskning*. Flekkefjord: SEEK.
- Wikipedia (2009): Danmarks regioner. URL: [http://da.wikipedia.org/wiki/Danmarks\\_regioner](http://da.wikipedia.org/wiki/Danmarks_regioner) [Date of reading: 17.02.2009]
- Yin, Robert K. (1989): *Case study research. Design and methods*. Applied social research methods series volume 5. Revised edition. Newbury Park: Sage.



# Appendix A: Discussion guide used in focus groups

## Samtaleguide Sportsprodukter 2008

### *Oppvarming (15 min)*

- Kort presentasjon av oss fra SIFO og Turid Ose fra Mattilsynet
- Mattilsynet er oppdragsgiver
- Samtalen tas opp på lydbånd slik at vi kan konsentrere oss om det dere sier, håper det er greit for alle. Opptaket vil bare bli brukt til analyseformål i etterkant
- Alt som blir sagt her blir anonymisert, ingenting kan føres tilbake til enkeltpersoner
- Forklar kort om gruppesamtaler:
- Dette er ingen kunnskapsprøve, det finnes ingen riktige eller gale svar – kun din personlige mening. Det er lov å være så subjektiv du bare vil
- Trenger å høre ALLES mening
- Fint om bare én snakker om gangen, slik at vi får med oss alt som blir sagt.
- Det gjør ingenting om du ikke vet så mye, eller har så mye å si om det vi snakker om. Det er OK, og like viktig for oss å få rede på.
- Det er helt OK at dere stiller hverandre spørsmål, dersom dere ikke forstår hva en annen har sagt, eller dere lurer på noe
- Ikke still spørsmål til oss. Hva vi vet og mener er ikke viktig, det er hva dere tenker og mener som betyr noe. Det er derfor vi er her
- Ikke være redd for å ha andre oppfatninger enn resten av gruppen. Vi er ikke ute etter at alle skal være enige, med mindre dere virkelig er enige
- Når vi innkaller til gruppesamtaler og ikke spør én og én, er det for å få frem eventuelle forskjeller og nyanser i oppfatninger, like mye som likheter
- Dette er ikke noe møte i vanlig forstand, det er en samtale. Jeg sitter her for å lede samtalen, men tegner ingen taleliste. Jeg ønsker at samtalen skal løpe mest mulig fritt - at dere griper ordet når dere føler for det - som om dere satt ved lunsjbordet på skolen eller jobben - hvor noen har introdusert temaet
- Av og til kan det allikevel hende at jeg tar en runde for å høre alles oppfatning

- Jeg sitter her også for å passe på at vi kommer oss gjennom de temaene vi skal gjennom
- Noen spørsmål?

#### *Innledning til selve samtalen*

- I dag skal vi altså snakke om trening og sportsprodukter.
- Samtalen vil ta ca 2 timer, vi skal være ferdige til kl. 18.30 som avtalt.
- Vi begynner litt generelt, så vil vi bli mer spesifikke etter hvert.

#### *Presentasjon rundt bordet*

- Navn, alder, bosituasjon, interesser. Hva trener dere? Hvor ofte?
- Hvorfor trener dere? (For å få bedre helse, bli tynn, få muskler, se sunn ut, bli penere etc.)
- Hvilket mål har du for treningen din? Hvilke mål jobber du mot? (Sterkere, tynnere, bedre kondis, mer muskler, bedre helse etc.)
- Kategoriinnsikt (5 min.)
- Hva tenker dere når jeg sier “sportsprodukt”? Hva forbinder dere med sportsprodukt?
- Fordeler/ulemper
- Hvilke typer sportsprodukter kjenner dere til?
- [Hva skjer på sportsproduktmarkedet i dag? Har dere noen tanker omkring dette?]
- Hvilke nyheter innen sportsprodukter har dere prøvd i det siste? Hva er det nyeste produktet?]

#### *Hva brukes og hvorfor? (5 min.)*

- Runde rundt bordet:
- Hvilke typer sportsprodukt bruker du oftest, og hvilke bruker du ganske sjelden?
- Hvor ofte bruker du de sportsproduktene du bruker oftest?
- Hvorfor bruker du akkurat disse produktene? I forbindelse med hvilken type sport/trening?
- Hva vet dere om de sportsproduktene dere bruker? Hvilken informasjon har dere om dem?
- Hva inneholder de?

