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6. The complexity of meals

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In this book we have developed a conceptual framework of an eating system with the three dimensions of eating pattern, meal format and the social organisation of eating (see the following section and Mäkelä et al. (1999, see also Kjærnes 2001). This framework is useful when trying to see eating as a whole where the various dimensions operate together and are also dependent of each other.

Inspired by this approach, we focus particularly on the relationship between two dimensions of the eating system: the meal format and the social organisation of eating. Indeed, earlier research on meal structure implies a strong relationship between meal content and meal sociability (Rappoport et al. 2001; Schutz 1988), but studies on the topic are few. We first examine the differences in meal complexity between four Nordic countries, Denmark, Finland, Norway and Sweden, focusing on two main meals, lunch and dinner. Second, we analyse the country differences building on the concept of eating system, addressing how meal complexity relates to the presence of commensal partners, the meal venue and the duration of the meal. In the end, we discuss whether meal complexity can be explained by social context, or if it is better explained by social background.

The eating system in the Nordic context

As regards the meal format, the previous study (Kjærnes 2001) showed that the four Nordic countries formed a rather homogenous group, and that the meals in all the four countries were rather simple. Interestingly, the theoretical idea of a proper meal consisting of a centre, staple, vegetables, and trimmings, which has been imported especially from the British debate (Douglas & Nicod 1974, Murcott 1982), did not seem to match the Nordic countries very well, as less than 20% per cent of hot meals in all the countries, and less than 10% in Finland, could be defined as such (Holm et al. 2012; Mäkelä 2001). Most weekday hot meals consisted of only one dish, starters were relatively rare, and the majority of eating events did not include a dessert. Although in all the four countries the most important staple was potato, differences were found in the main ingredients of the hot meals: Eating meat was typical for the Danes, and fish for the Norwegians, and eating bread aside a dish was common in Finland and in Sweden. Vegetables were eaten in all of the four countries: in Denmark and Norway they were predominately eaten boiled, and in Finland and Sweden as salads.

From the viewpoint of meal complexity, earlier results indicate that in Sweden the meals were more complex than in the other Nordic countries and in all the countries Sunday meals were more

complex than weekday meals (Holm et al. 2012). In general, the perception of what qualifies as a meal has been reshaped in recent years due to increased availability of different ingredients throughout the year, but also because of increased health awareness. Today a salad would probably qualify as a meal, which it did not in earlier decades (Mäkelä 2009). Also, the British understanding of proper meals has become more resilient in respect of ingredients (Marshall & Anderson 2002).

As regards the social organisation of eating, sociability and commensality are both concepts that have been extensively used in sociological studies to distinguish social meals from other types of eating. Commensality is also an important criterion for a proper meal (Sobal & Nelson 2003, Mäkelä 2009), linking first the venue of the meal, and secondly the commensal partners (Sobal & Nelson 2003, Fischler 2011). Commensal patterns not only reflect the social relationships of individuals, but also wider conventions and practices of how eating events are arranged and conducted within certain social settings.

The research tradition deriving from Mary Douglas's writings (see Douglas 1975a, also Mäkelä 2009) identifies sociability as one of the core criteria of a meal, which is determined by normative pressure. Sharing food is associated with personal relationships, and not just any social contacts qualify as commensal partners. Previous research has shown that the three basic meals are not equally sociable; Rappoport et al. (2001) found that in the US the mid-day meals (lunches) resembled breakfasts, which were rated as inexpensive, casual, convenient, and light. In contrast, evening meals were more commonly hot and eaten with others.

Family is the most fundamental commensal unit, alongside colleagues for working meals, friends, and neighbours (Sobal & Nelson 2003, Bisogni et al. 2007). A family meal is considered to carry many beneficial effects, such as preventing obesity, promoting healthy eating, transmitting important cultural values to future generations, and protecting the offspring from winding up in bad company (Mestdag 2005). According to Sobal and Nelson (2003), the majority of breakfasts, lunches, and dinners in the USA are enjoyed home with the family. Also in France, the prevalent meal type is family meal (Lhuissier et al. 2013). In the Nordic countries in the late 1990s, people living with family members would usually share their breakfasts and dinners with them (Kjærnes 2001). Thus, instead of a nuclear family consisting of parents and children living together, family needs to be seen as a diversified social unit with many possible types of members; partners, children, relatives and maybe even friends – also in the case of one-person households (see Jackson 2009). Maybe because of the persistent ideal of nuclear family, the interpretations of the decline of family meals in Western countries in recent years has a link to the change in family organisation and household structures (Bisogni et al. 2007), but also to the irregularity of working life. *Working meal* is another special type of meal, which is usually confined by the work and lunch setting. A special research topic has been the organisation of institutional meals, school lunches in particular (e.g. Morrison 2009).

The venue of the meal affects the social company, norms of food preparation and the type of food eaten. Snacking is typical in limited spaces, whereas proper lunches or dinners are eaten at homes and restaurants (Marshall & Bell 2003). In the previous Nordic study, the majority of eating events took place at home and at the workplace. Moreover, eating events at other people's homes and cafes and restaurants were not very frequent. (Kjærnes 2001, Kjærnes et al. 2009.) The prevalent

meal type, the home meal, was usually eaten with the nuclear family, although in Denmark friends were present at dinners more often than in other Nordic countries.

