



Short communication

Conscripts' attitudes towards health and eating. Changes during the military service and associations with eating[☆]

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ABSTRACT

The study explores young men's ($n = 290$) attitudes towards food and eating before and during military service and their associations with eating of sweet and fatty foods. Before service eating of sweet foods was associated negatively with health interest and positively with craving for sweet foods and using food as a reward, and eating of fatty foods negatively with health interest. At six months of service, craving, using food as a reward and pleasure increased, whereas health interest remained stable. At six months, eating of sweet foods was negatively associated with health interest and positively with craving. Mentally and physically hard conditions and easy access to indulgence items, affect the food related attitudes and food consumption among conscripts.

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Introduction

Food and meal times play a central role in the daily lives in many total institutions such as garrisons. Prison studies have shown that in environments where people have only a little control over their daily life, food and especially 'unhealthy' food may play a part in re-establishing control over one's life, building a sense of self and as a means of release in a stressful situation (Godderis, 2006; Smith, 2002). For conscripts, food provides pleasure and comfort and meal times enclaves of privacy in an environment where actions are otherwise highly governed (Hoikkala, Salasuo, & Ojajärvi, 2009).

Major part of the research on food in the military setting, however, studies either energy balance or caloric intake (Hirsch, Matthew Kramer, & Meiselman, 2005; Tanskanen et al., 2009) or food preferences relative to consumption (de Graaf et al., 2005). Most of this research has been conducted within US Army (Meiselman & Schutz, 2003). Otherwise, there is little information of conscripts' attitudes towards food and their associations with food choices. Among Finnish conscripts, the consumption of many

sweet foods such as desserts, doughnuts, confectionary, soft drinks, chocolate and sweets increase during the first six months of military service (Absetz et al., 2010). Others have reported similar results among Finnish (Tähtinen, Vanhala, Oikarinen, & Keinänen-Kiukaanniemi, 2001) and Norwegian conscripts' (Schei, 1995). In Norway, conscripts' eating patterns when still living at home predicted eating patterns in the military camp (Uglem, Stea, Frolich, & Wandel, 2011).

Together these studies suggest that military service affects both food related attitudes and food choices. According to Schei (1995), mental distress, negative attitudes and experiences in the army as well as infrequent visits at home increase snacking. Uglem et al. (2011) report that Norwegian conscripts who consider it important to be slender eat more fruits than other conscripts but that these attitudes towards slenderness were only weakly associated with consumption of snacks, fast foods and soft drinks.

Research from civilian life shows that food related attitudes are associated with food choices: Frequent consumers of healthy snacks have a stronger health attitude compared to non-frequent consumers (Weijzen, de Graaf, & Dijksterhuis, 2009). A negative attitude towards healthy eating is associated with increased energy intake and energy from carbohydrate and total fat (Hearty, McCarthy, Kearney, & Gibney, 2007). On the other hand, health interest has been found to strongly affect the choice between snack options: high health interest leading to a high proportion of choices

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for apple, and low health interest leading to the choice of chocolate (Roininen & Tuorila, 1999).

The present study targets a sample of young men who served as conscripts in two Finnish garrisons in 2007. It explores these men before they enter the military and after six months of service. The aim is to analyse attitudes towards healthy and enjoyment based eating of these men and the associations of these attitudes with eating of sweet and fatty foods. Moreover, the study analyses how these attitudes and eating patterns shift during the first months of military service.

Methods

Respondents

This study is a part of the DefenceNutri research project conducted in two Finnish garrisons, Armoured Brigade in Southern Finland and Kainuu Brigade in Northern Finland. Each year, two cohorts enter the military service in both of these garrisons, one in January and one in July.

In 2007, three units were selected for the DefenceNutri research from both garrisons ($n = 1430$). One month before the service, a questionnaire was sent to the conscripts' home address. Responding was possible via Internet or by returning the questionnaire when entering the service. Response rate was 45%. The questions applied in the present study were repeated at the end of the 6th month of service. A total of 300 men completed both the before-service questionnaire and the 6-month questionnaire. Drop-out of the study was partly due to interruptions of service as almost one-fifth of men entering the military service drop out (Defence Staff, 2011). Other main reasons for not participating in our study were: being on encampment, on leave or ill during the measurements and military transfers to other units or garrisons. Only a few men refused to attend the study and only men who had given their informed consent were included in the study.