*Naturlig gruppering av ulike sportsprodukter (15 min.)*

- Moderator setter en rekke ulike sportsprodukter på bordet og ber respondentene gruppere produktene i grupper som de synes er naturlige/som hører sammen. Moderator gir ingen føringer. Deretter diskuteres hver gruppe som blir laget:
- Hva skulle denne gruppen hete?
- Hvordan vil dere beskrive denne gruppen? Hva er det som er spesielt med denne gruppen?
- Hvilke assosiasjoner får dere til denne gruppen sportsprodukter?
- Hva er det produktene i denne gruppen har til felles?
- Hva er det som skiller denne gruppen fra de andre gruppene?
- I hvilke situasjoner bruker man denne gruppen sportsprodukter?
- Hva er bra/positivt med produktene i denne gruppen?
- Hva er ikke fullt så bra/negativt med dem?
- Hvilken person ville typisk kjøpe denne gruppen sportsprodukt?
  - Alder, kjønn, livsstil, forhold til trening/helse/egen kropp
  - Hvem bruker denne gruppen? Ungdom/voksne/menn/kvinner

*Informasjonskanaler (10 min.)*

- Hvorfor begynte dere å bruke sportsprodukter?
- Hvem var det som promoterte sportsprodukter til dere? Hvor har dere hørt at sportsprodukter er bra? (Trenere, lagkamerater, venner, reklame/markedsføring, andre)
- Hva sa de? Hvilke argumenter brukte de for å promotere sportsprodukter?
- Hvor får dere informasjon om sportsprodukter? (Ulike nettsider, reklame i posten, på treningssenter, ved kjøp i helsekost, dagligvare, anbefaling fra venner, lege, familie, tv-reklamer, magasiner osv.)
- Er det vanskelig å finne informasjon om sportsprodukter/er det lett tilgjengelig?
- Hva er viktig for dere når dere søker informasjon om sportsprodukt? Hva legger dere vekt på? (Probe på innholdsstoffer)
- Er det noe informasjon dere savner om sportsprodukt? (Probe på innholdsstoffer)
- [Hvordan markedsføres sportsprodukter? Hva legges det vekt på i reklamen?
- Markedsføres sportsprodukter mot sportsfolk? Eller vanlige folk?]

PAUSE 10 min.

*Kjøpssituasjon (10 min.)*

Runde rundt bordet:

- Hvor handler dere vanligvis sportsprodukter? (Apotek, dagligvare, online, helsekost, annet?).
- Hva er viktig ved kjøp?
  - Pris
  - Innholdsdeklarasjon
  - Merket
  - Produsent
  - Leveringstid
  - Service
  - Kjennskap til produktet
  - Tillit til at produktet er godkjent av myndighetene?
  - Annet?
- Hva er det viktigste kjøpskriteriet? Hva er minst viktig?
- Hva er fordelene ved å kjøpe på internett vs. i butikker? (pris, utvalg etc.)
  - Hva er ulempene med internettkjøp?
  - “Stoler dere” like mye på de produktene dere får kjøpt over internett?
- Fortell om kjøpssituasjonen, hva tenker dere når dere handler?
  - Skjer kjøpet på impuls eller er det planlagt?
  - Kjøper dere alltid samme type/merke, eller varierer dere?
- Hvor ofte kjøper dere sportsprodukter?
- Hvor mye vil dere anslå dere bruker på sportsprodukter i måneden?

*Brukssituasjoner og forhold til trening og egen kropp (15 min.)*

Runde rundt bordet:

- Hvordan hjelper de sportsproduktene du bruker deg til å nå treningsmålene dine?
- Hva er det du oppnår ved å bruke de sportsproduktene du bruker? (Bygge opp/ned kropp, få mer energi, yte mer ved trening/konkurranse etc.)
- Kan du beskrive det sportsproduktet du bruker mest? Hvilken effekt har det?
- Hvordan merker du på kroppen at det virker? Hvordan kjennes det i kroppen etter at du har drukket/spist det?

Alle:

- I hvilke situasjoner bruker dere sportsprodukter? (Før trening/under trening/etter trening/andre situasjoner? Når på dagen, hvor etc.)

- Hvordan føles det i kroppen når dere ikke bruker sportsprodukter i disse situasjonene? Merker dere forskjell?
- Brukes sportsprodukter bare ved trening eller også i andre situasjoner? I så fall hvilke?
- Er det noen sportsprodukter som fungerer spesielt godt til visse typer sport /treninger?
- [Hvordan ser en trent kropp ut? Hva er fint?
- Kan man se på folk om de trener eller ei?
- Er en sunn person penere enn en som ser usunn ut?
- Gjør dere selv noe for å endre det dere ikke liker ved egen kropp? Hva?
- Er dere opptatt av hva dere spiser og drikker? Hvorfor? Hva er bra å spise/hva er dårlig?
- Bruker dere også kosttilskudd? Hvilke? Hvorfor akkurat disse?/Hva hjelper de for?]

#### *Opplevde risikoelementer ved sportsprodukter (10 min.)*

- Ser dere noe risiko knyttet til det å bruke sportsprodukter, evt. hva? (Probe: Bruke sportsprodukter uten å trene etc.)
  - Hvorfor/hvorfor ikke?
- Har dere noen gang opplevd noen bivirkninger av sportsprodukter? Hva? Fortell!
- Er det vanlig?
- Vet dere alltid hva de sportsproduktene dere bruker inneholder? Kjenner dere til hvordan innholdsstoffene i produktene virker?
- Tenker dere på at det kan være farlig å bruke sportsprodukter? At dere ikke kjenner til hvordan innholdsstoffene virker i kroppen?
- Er det forskjell mellom sportsprodukter og legemidler? Hva består denne forskjellen i?
  - Når er et produkt et legemiddel? Når er det et sportsprodukt?
  - Er det lett å forstå denne forskjellen/er det vanskelig? Hvorfor?