In many cultures the *lonely meal* is perceived as something negative (Fischler & Masson 2008, Pliner & Bell 2009, Bildtgård 2010). Eating alone is often seen as more analogous to snacking than actual meals (Pliner & Bell 2009, 173-174; Pliner & Bell 2004), intertwined with short duration of the meal, informal setting, and minimal sequence of dishes (Fischler 2011, 259). Solitary meals are also more often perceived as exceptional rather than usual, and functional rather than enjoyable. Eating together is often seen in a positive light. In the UK it was discovered that eating together with familiar company increased the food intake, as opposed to eating alone or with strangers (Hetherington et al. 2006). Also from a nutritional point of view, lonely meals can result in irregular eating and weight loss, as fewer calories are gained (Pliner & Bell 2009). As Pliner and Bell (2009) point out, a certain stigma is associated with lonely meals, and lonely eaters often retreat to a private sphere. Mestdag (2005) discovered that eating alone was relatively rare in the US. However, on weekdays breakfasts are eaten alone more often than other meals. Social eating events also tend to last longer (Kjærnes et al. 2009, 84-85), as meals eaten together are seen to require a slower pace than meals eaten alone (Southerton 2005). In the light of studies on proper meals, sociability is linked to a greater variety in what is being eaten, whereas lonely, simple meals are linked to living alone and old age (Pliner & Bell 2009).

Lunch and dinner complexity

The analysis is delimited to examinations of two types of meals: lunches and dinners. The selection of the two meals as a unit for analysis was made for two practical reasons: these two meals types are culturally established (Sobal & Nelson 2003), and they are usually the most elaborate meals in terms of content as compared to other meals. In addition, lunch and dinner are the main meals of the day both in everyday parlance and practices, nutrition recommendations and meal research.

In the analysis below, an eating event is defined as lunch if it was categorised as lunch by the respondent and occurred between 11 a.m. and 3 p.m. Eating event was defined as dinner if it was categorised as dinner by the respondent and occurred between 3 p.m. and 9 p.m. The time frame is based on an examination of eating rhythms published previously (Lund & Gronow 2014). By using these criteria we wanted to make sure that the examined eating events would reciprocate to what is culturally regarded as lunch and dinner in the Nordic countries.

Meal complexity was examined separately for hot lunches and dinners and cold lunches and dinners because lunches and dinners may be very different. Previous studies provide plenty of evidence on the variation between different countries in terms of whether the meals are hot, or cold, whether the meals are enjoyed with others, and the venue of the meal.

Complexity of a meal can be scrutinised on two levels; first, within the dishes so that complexity portrays the variety of the ingredients used. Second, complexity can be measured by the number of dishes within a meal. As the proportion of Nordic meals that would match the definition of proper meal is low (Mäkelä 2001), we have approached meal complexity from a different angle, placing

more emphasis on the total number of different ingredients and dishes within the meal than on the different combinations of food elements. Our complexity measure, therefore, represents the number of elements within a meal. For hot meals, we decided to combine the two approaches, measuring the number of ingredients and beverages as well as the number of dishes.

A hot meal always included a main ingredient (meat, fish, vegetables, or other), and an optional number of different staples (potatoes, rice, pasta or noodles, beans or lentils, bread), vegetables (cabbage, carrot, cucumber, sweet pepper, tomato, lettuce, onion, green beans or peas, dried beans or lentils, other), and trimmings (hot sauce, cold sauce, preserves or condiments, jams or jellies, other). In addition we calculated the number of different beverages (milk or milk products, tap water, bottled water, soft drinks, juice, tea, coffee, other hot drinks, beer, wine, other alcohol, other) in the meal. Also a starter, and a number of desserts (cheese, berries or fruit, ice cream and frozen desserts, cakes and pastries, pudding or jelly or similar, and the option ‘other’) increased the complexity score.

The complexity of cold meals was measured with a simple count variable of items on a predefined list of different foods. These included bread without fillings, bread with fillings or toppings, salty pastries and pies, breakfast cereal, egg, cold cuts, fruit and berries, sweet pastries, yoghurt and other sour milk products, snacks and sweets, vegetables or salads, and other. The number of beverages enjoyed during the meal was summed up with the count variable of different foods.

Context and individual variables

The independent variables in the analysis are measures for meal sociability, venue and duration. Commensal partners for each eating event were mapped out with the question “who did you eat with?” The question included seven answering options, of which the respondents could choose multiple options. The answering options included “alone”, “a spouse or partner”, “my child(-ren)”, “other relatives or family members”, “friends”, “colleagues or schoolmates”, and “others”. Commensal partners were coded as dichotomous variables indicating whether a person belonging to a certain reference group had taken part in the meal. There was a reasonable number of meals that had been consumed with multiple types of commensal partners. Typical combinations consisted of a partner and children, partner and friends, and colleagues and friends. Naming multiple companions may not always relate to eating in big company, but rather to classifying the same people as belonging to multiple groups; a colleague may also be counted as a friend, and so on.

In the questionnaire the question about the meal venue was asked separately for each eating event. The answering options were “at home”, “at someone else’s home”, “at work / school canteen or similar”, “at work/school (during work)”, “at café/restaurant”, “at street kitchen, shop, or gas station”, “on the go (in the train, bus, on the street)”, and “other place”. For the analysis, the marginal categories were combined to build a five-class variable including the categories “home”, “someone else’s home”, “at or during work” (combining the options “work/school canteen” and “work/school during work”), “at café or restaurant”, and “other” (combining the options “street kitchen, shop, gas station”, “on the go” and “other”), the first being the reference category in the analysis.