Participants aged over 21 years were excluded ($n = 9$), to have a homogenous sample of young men. After the exclusion, the age range of participants ($n = 290$) was 18–21 years (96% of them were 18 or 19 years old). Background characteristics of the men are presented in Table 1.

Military setting

In Finland, nearly 80% of young men complete the compulsory military service lasting from six to twelve months (Defence Staff,

2011). The rest either apply for non-military service for ethical or religious reasons or are exempted (Multimäki et al., 2005).

In the Finnish garrisons, conscripts eat their breakfast, lunch, dinner and optional evening snack at self-service canteens where the meals are designed according to military nutrition recommendations (Finnish Defence Forces, 2003). Typically, lunch and dinner contain a main dish often consisting of meat or fish served with potatoes, rice or pasta, and fresh or cooked vegetables. Desserts, such as fruit soup or pudding, are served daily at meals. Drink alternatives include milk, sour milk, juice and water. Canteen food is nutrient-rich compared to food consumed at other meal sites that conscripts may visit at their free-time (Bingham et al., 2009). These sites include the Soldier's Home cafeterias where the conscript may buy snack-type foods such as rolls, buns, doughnuts, chips, sweets, chocolate, soft drinks, pizzas and hamburgers at subsidized prices. Especially the doughnuts symbolize the comfort and care provided by these "homes" within the garrisons (Jallinoja & Suihko, 2007). Moreover, the conscripts may also leave the garrison in their free-time and hence, may buy food and drinks elsewhere.

Measures

The questionnaires contained questions on background characteristics, eating habits and other health behaviours, decision-making process and attitudes towards healthy lifestyle and pleasure, and psychosocial factors.

Attitudes towards healthy food, eating and pleasure were measured with four sub-scales of Health and Taste Attitude Scale (HTAS): General health interest (GHI), Craving for sweet foods (CSF), Using food as a reward (REW) and Pleasure (PLE) (Roininen, Lahteenmaki, & Tuorila, 1999). These sub-scales consist of statements rated on seven-point Likert scales, ranging from "strongly disagree" to "strongly agree". General health interest (8 items) describes interest in eating healthily (e.g. "I am very particular about the healthiness of food"); Craving for sweet foods (5 items) describes strength of craving for chocolate, sweets and ice-cream (e.g. "I often have cravings for sweets") (the original scale contains 6 items, but due to a technical error one item is missing here); Using food as a reward contains 6 items (e.g. "I indulge myself by buying something really delicious") and Pleasure (6 items) (e.g. "When I eat, I concentrate on enjoying the taste of food").

The food consumption was measured by a 36-item food frequency questionnaire asking on how many days during the past week the respondent had consumed certain foods (item range 0–7). The questionnaire was based on several corresponding questionnaires used among Finns (Helakorpi, Pajunen, Jallinoja, Virtanen, & Uutela, 2011; Paalanen et al., 2006) and adjusted for conscripts on the bases of a previous food diary study among Finnish conscripts (Bingham et al., 2009). Thus, the purpose of the questionnaire was to capture the use of extra foods consumed in addition to the core everyday diet by young men. For the purposes of the present study two indexes measuring eating of unhealthy foods were formed: Fat Index was the sum of five items: meat pies and pastries, pizza and kebab, hot dogs and hamburgers, French fries, and potato crisps. Sugar Index was the sum of five items: desserts, sugared soft drinks, sweet pastries, chocolate and sweets. Except for sweet desserts, these items were typically not available in the garrison canteens but may be bought from Soldier's Homes and commercial food providers outside garrisons. The indexes were scaled by dividing the sum scores by the number of food items of each index. Thus, all indexes ranged from 0 to 7.

There was seasonal variation only in chocolate that was consumed more frequently in the winter (Bingham-Teissala, Absetz, Paturi, & Suihko, 2008) and hence, in the analysis the entries are analysed together.

Table 1
Characteristics of the conscripts, percentage of respondents before entering the military service ($n = 290$).

Brigade	
Armoured Brigade	32
Kajaani Brigade	68
Month of entry to military service	
January	52
July	48
Living status	
With parents	81
With a spouse	7
Alone, other	12
Working status	
Working	33
Unemployed, dismissed temporarily	31
Student	24
Not working for other reason	11
Highest completed education	
Comprehensive school	7
Vocational school	48
High school	43
Other	2

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