#### *Forventinger til sportsproduktbransjen og myndighetene fremover (10 min.)*

- Hvordan vil utviklingen på sportsproduktmarkedet bli – vil det tilbys flere sportsprodukter/færre?
  - Hvilke nye produkter tror dere vil komme på sportsproduktmarkedet?
  - Er det noen produkter som vil forsvinne fra markedet?
- Er alle sportsprodukter som selges i Norge klarert av myndighetene?
- Har myndighetene et spesielt ansvar for å regulere sportsproduktmarkedet?

- Burde myndighetene regulere markedet i mer eller mindre grad enn i dag? Hvorfor/hvorfor ikke?
  - Hvilke fordeler medfører statlig kontroll på sportsproduktmarkedet?
  - Hvilke ulemper medfører statlig kontroll på sportsproduktmarkedet?
- Burde myndighetene for eksempel prøve å kontrollere hvilke produkter man kan kjøpe over internett?
- Hva burde gjøres på sportsproduktmarkedet? Er det noen tiltak dere savner?

*Avslutning (5 min.)*

- Er det noe dere vil si til slutt/noe vi har glemt?
- Takk for at dere ville bli med på fokusgruppe!
- Utdeling av gavekort

Tid: 120 min.

# Appendix B: Recruitment guide to focus groups

## Verveguide gruppesamtaler sportsprodukter

Kunde: Mattilsynet  
Prosjekt: Sportsprodukter  
Dato: 2. oktober 2008  
Konfidensialitet: Oppdragsgivers navn skal ikke nevnes

Briefing til verver:

Det skal være 1 gruppe med kvinner og 1 gruppe med menn 18–55 år som bruker sportsprodukter (diverse former for energidrikker, energigele, energibarar, energitabletter, proteinpulver, vektøkningpulver, karbohydratkonsentrat osv.) minimum 2 ganger i måneden eller oftere i forbindelse med trening.

Tilstreb en spredning i gruppen mht. hvilke sportsprodukter som brukes. I gruppe 2 (menn) skal 50 prosent av respondentene bruke proteinpulver og/eller vektøkningpulver og 50 prosent av respondentene skal bruke en spredning av andre typer sportsprodukter som energidrikker, energigele, energibarar, energitabletter, proteinpulver og karbohydratkonsentrat.

I gruppe 1 (kvinner) skal det være en jevn spredning i type sportsprodukt som brukes (proteinpulver bør være representert).

*Nb! Kosttilskudd som vitaminer, mineraler, omega 3 etc. skal ikke klassifiseres som sportsprodukter!*

Lykke til med vervingen!

Hilsen Siv Elin Ånestad (22 04 35 24)

God kveld, mitt navn er ..., og jeg ringer fra Norstat. sjekk at du snakker med rett person.

Du svarte nylig på noen spørsmål på Internett om bruk av sportsprodukter. I den forbindelse vil jeg gjerne få stille deg noen spørsmål. Det tar bare noen få minutter.

Spørsmål A

REGISTRER KJØNN UTEN Å SPØRRE.

Kvinne ⇒ Gruppe 1

Mann ⇒ Gruppe 2

Spørsmål B

Kan jeg spørre om din alder?

MÅ VÆRE MELLOM 18 og 55 ÅR.

18 – 55 år ⇒ FORTSETT

Annen alder ⇒ AVSLUTT

Noter nøyaktig alder: \_\_\_\_\_

*Viktig: tilstreb jevn aldersfordeling i hver gruppe.*

Spørsmål 1)

Bruker du av og til sportsprodukter for å få bedre ytelse ved trening eller for å forbedre kroppen?

Med sportsprodukter mener vi her ulike former for energidrikker, energi-gele, energibarer, energitabletter, proteinpulver, vektøkningpulver, karbohydratkonsentrat og lignende.

Ja ⇒ FORTSETT

Nei ⇒ AVSLUTT

Vet ikke/ husker ikke ⇒ AVSLUTT

Spørsmål 2)

Omtrent hvor ofte bruker du sportsprodukter?

ETT KRYSS MULIG

Hver uke eller oftere ⇒ FORTSETT

Annehver uke ⇒ FORTSETT

Hver måned ⇒ AVSLUTT

En eller flere ganger per kvartal ⇒ AVSLUTT

Sjeldnere enn hvert kvartal ⇒ AVSLUTT

Vet ikke/husker ikke ⇒ AVSLUTT

Spørsmål 3)

Hvilke type sportsprodukter bruker du vanligvis?