There was a categorical variable for weekend vs. weekday. The question about meal duration contained 10-minute categories (less than 10 minutes, 10-20 minutes, 21-30 minutes, 31-40 minutes, and longer than 40 minutes). As the meals tended to be on the shorter side, the two last categories were combined for the analysis.

The background of the respondent was mapped out with the variables of gender, age group and education. Age group was grouped into 15-year categories (15-29, 30-44, 45-60, 60+), and education was measured with a 5-class variable (basic education, high school, vocational school, 1-3 years of education after high/vocational school, and more than 3 years of education after high/vocational school).

As the samples deviate from the population censuses, the analyses on the whole data were weighted to obtain the most correct picture about the phenomena on the level of populations. The weights were calculated on the basis of gender, age and education.

The analysis

Poisson regression was run separately for each of the Nordic countries, using SPSS 22.0. Poisson regression models, with the log of the expected count as a function of the predictor variables. The regression coefficients can be interpreted as follows: For a one-unit change in the predictor variable, the difference in the logs of expected counts is expected to change by the respective regression coefficient, given that the other predictor variables in the model are held constant. Meal complexity is the response variable in the analysis, while other meal characteristics are entered as independent variables.

In what follows, meal complexity and the social organisation of the meal are displayed and discussed together as equally important parts of the eating system, while the socio-demographic variables (gender, age, and education) are used as control variables.

Meal setting in the four Nordic countries

The theoretical range for hot meal complexity was 1-39 (in the data 1–16). As described above, a hot meal includes a centre, i.e. main ingredient, by default. The variation in meal complexity can consist of vegetables (0-10), staples (0-4), trimmings (0-5), bread (0-1), starter (0-1), desserts (0-6), and beverages (0-12). The number of vegetables and beverages account for most of the complexity.

There were altogether fewer hot lunches than cold ones in the four Nordic countries. Cold lunches dominate in Denmark and Norway, whereas in Finland and Sweden there were more hot lunches by number (see also Kjærnes 2001, Lund & Gronow 2014). The mean score for complexity for hot lunches was the highest in Finland, and somewhat lower in other countries. There were no differences in the complexity of cold lunches between the countries.(See table 6.1.)

Table 6.1. Meal complexity by country (Means, SD, weighed)

	Denmark		Finland		Norway		Sweden	
	Means	SD	Means	SD	Means	SD	Means	SD
	(N = 309)		(N = 991)		(N = 245)		(N = 1081)	
Hot lunch	4.7	2.6	5.6	2.7	4.1	2.2	4.9	2.3
Complexity	1.7	1.8	2.2	1.8	1.9	1.6	2.1	1.7
Vegetables	0.6	0.7	0.7	0.5	0.7	0.5	0.7	0.5
Staple	0.6	0.6	0.6	0.7	0.7	0.6	0.7	0.6
Trimming	0.4	0.5	0.3	0.5	0.2	0.4	0.2	0.4
Bread	0.1	0.2	0.1	0.3	0.0	0.2	0.0	0.2
Starter	0.2	0.5	0.3	0.5	0.3	0.5	0.2	0.4
Dessert	0.2	0.5	0.3	0.5	0.3	0.5	0.2	0.4
Beverages	1.1	0.5	1.3	0.6	1.2	0.5	1.2	0.4
	(N = 1319)		(N = 244)		(N = 1111)		(N = 402)	
Cold lunch	2.8	1.0	2.8	1.0	2.7	1.0	2.8	1.1
Complexity	1.6	0.8	1.6	0.8	1.4	0.7	1.7	0.9
Food items	1.2	0.5	1.2	0.6	1.3	0.6	1.2	0.5
Beverages								
	(N = 1661)		(N = 1252)		(N = 1676)		(N = 1391)	
Hot dinner	5.1	2.3	4.9	2.5	4.9	2.2	5.3	2.3
Complexity	1.9	1.7	1.8	1.7	1.4	1.6	2.1	1.7
Vegetables	0.8	0.6	0.7	0.5	0.4	0.5	0.7	0.5
Staple	0.7	0.6	0.6	0.7	0.5	0.6	0.8	0.6
Trimming	0.2	0.4	0.3	0.4	0.4	0.5	0.2	0.4
Bread	0.1	0.2	0.1	0.2	0.0	0.2	0.1	0.2
Starter	0.2	0.4	0.3	0.5	0.2	0.5	0.3	0.5
Dessert	0.2	0.4	0.3	0.5	0.2	0.5	0.3	0.5
Beverages	1.2	0.5	1.2	0.5	1.3	0.6	1.2	0.5
	(N = 264)		(N = 151)		(N = 135)		(N = 125)	
Cold dinner	2.7	1.0	2.9	1.2	2.7	1.3	2.9	1.1
Complexity	1.5	0.7	1.7	0.9	1.5	0.9	1.7	0.9
Food items	1.2	0.5	1.2	0.6	1.2	0.7	1.2	0.6
Beverages								

Nine out of ten dinners were eaten hot in all the four countries; hot dinners being slightly more elaborate in Sweden and in Denmark than elsewhere. Similar differences between the countries were reported in an earlier Nordic study (Kjærnes et al. 2009, Kjærnes 2001). In the complexity of cold dinners, there were no differences between the countries.