*Flere kryss mulig. Ikke les opp, men gi noen eksempler hvis det er uklart hvilken type sportsprodukter det er snakk om.*

1. Proteinpulver og/ eller vektøkningpulver -> CA. 50% I gruppe 2 (menn)  
 Eksempel på proteinpulver: FitnessProtein for kvinner, ProZyme, Whey Isolate, Whey Tech, Whey Protein, Night Charge, Amino X, Pure Casein, 90+ Nutri Sport, Kasein, Pro 90 Isolate, Herbalife proteinpulver ect.  
 Eksempel på vektøkningpulver: ATP creatine, Tri Creatine, X-CE-ME kreatin, Kre-alkalyn kreatin, Fast Gain, Big Mass Gainer, Gainer Explosion, WG 15 Gainer, Mass Gainer, Massive Whey Gainer, Muscle juice etc.
2. Energidrikker/ styrkedrikker  
 Eksempel på energidrikker: Powerade, Gastorade, Protonic, IRN-BRU, Crea Force, Olden puls, Fruitblast, Driv energidrikk, Active 02 Lemon sport, Cell Max, Protonic, Red Force etc.
3. Energi gel  
 Eksempel: Maxim energi gel, GU energy gel, Carb Boom energy gel, Squeezy energy gel Racer etc.
4. Energibarer  
 Eksempel: Maxim proteinbar, High protein bar, Organic food bar, Atkins advantage, Oxygen protein bar, XL-1 energibar, Noka Caramel, Min Cur, Inzone allfood, Multipower power pack, Active life protein bar etc.
5. Energitabletter  
 Eksempel: Maxim energitabletter, XL 1 energitabletter, Fres brusetabletter, diverse fruktosetabletter)
6. Måltidserstatter (nb! ta kun med respondenter som bruker måltidserstatter i forbindelse med trening.)  
 Eksempel: Meal Tech, Meal RP, PRO 45 Balance, Instant Mass, Pharma Diet, Pro Lite.
7. Karbohydratkonsentrat  
 Eksempel: Carbo Fuel, Carb 100 Neutral, Cell Max, Carbogen, Vitargo Carboload, Elektrolyte etc.
8. Ingen av disse => Probe på hva evt. brukes, AVSLUTT hvis ikke sportsprodukt.

*For gruppe 1 (kvinner) skal det være en jevn spredning i type sportsprodukter som brukes. (NB! Proteinpulver bør være representert).*

For gruppe 2 (menn) skal ca 50 prosent av respondentene oppgi at proteinpulver og/eller vektøkningpulver er det sportsproduktet de vanligvis bruker. (men de kan samtidig bruke også andre typer sportsprodukter).

De resterende 50 prosent i gruppe 2 (menn) skal oppgi at de vanligvis bruker en eller flere av følgende sportsprodukter: energidrikker, energigelle, energibarer, energitabletter, karbohydratkonsentrat. tilstrebe en jevn spredning av ulike typer sportsprodukter som brukes i gruppen.

Hvis det kommer opp nye typer sportsprodukter som ikke er nevnt overfor, spør om produktet brukes i forbindelse med trening. Hvis ikke ⇒ AVSLUTT. Ta IKKE med respondenter som kun bruker f. eks. New Energy sjokolade, Burn eller Battery drikke.

*nb! kosttilskudd som vitaminer, mineraler, omega-3 etc. skal ikke klassifiseres som sportsprodukter!*

HUSK: Registrer hvilke sportsprodukt(er) respondenten bruker på verveskjemaet.

#### Spørsmål 4)

Jeg vil nå lese opp ett utsagn og vil at du skal si hvor godt utsagnet passer til deg. Du kan bruke en skala fra 1 til 5 for å svare der 1 er helt uenig og 5 er helt enig.

#### LES OPP.

Jeg har vanligvis en mening om saker og ting, og kan uttrykke den meningen fritt samme hvilken gruppe jeg er i

- |                           |            |
|---------------------------|------------|
| 1.Helt uenig              | ⇒ AVSLUTT  |
| 2.                        | ⇒ AVSLUTT  |
| 3.                        | ⇒ FORTSETT |
| 4.                        | ⇒ FORTSETT |
| 5.Helt enig               | ⇒ FORTSETT |
| 6.Vet ikke/kan ikke svare | ⇒ AVSLUTT  |

*Dersom du har inntrykk av at du har en oppegående respondent på tråden, kan du fortsette.*

#### Spørsmål 5)

Vi har fått i oppdrag å invitere deltakerne til en undersøkelse om bruk av sportsprodukter. Selve samtalen vil bli ledet av en forsker ved Statens institutt for forbruksforskning (SIFO). Samtalen forutsetter ingen spesialkunnskaper. Vi ønsker å snakke med deg ut fra dine egne erfaringer og synspunkter.

I denne undersøkelsen kommer vi bl.a. til å snakke om:

- Dine erfaringer med bruk av sportsprodukter. Hvilke typer du bruker og hvilken effekt de har
- Ditt forhold til sportsprodukter, trening og idrett
- Samtalen varer i ca. 2 timer. Den foregår ved at du sitter sammen med 6–7 andre kvinner/menn på din alder og snakker uformelt om temaet. Samtalen ledes av en fra SIFO. Underveis vil det bli enkel og hyggelig servering.
- Alle som deltar får et Universal gavekort til en verdi av kr 500,-.