Table 6.2. Commensal partners for lunches and for dinners by country (per cent, weighed)

Lunch companions	Denmark (N=1622)	Finland (N=1236)	Norway (N=1349)	Sweden (N=1478)	Total (N=5685)
Alone	36.4	32.6	38.8	30.9	34.7
Partner	24.5	23.9	15.4	23.9	21.8
Children	5.1	8.3	4.7	8.5	6.6
Relatives	5.1	4.6	4.0	6.3	5.1
Friends	7.6	6.3	6.7	6.6	6.8
Colleagues	25.8	28.2	32.9	30.4	29.2
Others	2.8	2.9	2.2	2.9	2.7

Dinner companions	Denmark (N=1912)	Finland (N=1390)	Norway (N=1805)	Sweden (N=1513)	Total (N=6620)
Alone	22.4	33.5	20.2	21.5	23.9
Partner	50.6	42.2	49.3	48.0	47.9
Children	20.8	16.3	21.2	19.9	19.7
Relatives	15.6	12.8	17.6	15.9	15.6
Friends	7.7	4.4	7.2	8.9	7.1
Colleagues	3.6	3.0	4.0	4.4	3.8
Others	2.5	1.0	3.0	2.3	2.3

Table 6.2. shows country differences in commensal partners for lunches and dinners. Lunches were eaten most often either alone or with colleagues. The Norwegians and Danes had lunch alone more often than the Finns and Swedes. The proportion of lunches eaten with colleagues was somewhat bigger in Norway than in the other Nordic countries. Lunches with partners and lunches with friends were slightly more prevalent in Denmark, Sweden and Finland than in Norway. Lunches were eaten with children more often in Finland and Sweden than in the other countries. Dinners were enjoyed most often with a partner, with children or alone. Having dinner alone was more typical in Finland than in the other Nordic countries, despite the fact that the household compositions in the four countries were quite similar. The percentage of dinners with a partner or children was slightly higher in Norway and Denmark. In Sweden dinners were eaten slightly more often with relatives, friends and colleagues than in the other Nordic countries.

Table 6.3. Meal venue for lunches and dinners (per cent, weighed)

Lunch venue	Denmark (N = 1621)	Finland (N = 1235)	Norway (N = 1349)	Sweden (N = 1478)	Total (N = 5683)
Home	52.9	48.3	44.1	47.2	48.3
Someone else's home	3.0	3.6	3.3	3.7	3.4
At or during work	33.3	34.8	41.5	32.2	35.3
Café or restaurant	4.6	9.1	4.2	12.2	7.5
Other	6.4	4.1	7.0	4.8	5.6
Total	100.0	100.0	100.0	100.0	100.0

Dinner venue	Denmark (N = 1913)	Finland (N = 1389)	Norway (N = 1804)	Sweden (N = 1512)	Total (N = 6618)
Home	83.4	86.2	82.8	82.5	83.6
Someone else's home	6.6	4.4	6.7	5.9	6.0
At or during work	3.8	3.8	3.6	4.1	3.8
Café or restaurant	4.5	3.5	4.1	5.3	4.4
Other	1.8	2.1	2.7	2.2	2.2
Total	100.0	100.0	100.0	100.0	100.0

Although lunches and dinners in the Nordic countries are usually sociable occasions, both meal types occurred mostly in private settings (home) in 2012 (Table 6.3.). More than a third of the respondents had their lunches at work or at a school canteen. Approximately one in 3-4 lunches were had at the work or school canteens, the extremes being Sweden (26%) and Norway (34%). In addition, 5-10% of the respondents ate their lunch during work. In all the four countries having street food for lunch was marginal, around one per cent. Having lunch on the go was also relatively rare (at highest 2.5 per cent in Norway). (No table shown.) On weekdays lunches were eaten more often at work or at a school canteen and on weekends at home, someone else's home or at a café or a restaurant in all four countries.

A brief glance at the connection between age and lunch venue reveals that lunch venue was agespecific (no data shown): In all the four countries seven out of ten respondents over sixty years of age had lunch at home, whereas among the 15-29 year old respondents the proportion was only one third. Thus, for the groups in working age, the most usual choice was to have lunch either at the school or workplace canteen or at or during work. The proportion of workplace lunches was similar in the four countries, but café and restaurant lunches were more prevalent in Finland and Sweden than elsewhere, which may explain the high percentage of and the complexity within hot meals.

Dinner venues differed somewhat from lunch venues, but there were few national differences. In all countries the majority of the respondents ate dinner at home. The Danes had dinner more often at someone else's home, and the Swedes at a café or restaurant. Still, in 2012, same as in 1997, more people had eaten at home than in any other place (Holm, 2001).

A majority of lunches in the Nordic countries took less than half an hour. Very short lunches were slightly more prevalent in Norway than elsewhere, although lunches in Denmark and Finland were not much longer. In Sweden almost a fifth of all lunches took longer than half an hour. The duration of dinners was in general longer than the duration of lunches. Still, the majority of dinners lasted under 30 minutes (in Denmark 72.3%, in Finland 84.7%, in Norway 75.7%, and in Sweden 70.1%). In other words, dinners were longer in Sweden and Denmark than in Norway and Finland.

Lunch sociability and complexity

We also examined to what extent meal complexity is associated with other aspects of the eating system representing the social setting of the meal, i.e. the presence of commensal partners, meal venue, day of the week, and duration of the meal. Socio-demographic variables were used as controlling variables. The independent variables' effects on the complexity of hot lunches are presented in Table 5¹ (mean scores only for the significant differences). The effect of the presence of commensal partners for hot lunches was not very strong. In Denmark, only the presence of relatives affected hot lunch complexity in a positive way. Finland was an exception in that the presence of almost any company had a positive impact on hot lunch complexity. (See table 6.4.)

¹ The parameter estimates (B) for the effects of different explanatory variables to the complexity of hot lunches were calculated by using Poisson regression. The full country models are presented in the annex (Table A1).

Table 6.4. Mean scores (deviations from the reference category) for the complexity of hot lunches in the four countries, significant differences

Country (means)	Denmark (4.7)	Finland (4.9)	Norway (4.1)	Sweden (4.9)
Commensal partners				
Partner (ref: no)		6.6 (+0.8)		
Children (ref: no)		6.5 (+0.7)		
Relatives (ref: no)	6.0 (+1.8)	6.8 (+1.2)		
Friends (ref: no)		6.6 (+0.8)		
Colleagues or others (ref: no)		6.6 (+0.9)		
Meal venue At				
home (ref)		5.7		4.2
Someone else's home				4.8 (+0.6)
At or during work		6.7 (+1.0)		
Café or restaurant		7.0 (+1.2)		5.6 (+1.4)
On the go or other				
Day				
Weekday (ref)			3.6	4.6
Weekend			4.2 (+0.6)	5.0 (+0.4)
Duration				
Less than 10 min (ref)	3.6	4.4	2.7	3.9
10-20 min	4.9 (+1.4)	6.1 (+1.7)		4.7 (+0.8)
21-30 min	5.7 (+1.4)	7.0 (+2.7)		5.0 (+1.1)
Longer than 30 min	6.6 (+3.0)	7.7 (+3.3)	4.8 (+2.0)	5.7 (+1.8)
Gender				
Male (ref)		6.5		
Female		5.8 (-0.7)		
Age group				
15-29 (ref)		5.8		4.7
30-44				
45-59				
60-		7.1 (+1.3)		5.2 (+0.4)
Education				
Basic (ref)	5.9			4.4
Vocational	4.7 (-1.2)			5.1 (+0.7)

High school
1-3 years after
>3 years

5.1
(+0.7)

The venue of the meal was important in explaining complexity especially in Finland and Sweden. In Finland hot lunches eaten at work or at a café or restaurant were more complex by comparison. In Sweden, having hot lunch at a café or restaurant increased the complexity substantially. Also having lunch at someone else's home increased the complexity to some extent. Moreover, in Denmark and Norway the venue of the hot lunch did not have a significant effect on hot lunch complexity. In Norway and Sweden lunches at weekends were more complex than lunches on weekdays. Longer duration was linked to hot lunch complexity in all of the four countries. Individual background did not have a strong relationship with hot lunch complexity. In Finland, women had less complex hot lunches than men, and in Finland and Sweden the over-60-year-old respondents ate more complex lunches than the reference group, the youngest respondents (age 15-29). Education did not have a significant effect in Finland or in Norway, but in Denmark respondents with vocational schooling had less complex lunches than respondents with basic schooling. In Sweden the respondents with vocational schooling or 1–3 years of education after vocational school or high school had more complex hot lunches than the group with the lowest level of education.

The independent variables proved mostly inoperative in explaining the variety within cold lunches. However, both in Denmark and in Norway longer duration was linked to the higher complexity of cold lunches. In Norway cold lunches eaten at work or at a café or restaurant were also less complex as compared to cold lunches eaten at home. Generally, the differences in the complexity of cold lunches were small (no data shown).

Dinner sociability and complexity

In table 6 we present the mean scores for the complexity of hot dinners. The full Poisson regression models are presented in the annex (Table A2). The presence of commensal partners affected hot dinner complexity in all the four countries (Table 6.5.). In Denmark the presence of relatives, colleagues or friends added to the complexity of the hot dinners the most, and the presence of a partner to a lesser extent. Only the presence of children did not have an effect on hot dinner complexity. In Finland the presence of relatives, or colleagues increased the complexity of hot dinners. The presence of children or friends did not prove significant in explaining the complexity. Also in Norway and Sweden, the presence of a partner, relatives or friends increased the complexity of hot dinners. Thus, the presence of children, colleagues or others did not have a significant effect on the complexity in either Norway or Sweden.