- Samtalen foregår i Statens institutt for forbruksforskings lokaler, Sandakerveien 24c på Torshov i Oslo.
- De som har vært med på slike samtaler synes det er en spennende og interessant erfaring.
- Vi vil gjerne sende deg et brev som bekrefter denne avtalen, og hvor det følger med et kart over hvor samtalen finner sted:

Samtalen vil foregå:

- Gruppe 1: Torsdag 16. oktober, kl. 16.30
  - 100 prosent kvinner
  - 18–55 år
  - Bruker sportsprodukter minimum 2 ganger i måneden eller oftere
  - Jevn spredning i type sportsprodukt som brukes. (NB! Proteinpulver bør være representert).
- 
- Gruppe 2: Tirsdag 21. oktober, kl. 16.30
  - 100 prosent menn
  - 18–55 år
  - Bruker sportsprodukter minimum 2 ganger i måneden eller oftere
  - 5 av respondentene skal vanligvis bruke proteinpulver og/eller vektøkningpulver
  - 5 av respondentene skal vanligvis bruke andre typer sportsprodukter som energidrikker, energigele, energibarar og energitabletter, karbohydratkonsentrat etc. Tilstreb en jevn spredning i hvilke sportsprodukter som brukes.



# Appendix C: List of products included in the natural classification exercise in the focus groups

Used in part “naturlig gruppering av ulike sportsprodukter” of the interview guide (see appendix A).

- Maxim protein smoothie
- Powerade
- Gatorade
- Maxim energy gel
- Maxim protein bar
- XL-1 energy bar
- Maxim energy tablets
- Burn
- New Energy chocolate
- Multipower fitness protein drink
- Nutrilett meal brownie
- Imsdal sportsvann sitrus
- Maxim energy drink (powder)
- Tech Nutrition Fast Gain
- Tech Nutrition ProZyme (protein powder)
- Tech Nutrition Carb-100
- Tech Nutrition Meal Tech (meal replacement)
- Tech Nutrition Fitness Protein for women
- Proteinfabrikken Big Mass
- Proteinfabrikken Creatine
- Proteinfabrikken Meal RP
- Proteinfabrikken Pure Casein
- Proteinfabrikken Night Charge
- Proteinfabrikken Whey Protein
- Proteinfabrikken Carbo Fuel



# Appendix D: Quantitative questionnaire

Spørreskjema sportsprodukter  
Versjon av 29. november

Tekst skrevet i fet skrift skal framstilles på web.

*Kodifisering:*

- Angir at kun ett svaralternativ er mulig (radiobutton)
- × Angir at flere svaralternativ er mulig (check box)
- \_\_\_ Angir at svaret skal skrives inn

## Filtermekanisme

Denne undersøkelsen handler om sportsprodukter (også kalt sportsernæring). Felles for sportsproduktene er at de vanligvis inntas i forbindelse med sport/mosjon og markedsføres mot folk som bedriver slike aktiviteter. Eksempler på sportsprodukter er drikker/barer/pulver fra mange ulike merker for eksempel XL-1, Maxim og Proteinfabrikken.

*Neste side:*

Bruker du sportsprodukter?

- Ja
- Nei
- Vet ikke

100 prosent av dem som svarer “ja” skal ta fatt på undersøkelsen, mens 10 prosent av dem som svarer “nei” skal også svare. Dem som svarer “vet ikke” skal ikke svare i det hele tatt.

De som svart “ja” skal svare på spørsmål 1–18.

De som har svart “nei” skal i stedet svare på spørsmål 1–4 og 17–21.

De som har svart “vet ikke” skal ikke delta i undersøkelsen.

## Til alle respondenter

### *Spørsmål 1:*

I løpet av de fire siste uker, hvor ofte har du bedrevet sport eller mosjon?  
Kun ett svar.

- Daglig
- 3–6 ganger per uke
- 1–2 ganger per uke
- 1–2 ganger i måneden
- En eller flere ganger per kvartal
- Aldri
- Vet ikke

### *Spørsmål 2:*

Hvilke typer mosjon/sport har du bedrevet som oftest de siste 12 måneder? Flere svar mulig.

- X Sykling/spinning
- X Jogging/bruk av tredemølle
- X Turgåing
- X Friidrett/turn
- X Skigåing/langrenn
- X Alpint/telemark/snowboard
- X Klatring
- X Styrketrening
- X Aerobics/step/dans o.l.
- X Yoga/pilates
- X Svømming
- X Padling/roing
- X Fotball
- X Håndball
- X Annet ballspill, badminton og ishockey
- X Annet

*Spørsmål 3:*

Hvordan er din trening vanligvis organisert? Sett inntil to kryss.

- X Treningssenter
- X Idrettslag
- X Uorganisert med bekjente
- X Uorganisert på egenhånd
- X Annet sted

*Spørsmål 4:*

Hvorfor trener du? Sett inntil tre kryss.

- X Deltakelse i konkurranser
- X Bedre kondisjon
- X Større muskler
- X Slankere/strammere kropp
- X Bedre helse/forebygge sykdom
- X Forebygge alderdom
- X For å være sammen med andre
- X For å føle større velvære
- X For å få mer overskudd
- X Det er gøy
- X Annet
- X Vet ikke

De som bruker sportsprodukter svarer videre på spørsmål 5–18

De som ikke bruker sportsprodukter svarer videre på spørsmål 17–21

### Til de respondentene som bruker sportsprodukter:

*Spørsmål 5:*

I forbindelse med de fysiske aktivitetene du nevnte i tidligere spørsmål, benytter du sportsprodukter hver gang, av og til, aldri eller kun ved konkurranser. Kun ett svar for hver aktivitet.

De aktivitetene som skal framgå i figuren nedenfor er kun dem som respondenten krysset av i spørsmål 2. Det skal brukes bullet points. Antall rader vil dermed bli det samme som antall kryss i spørsmål 2 (maks. 16).



*Spørsmål 7:*

Hvor lenge har du brukt sportsprodukter? Skriv inn antall år:

\_\_\_\_\_

*Spørsmål 8:*

Hvor kjøper du som oftest sportsprodukter? Kun ett svar.

- Treningssenter
- Sportsbutikk
- Helsekostforretning
- Dagligvareforretning
- Kiosk/bensinstasjon
- Apotek
- Gjennom idrettslag/klubb
- Via venner/treningskamerater
- På internett (hhv. norsk/svensk/dansk nettside)
- På internett (utenlandsk nettside)
- Annet
- Vet ikke

*Spørsmål 9:*

Hvorfor kjøper du sportsproduktet ditt i (sett inn kanal fra spørsmål 8)?  
Sett inntil tre kryss.

- X Lettvint
- X Lavest pris
- X Fører et kjent merke
- X Får gode råd av selger
- X Stoler på produktene som tilbys
- X Ble anbefalt å handle der av venner/treningskamerater
- X Tillit til at produktene som selges er godkjent av myndighetene
- X Får tilgang til produkter som jeg ikke finner andre steder
- X Annet (fyll inn: \_\_\_\_\_)
- X Vet ikke

*Spørsmål 10:*

Hvor får du informasjon om sportsprodukter fra? Sett inntil tre kryss.

- X Treningssenteret
- X Diverse nettforum for trening, sunnhet og helse
- X Der jeg handler sportsprodukter
- X Produsentenes hjemmesider

- X Lagtrener
- X Venner og kjente
- X Sportsblader og magasiner
- X Annet, skriv inn svar: \_\_\_\_\_

*Spørsmål 11:*

Omtrent hvor mye har du brukt på kjøp av sportsprodukter de siste fire ukene? Skriv inn beløpet i kroner:

\_\_\_\_\_

*Spørsmål 12:*

Overholder du anbefalt daglig inntak dersom den er angitt på produktet?

- Ja
- Nei
- Vet ikke

De som svarer nei eller vet ikke  $\Rightarrow$  spørsmål 13 osv.

De som svarer ja  $\Rightarrow$  spørsmål 14 osv.

*Spørsmål 13:*

Hvorfor overholder du ikke anbefalt daglig inntak slik den er angitt på produktet? Skriv inn ditt svar under. Du kan alternativt svare Vet ikke.

- 
- Vet ikke

*Spørsmål 14:*

Hvor enig er du i følgende påstander i forhold til ditt bruk av sportsprodukter. Vi ber deg rangere dem fra 1–5 der 5 helt enig og 1 er helt uenig. Du kan også svare “vet ikke”.

Jeg bruker sportsprodukter fordi ...

Nr.	Påstand	1, helt uenig	2	3	4	5, helt enig	Vet ikke
A	... jeg må ha noe for å holde ut til neste måltid						
B	... jeg må ha noe å spise i farten før trening						
C	... jeg må ha noe å spise i farten etter trening						
D	... det er lettvent						
E	... da tåler jeg mer trening/større utholdenhet						
F	... jeg bygger muskler raskere med sportsprodukter						
G	... det gir bedre effekt av trening						
H	... det hjelper på restitusjon/øke blodsukkeret						
I	... andre i mitt miljø gjør det						
J	... noen anbefalte meg å gjøre det						

### Spørsmål 15:

Har du opplevd at sportsprodukter har andre positive eller negative virkninger enn de du hadde ventet? Kun ett svar.

- Ja
- Nei
- Vet ikke

De som svarer ja  $\Rightarrow$  spørsmål 16 osv.

De som svarer nei eller vet ikke  $\Rightarrow$  spørsmål 17 osv.

### Spørsmål 16:

Hvilke andre positive virkninger har du opplevd at sportsproduktene har? Skriv inn svar.

\_\_\_\_\_

Hvilke andre negative virkninger har du opplevd at sportsproduktene har? Skriv inn svar.

\_\_\_\_\_

## Til alle respondenter

### Spørsmål 17:

Nedenfor presenteres noen påstander om sportsprodukter. Vi ber deg rangere dem fra 1–5 der 5 helt enig og 1 er helt uenig. Du kan også svare “vet ikke”.