Table 6.5. Mean scores (deviations from the reference category) for the complexity of hot dinners in the four countries, significant differences

Country (means)	Denmark (5.1)	Finland (4.9)	Norway (4.9)	Sweden (5.3)
Commensal partners				
Partner (ref: no)	5.9 (+0.4)	6.6 (+0.7)	5.5 (+0.4)	5.8 (-0.5)
Children (ref: no)				5.9
Relatives (ref: no)	6.2 (+1.0)	6.7 (+0.91)	5.5 (+0.4)	(+0.6)
Friends (ref: no)	6.0 (+0.6)		5.6 (+0.6)	6.0 (+1.6)
Colleagues or others (ref: no)	6.1 (+0.9)	7.1 (+1.6)		
Meal venue At				
home (ref)		5.7		5.3
Someone else's home		6.7 (+1.0)		5.9 (+0.6)
At or during work				
Café or restaurant		7.0 (+1.3)		6.0 (+0.7)
On the go or other				
Day				
Weekday (ref)				5.4
Weekend				5.8 (+0.3)
Duration				
Less than 10 min (ref)	4.0	4.5	4.5	4.3
10-20 min	5.6 (+1.7)	6.1 (+1.6)	5.0 (+0.5)	5.5 (+1.2)
21-30 min	6.1 (+2.0)	7.1 (+2.6)	5.5 (+1.1)	6.0 (+1.8)
Longer than 30 min	7.4 (+3.3)	7.9 (+3.4)	6.6 (+2.1)	6.9 (+2.7)
Gender				
Male (ref)			5.2	
Female			5.5 (+0.3)	
Age group				
15-29 (ref)	5.4	5.8	5.1	5.2
30-44				
45-59				
60-	6.0 (+0.6)	6.9 (+1.1)	5.7 (+0.6)	6.3 (+1.0)

Education		
Basic (ref)	5.4	5.4
Vocational High school 1-3 years after >3 years		
	5.9 (+0.5)	5.8 (+0.4)

Meal venue was not a significant predictor for hot dinner complexity in Denmark or Norway. In Finland and Sweden the hot dinners eaten at someone else's home or at a café or restaurant were more complex than dinners eaten at home.

Hot dinners at weekends and on weekdays were equally complex in Denmark, Finland, and Norway. Only in Sweden were the weekend dinners slightly more complex than those on weekdays. The duration of the dinner had a positive effect on hot dinner complexity in all of the countries, the more complex dinners taking more time.

Individual background (gender, age group, and education) was also linked to hot dinner complexity. In Norway, women's hot dinners were slightly more complex than men's, whereas in other countries there was no gender difference. Moreover, in all the countries, the over-60-year-olds had slightly more complex dinners than the youngest group (age 15-29). The differences related to education were small and few; only in Denmark and Sweden the group with the highest education had slightly more complex hot dinners than the group with basic schooling.

While especially meal sociability and duration were linked to hot dinner complexity, none of the independent variables conveyed significant differences in relation to cold dinner complexity. The primary reason for this is that there is not much variation in the complexity of cold dinners between or within the different countries (no data shown).

Discussion

In the Western countries popular concerns about changing food habits have to do with sociability, the decline of the family meal, the erosion of national culinary cultures, and the increased popularity of convenience and fast foods (Rozin et al. 2006, Warde et al. 2007). This potential destructure of eating practices (Mäkelä 2001) may mean that meals are becoming simpler and shorter, and that in general the meanings of eating in everyday life are changing. In this study, we approached these questions empirically by looking at the complexity of meals in Denmark, Finland, Norway, and Sweden, through a comparative analysis of meal complexity in these countries, examining to what extent the social context of the meals as well as social backgrounds have an effect on meal complexity.

The previous Nordic research from 1997, which was used as a basis for the 2012 study, indicated that eating patterns in the Nordic countries were home-based: Most of the eating took place at home either alone or with the family. Eating with colleagues was common on weekdays, but eating with friends was rather rare (Kjærnes 2001, Holm 2001). The findings contradicted other research

that has suggested that because Nordic people are active outside home in leisure time, it could be expected that much of the eating would also take place in the public sphere.

Our results indicate that still in 2012 meals at other people's homes and eating out in cafés or restaurants constituted only a minor proportion of everyday eating. For lunches, commensality had a bearing on the complexity of the hot meal only in Finland. This suggests that lunch has a different kind of status in Finland, resembling the trends that are discernible for dinner in all the other countries. In Finland and Sweden both hot lunches and hot dinners eaten in public at restaurants or cafés were more complex than private home lunches and dinners, whereas in Denmark and Norway they were not. For lunches, this may be partly explained by the fact that in Denmark and Norway hot lunches were relatively rare, and with dinners, it may be speculated that in these countries after having eaten a simple cold lunch, people prefer more elaborate hot dinners irrespective of whether they have dinner at home or elsewhere. In general, both the hot lunches and dinners that took more time were more complex in all the four countries. The difference in complexity between weekday and weekend meals was substantial only in hot dinners in Sweden. Despite the fact that at weekends more time and effort is spent on cooking, this is not reflected in complexity as measured by the number of various elements in the meal. However, it may well be that the ingredients, seasoning and cooking methods differ between weekends and weekdays. The elaborateness of Swedish dinners as compared to the other three countries is supported by findings in an OECD study, which shows that in Sweden as many as four out of five of the adult population report to cook daily. Cooking is nearly as popular in Norway and Denmark, although less time is devoted to the activity. Also in Finland more than 70 per cent of the respondents engage in cooking (OECD 2011). These qualitative differences call for further research on food preparation.