Nr.	Påstand	1, helt uenig	2	3	4	5, helt enig	Vet ikke
A	Sportsprodukter gjør at man får større effekt av treningen						
B	Sportsprodukter gjør det lettere å nå sine treningsmål						
C	Jeg har god kjennskap til hva sportsproduktene inneholder						
D	Sportsprodukter gjør kroppen sunnere og mer attraktiv						

### Spørsmål 18:

Nedenfor presenteres noen påstander om sportsprodukter. Vi ber deg rangere dem fra 1–5 der 5 helt enig og 1 er helt uenig. Du kan også svare “vet ikke”.

Nr.	Påstand	1, helt uenig	2	3	4	5, helt enig	Vet ikke
A	Sportsprodukter er helt ufarlige						
B	Jeg har tillit til at produsentene av sportsprodukter holder seg innenfor lovverket						
C	Jeg har tillit til at myndighetene klarer å holde farlige produkter borte fra markedet						
D	Sportsproduktene som selges over internett er like trygge som dem som selges i butikken						
E	Sportsprodukter kan aldri erstatte et sunt kosthold						

## Spørsmål til kun dem som ikke bruker sportsprodukter

### Spørsmål 19:

Bruker/kjøper du noen av de følgende typer mat og drikke i forbindelse med fysisk aktivitet. Flere svar mulig.

- X Banan
- X Annen frisk frukt
- X Tørket frukt, for eksempel rosiner
- X Muslibar
- X Nøtter
- X Grønnsaker
- X Yoghurt
- X Vann (springvann/mineralvann)
- X Juice
- X Sjokolade/søtsaker
- X Knekkebrød
- X Brød/boller
- X Brus (vanlig/light)
- X Øvrige produkter, fyll inn \_\_\_\_\_
- X Ingenting

### Spørsmål 20:

Hvorfor bruker du ikke sportsprodukter? Flere svar mulig.

- X Trener for lite/på for lavt nivå til at det har effekt
- X Tror ikke på effekten
- X Redd for skadevirkninger
- X For dyrt
- X Produktene er vanskelig tilgjengelig for meg
- X Vet ikke nok om effekten
- X Har aldri vurdert det
- X Redd for at produktene kan inneholde stoffer som regnes som doping
- X Vet for lite om innholdsstoffer
- X Smaker vondt
- X Annet, fyll inn: \_\_\_\_\_
- X Vet ikke

Respondenter som svarer Redd for skadevirkninger  $\Rightarrow$  spørsmål 21.  
De andre avslutter spørreskjemaet.

*Spørsmål 21:*

Hvilke skadevirkninger er du redd for ved bruk av sportsprodukter? Skriv inn svar.

---

# Appendix E: Different tables

## E.1 Response rate

**Table E-3: Response rate and other information about recruitment in each country. Frequency.**

Respondent's status	Country		
	Norway	Sweden	Denmark
Respondents emailed (gross sample)	3 621	13 503	15 411
Complete (net sample)	1 001	1 002	1 000
Incomplete	146	191	358
Screened	93	129	163
Quota full	1 349	6 991	5 091
Total no of interviews started	2 589	8 313	6 612
Response rate	28%	7%	6%
Incidence status (completes/completes screened)	92%	89%	86%

## E.2 Age and gender

**Table E-4: Age group by gender in the Norwegian population and sample. Percent**

Age group	Population			Sample		
	Men	Women	Total	Men	Women	Total
15–24	16	15	16	15	34	24
25–39	26	25	26	32	37	35
40–59	34	33	33	33	22	28
60+	23	27	25	19	7	13
Total	100	100	100	100	100	100
Total gender	49	51	100	53	47	100
N	1 895 063	1 961 952	3 829 794	528	473	1 001

Source: Nordic Council (2009).

<sup>29</sup>The data for the Norwegian population is recorded at 01.01.2008.

**Table E-5: Age group by gender in the Swedish population and sample. Percent.**<sup>30</sup>

Age group	Population			Sample		
	Men	Women	Total	Men	Women	Total
15–24	16	15	16	22	24	23
25–39	24	22	23	37	38	37
40–59	33	31	32	29	27	28
60+	27	31	29	13	10	12
Total	100	100	100	100	100	100
Total gender	49	51	100	58	42	100
N	3 773 346	3 867 848	7 641 194	583	419	1 002

Source: Nordic Council (2009).

**Table E-6: Age group by gender in the Danish population and sample. Percent.**<sup>31</sup>

Age group	Population			Sample		
	Men	Women	Total	Men	Women	Total
15–24	15	14	14	14	24	19
25–39	25	24	24	20	37	29
40–59	35	33	34	32	22	27
60+	25	29	27	34	17	25
Total	100	100	100	100	100	100
Total gender	49	51	100	49	51	100
N	2 195 393	2 270 481	4 465 874	487	513	1 000

Source: Nordic Council (2009).

## E.3 County

**Table E-7: Actual population in Norwegian counties and in our sample.**<sup>32</sup> Percent.

County	Population	Sample
Østfold	6	5
Akershus	12	10
Oslo	13	13
Hedmark	4	5
Oppland	4	4
Buskerud	6	6
Vestfold	5	4
Telemark	4	4
Aust-Agder	2	2
Vest-Agder	4	3
Rogaland	5	7
Hordaland	5	10
Sogn og Fjordane	2	3
Møre og Romsdal	6	4
Sør-Trøndelag	7	7
Nord-Trøndelag	3	2
Nordland	6	5
Troms	4	3
Finmark	2	1
Total	100	100
N	3 762 052	1 001

Source: SSB (2009).

<sup>30</sup>The data for the Swedish population is recorded at 01.01.2008.<sup>31</sup>The data for the Danish population is recorded at 01.01.2008.<sup>32</sup>The data for the Norwegian population is recorded at 01.01.2008.

**Table E-8: Actual population in Swedish counties and in our sample.<sup>33</sup> Percent**

County	Population	Sample
Stockholm	21	27
Södermanland	3	3
Uppsala	4	4
Örebro	3	2
Östergötland	5	5
Västmanland	3	2
Gotland	1	1
Jönköping	4	2
Kalmar	3	2
Kronoberg	2	2
Blekinge	2	1
Skåne	13	10
Halland	3	3
Västra Götaland	17	15
Värmland	3	4
Dalarna	3	3
Gävleborg	3	4
Västernorrland	3	4
Jämtland	1	1
Västerbotten	3	3
Norrbottn	3	3
Total	100	100
N	9 182 927	1 002

Source: SCB (2008a).

**Table E-9: Actual population in Danish counties and in our sample. Percent.**

County	Population	Sample
Hovedstaden	30	23
Sjælland	15	16
Syddanmark	22	24
Midtjylland	23	28
Nordjylland	11	9
Total	100	100
N	5 475 791	1 000

Source: Wikipedia (2009).<sup>34</sup><sup>33</sup>The data for the Swedish population is recorded at 31.12.2007.<sup>34</sup>The data were found at Wikipedia (2009) which again referred to different Danish, regional pages. These pages were Region Nordjylland, Region Midtjylland, Region Syddanmark, Region Hovedstaden and Region Sjælland. All these pages were accessed 17.02.2009.

## E.4 Education

**Table E-10: Educational level in the Norwegian population and in our sample.<sup>35</sup> Percent.**

Education levels	Percent	
	Population	Sample
Primary	31	10
High school	43	30
University (up to 4 years)	20	36
University (5 years or more)	6	14
Other	0	2
No answer	0	7
Total	100	100
N	3 766 505	1 001

Source: SSB (2008a).

**Table E-11: Educational level in the Swedish population and in our sample.<sup>36</sup> Percent.**

Education levels	Percent	
	Population	Sample
Elementary	8	9
Primary	15	35
High school	45	42
University	30	13
No answer	2	1
Total	100	100
N	6 713 601	1 002

Source: SCB (2008b).

**Table E-12: Education level in the Danish sample. Percent.**

Education level	Percent
Primary	26
High school	32
University	38
No answer	4
Total	100
N	1 000

<sup>35</sup>The data for the Norwegian population is recorded at 01.10.2007.

<sup>36</sup>The data for the Swedish population is recorded at 01.01.2008.

**Table E-13: Education level in the Danish population.<sup>37</sup> Percent.**

Education level	Percent
Grundskole (primary education)	34
Erhversgymnasial	3
Erhverssuddannelser (vocational education I)	35
Korte videregående uddannelser (vocational education II)	5
Mellomlange videregående uddannelser (short higher education)	13
Bachelor	2
Lange videregående uddannelser (long higher education)	7
Forskeruddannelser (pHD)	0
Total	100
N	3 524 276

Source: DST (2008b).

## E.5 Income

**Table E-14: Norwegian households' gross income in the sample. Percent.**

Income in NOK	Percent
Less than 200 000	5
200 000–299 000	6
300 000–399 000	11
400 000–599 000	19
600 000–799 000	21
800 000 or more	17
No answer	20
Total	100
N	1 001

**Table E-15: Swedish households' income in the sample. Percent.**

Income in SEK	Percent
100 000 or less	5
100 001–200 000	8
200 001–300 000	14
300 001–400 000	12
400 001–500 000	13
500 001–600 000	13
600 001–700 000	8
700 001–800 000	3
800 001 or more	5
No answer	19
Total	100
N	1 002

<sup>37</sup>The numbers are from 2008.

**Table E-16: Danish households' income in the sample. Percent.**

Income in DKK	Percent
Less than 200 000	11
200 000–299 999	12
300 000–399 999	12
400 000–499 999	11
500 000–599 999	9
600 000–699 999	10
700 000–799 999	5
800 000–899 999	4
900 000–999 999	2
1 000 000 or more	2
No answer	25
Total	100
N	1 000

**Table E-17: Danish households' income according to official statistics.<sup>38</sup>**

Income in DKK	Percent
Less than 200 000	41
200 000–299 999	25
300 000–399 999	19
400 000–499 999	8
500 000–749 999	5
750 000–999 999	1
1 000 000 or more	1
Total	100
N	4 417 464

Source: DST (2008c).

<sup>38</sup>The data for the Danish population are from 2007.