The complexity of hot dinners had a strong relation to commensality, but in cold dinners differences were not apparent. Hot dinners within the immediate family differed from each other in that the presence of a partner increased meal complexity, whereas the presence of children had no effect on the complexity compared to dinners eaten alone. The presence of companions from outside the immediate family was unusual in most of the countries. The national meal conventions are practical and somewhat uniform: Commensal partners and meal venues are determined by family structure and employment status (see also Kjærnes et al. 2009). Sobal and Nelson (2003) came to the conclusion that usual commensal partners, such as colleagues and family members, are seen as related to routines in meal eating, whereas unusual partners for meals may be rare but socially significant and related to special meal occasions. Our results imply that the presence of members of the immediate family does not increase meal complexity. Having relatives over for dinner had a positive impact on hot dinner complexity across the countries. The presence of friends, colleagues or others, which is exceptional, is reflected in meal complexity (see also Grignon 2001, Holm 2001).

Relatively few consistent socio-demographic patterns were found to explain the differences in complexity. In all the four countries, the respondents in the oldest age group had more complex hot dinners than the youngest age group. In Finland and Sweden, the oldest age group also had more complex hot lunches. The educational differences were small, although in Denmark and Sweden the group with the highest level of education had more complex hot dinners. For hot lunches some educational differences were found only in Sweden. Regarding indicators of social differentiation,

it could be argued that the increased welfare of practically all social groups has made it possible, economically speaking, to procure a large number of food items for the household irrespective of education and income disparities. This in turn could be why there is little social stratification. Thus, regarding age, both the results from this analysis and recent results from Lund and Gronow (2014) suggest that age and life course effects appear to have an important influence on eating practices. It seems that social and situational factors relating to where and with whom the meal is eaten mainly account for the differences in meal complexity.

The country comparison carried out in this article is based on the assumption that people within each country have more in common with each other than with people in neighbouring countries (Kuipers 2012), although ideas of convergence between different countries have been displayed in recent research (see Warde et al. 2007). From a comparative perspective, there were few differences between the four Nordic countries. The similarity may result from similar ingredients being used for cooking across the borders (see Amilien 2012). Thus, the complexity measure is not the best tool to depict these differences, as actual dishes and national peculiarities cannot be captured with a simple count measure. Further research is needed in order to study these specifics, and the relationship between lunch and dinner complexity.

ANNEX

Table A1. Meal complexity for hot lunches by social context and background in the four countries, Poisson regression (B, Sig.), unweighed sub-sample²

	Denmark (N = 338)			Finland (N = 1077)			Norway (N = 278)			Sweden (N = 1108)		
	%	B, <i>p</i>	S.E.	%	B, <i>p</i>	S.E.	%	B, <i>p</i>	S.E.	%	B, <i>p</i>	S.E.
Intercept		1.72***	0.14		1.65***	0.08		1.39***	0.19		1.55***	0.07
Commensal partners												
Partner	16.9	-0.09	0.08	24.4	0.12**	0.04	16.2	-0.01	0.10	23.9	-0.00	0.04
Children	6.8	-0.01	0.12	10.3	0.11*	0.05	9.0	0.12	0.13	9.8	0.03	0.05
Relatives	3.8	0.37**	0.13	5.6	0.16*	0.06	5.0	0.07	0.16	6.4	0.09	0.06
Friends	10.1	0.12	0.09	6.1	0.15*	0.06	10.4	0.06	0.11	7.5	-0.01	0.05
Colleagues or others	42.6	0.15	0.09	32.6	0.18***	0.04	41.7	0.13	0.10	36.2	0.02	0.05
Meal venue At home												
Someone else's home	30.2	0	-	48.5	0	-	32.0	0	-	45.7	0	-
At or during work	2.4	0.23	0.16	3.2	0.05	0.08	3.6	0.17	0.19	3.5	0.16*	0.08
Café or restaurant	41.7	0.20	0.10	34.2	0.14**	0.05	37.1	0.12	0.12	31.9	0.09	0.05
On the go or other	14.2	0.10	0.09	11.4	0.20***	0.05	15.8	0.20	0.11	14.7	0.28***	0.05
	11.5	0.07	0.10	2.8	0.04	0.08	11.5	0.13	0.13	4.2	0.14	0.07
Day												
Weekday	73.4	0	-	74.1	0	-	71.2	0	-	75.5	0	-
Weekend	26.6	-0.02	0.07	25.9	0.02	0.04	28.8	-0.18*	0.09	75.5	-0.08*	0.04
Duration												
Longer than 30 min	18.3	0	-	11.3	0	-	18.7	0	-	20.1	0	-
21-30 min	33.7	-0.17*	0.07	35.7	-0.11**	0.04	33.8	-0.13	0.09	36.3	-0.14***	0.04
10-20 min	34.9	-0.33***	0.08	48.1	-0.26***	0.04	36.0	-0.13	0.10	38.6	-0.22***	0.04
Less than 10 min	13.0	-0.69***	0.12	4.9	-0.60***	0.09	11.5	-0.63***	0.16	5.0	-0.40***	0.08
Gender Male												
Female	48.8	0	-	45.2	0	-	49.6	0	-	49.1	0	-
	51.2	0.02	0.05	54.8	-0.10***	0.03	50.4	-0.16	0.07	50.9	0.03	0.03
Age group 15-29												
30-44	22.5	0	-	13.6	0	-	31.3	0	-	15.7	0	-
45-59	37.6	0.01	0.07	30.4	0.03	0.04	32.7	-0.04	0.10	32.4	-0.03	0.04
60-	22.2	-0.03	0.08	32.4	0.04	0.04	21.2	0.08	0.11	27.4	-0.00	0.04
	17.8	0.13	0.08	23.6	0.23***	0.05	14.7	0.08	0.11	24.5	0.10*	0.05
Education Basic												
Vocational	11.2	0	-	8.1	0	-	8.3	0	-	14.4	0	-
High school	13.9	-0.25*	0.11	16.4	0.07	0.06	6.8	0.02	0.16	9.4	0.14*	0.06
1-3 years after	9.2	-0.16	0.12	20.3	-0.06	0.06	13.7	-0.12	0.14	28.2	0.07	0.05
>3 years	21.0	-0.19	0.10	21.3	0.06	0.05	28.4	0.03	0.13	19.1	0.14**	0.05
	44.7	-0.15	0.09	33.9	0.06	0.05	42.8	0.04	0.12	29.0	0.07	0.05
Pseudo R ²	0.282			0.216			0.231			0.154		

Note: ***= $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$

² Poisson regression, like most models in the GLM family, has no direct analogue to the explanatory rate R². Deviance for intercept-only model and deviance for the fitted model were used to calculate Pseudo R² (see Cox et al. 2009, 126127).

Table A2. Meal complexity for hot dinners by social context and background in the four countries, Poisson regression (B, Sig.), unweighed sub-sample

	Denmark (N = 1647)			Finland (N = 1262)			Norway (N = 1720)			Sweden (N = 1392)		
	%	B, <i>p</i>	S.E.	%	B, <i>p</i>	S.E.	%	B, <i>p</i>	S.E.	%	B, <i>p</i>	S.E.
Intercept		1.56***	0.05		1.61***	0.07		1.56***	0.59		1.53***	0.06
Commensal partners												
Partner	54.8	0.07**	0.03	43.3	0.11***	0.03	54.0	0.07**	0.03	49.8	0.09**	0.03
Children	26.2	0.06	0.03	20.6	0.00	0.03	23.0	0.02	0.03	20.7	0.04	0.03
Relatives	14.3	0.17***	0.04	12.7	0.15***	0.04	13.8	0.08*	0.04	15.7	0.11**	0.04
Friends	8.7	0.11*	0.04	4.8	0.09	0.06	8.1	0.10*	0.04	9.6	0.14**	0.04
Colleagues or others	5.8	0.16**	0.06	4.3	0.26***	0.07	5.7	0.07	0.06	5.6	0.05	0.07
Meal venue												
At home	83.0	0	-	13.8	0	-	83.0	0	-	82.5	0	-
Someone else's home	8.0	0.01	0.04	4.2	0.17**	0.06	7.0	-0.07	0.05	6.1	0.11*	0.05
At or during work	2.4	0.04	0.09	3.2	0.07	0.09	2.4	0.12	0.08	3.3	-0.06	0.09
Café or restaurant	5.0	0.10	0.05	4.2	0.20**	0.06	4.8	0.07	0.05	5.8	0.12*	0.05
On the go or other	1.6	0.14	0.09	2.2	0.02	0.09	2.8	0.04	0.07	2.2	0.07	0.08
Day												
Weekday	70.6	0	-	71.0	0	-	72.1	0	-	69.6	0	-
Weekend	29.4	0.02	0.02	29.0	0.04	0.03	27.9	0.02	0.03	30.4	0.06*	0.03
Duration												
Longer than 30 min	29.6	0	-	16.1	0	-	25.1	0	-	31.1	0	-
21-30 min	41.0	-0.19***	0.03	32.3	-0.10**	0.04	35.6	-0.17***	0.29	37.6	-0.14***	0.03
10-20 min	27.3	-0.26***	0.03	45.6	-0.25***	0.04	35.6	-0.28***	0.03	29.0	-0.24***	0.03
Less than 10 min	2.0	-0.60***	0.10	6.0	-0.56***	0.07	3.7	-0.39***	0.07	2.2	-0.49***	0.10
Gender												
Male	47.9	0	-	46.2	0	-	49.0	0	-	48.1	0	-
Female	52.1	0.02	0.02	53.8	-0.06	0.04	51.0	0.06**	0.02	51.9	0.03	0.02
Age group												
15-29	17.6	0	-	17.3	0	-	13.5	0	-	14.8	0	-
30-44	27.4	0.03	0.04	31.5	0.05	0.04	29.4	0.00	0.04	31.5	0.01	0.04
45-59	30.8	0.03	0.04	32.1	0.07	0.04	30.5	0.05	0.04	26.0	0.07	0.04
60-	24.1	0.10**	0.04	19.2	0.18***	0.04	26.6	0.11**	0.04	27.7	0.18***	0.04
Education												
Basic	13.8	0	-	10.0	0	-	9.5	0	-	16.6	0	-
Vocational	18.6	0.03	0.04	16.9	-0.04	0.05	11.5	0.03	0.05	10.3	0.01	0.05
High school	9.2	0.05	0.05	20.7	-0.01	0.05	15.6	-0.01	0.05	29.2	0.04	0.04
1-3 years after	22.6	0.03	0.04	20.6	-0.02	0.05	27.8	0.07	0.04	17.2	0.06	0.04
>3 years	35.7	0.09*	0.04	31.9	0.01	0.05	35.5	0.07	0.04	26.8	0.08*	0.04
Pseudo R ²	0.143			0.169			0.121			0.196		

Note: ***= $p < 0.001$, ** = $p < 0.01$, * = $p < 0.05$