Available online at www.sciencedirect.com
ScienceDirect
Appetite 50 (2008) 464–468
Appetite
www.elsevier.com/locate/appet

Research Report

Women of lower educational attainment have lower food involvement and eat less fruit and vegetables

M. Barker[a,*], W. Lawrence[a], J. Woadden[b], S.R. Crozier[a], T.C. Skinner[c]

[a]*Food Choice Group, MRC Epidemiology Resource Centre, University of Southampton, Southampton General Hospital, Tremona Road, Southampton S016 6YD, UK*
[b]*School of Psychology, University of Southampton, Highfield, Southampton SO17 1BJ, UK*
[c]*School of Psychology, University of Wollongong, Northfields Avenue, Wollongong, NSW 2500, Australia*

Received 11 July 2007; received in revised form 8 October 2007; accepted 10 October 2007

Abstract

Women who leave school with few or no educational qualifications are less likely to have diets that meet current recommendations than women who attain more qualifications at school. We hypothesise that lower 'food involvement', meaning that food has a lower level of importance in their lives, explains the poorer quality diets of women of lower educational attainment. We administered Bell and Marshall [(2003). The construct of food involvement in behavioral research: Scale development and validation. *Appetite*, *40*, 235–244.] Food Involvement scale to 242 women of varied educational attainment, of whom 127 were also asked how often they ate fruit and vegetables. Women's food involvement decreased with decreasing educational attainment. Forty-two percent of women who had no educational qualifications were in the lowest quarter of the food involvement score, compared with 12% of women with degrees. Women with lower scores on the food involvement scale also reported eating fruit and vegetables less often. The odds of eating fewer fruit and vegetables rose with lower educational attainment and with lower food involvement scores, suggesting that each has an independent effect. We have shown that the Food Involvement scale discriminates between women, is associated with other characteristics and predicts dietary quality. We now plan to use it in a larger, representative population of women of lower educational attainment to examine its role along with other psychological variables in determining dietary quality.

Keywords: Women; Education; Food involvement; Fruit and vegetables; Dietary quality

Introduction

Studies from around the world have identified a relationship between educational attainment and diet. Education level was the most important social variable in explaining differences in vegetable and fat intake in a random sample of Danish men and women (Groth, Fagt, & Brøndsted, 2001), and having no qualifications was a significant predictor of low healthy-eating scores in 7434 men and women in the Scottish Health Survey (Shelton, 2005). In a group of 6125 women who took part in the Southampton Women's Survey, it was found that women who leave school with few or no qualifications eat a less balanced or 'prudent' diet than women with qualifications (Robinson et al., 2004). A 'prudent' diet in this survey was characterised by high intakes of fruit and vegetables, wholemeal bread, rice, pasta, yoghurt, and breakfast cereals. An 'imprudent' diet was characterised by high intakes of chips and roast potatoes, sugar, white bread, red and processed meats, full-fat dairy products, crisps, sweets, tinned vegetables, cakes, and biscuits. More than half of the women who left school with no qualifications were in the lowest quarter of the 'prudent' diet score. This fell progressively with increasing qualifications so that only 3% of women with degrees had scores in the lowest quarter. This relationship was not explained by social class or by being in receipt of benefits.

Education is unlikely to have a direct effect on diet. It is not simply that those women who stayed in school longer

*Corresponding author.
E-mail address: meb@mrc.soton.ac.uk (M. Barker).

0195-6663/$ - see front matter © 2007 Elsevier Ltd. All rights reserved.
doi:10.1016/j.appet.2007.10.004

were taught more about food. It is more likely that educational attainment is a marker for other differences between women of high and low educational attainment, amongst which may be lifestyle and the priority given to diet. One difference could be in their level of food involvement. Bell and Marshall define the concept of food involvement as 'the level of importance of food in a person's life' (Bell & Marshall, 2003, p. 236). In developing their concept of food involvement they draw on consumer behaviour research in which the concept of 'product involvement' is widely used. High involvement with a product is characterised by investment of time and effort before making a choice, the converse being true for low involvement. Highly food-involved people are therefore those who 'pay more attention to foods themselves during all phases of interaction with them' (p. 237). Conceptualised like this, food involvement will therefore affect purchase, preparation and choices of food, and might therefore be related indirectly to dietary quality and the healthiness of food choices. Bell and Marshall (2003) provide evidence to suggest that food involvement will vary from individual to individual along a continuum, and will as such be a measurable concept. They also propose that if lifetime experiences influence the importance of food to individuals, then food involvement would be expected to be stable over time. On this basis, Bell and Marshall (2003) have devised a 12-item scale to measure an individual's food involvement. Their validation studies suggest that higher scores on their food involvement scale are correlated with greater hedonic responses to food and with greater ability to discriminate between foods on their sweetness, saltiness and flavour strength.

Women of lower educational attainment are likely to have lower incomes than those of higher educational attainment, and having limited income makes it more difficult to eat well in the UK (Dowler & Calvert, 1995). It may be that food choices become a lower priority when there are many other competing demands on limited financial resources. Having less money will also restrict the amount of choice people have, which may make choosing what to eat less interesting or enjoyable. There is evidence to suggest that people of lower educational attainment believe less in the connection between eating well as a means to good health than those of higher educational attainment (Leganger & Kraft, 2003). Healthy food choices might therefore be a lower priority for people of lower educational attainment than would choices representing more immediate threats. If these assumptions are correct and if the concept of food involvement reflects the importance of food in a person's life, we would expect women of lower educational attainment to have lower food involvement scores. If so, it would help to explain why women of low educational attainment have less balanced and varied diets than women of high educational attainment in Southampton (Robinson et al., 2004). We therefore hypothesise that women of low educational attainment will have poorer quality diets than women of high educational attainment because they have lower food involvement. This paper reports a study designed to test this hypothesis in a convenience sample of women currently living or working in Southampton, UK.

Methods and procedures

Participants

Two hundred and forty-two women completed Bell and Marshall's (2003) Food Involvement scale (FIS) between July 2004 and July 2006. In order to ensure a range of educational attainment amongst the women, we recruited from a variety of sources. One hundred and twenty-five women who were attending baby clinics and other courses at a Sure Start Centre in Southampton completed the scale, as did 74 female staff and students in two university departments, 15 women attending a support group for mothers of young children, and 9 women who had previously taken part in the Southampton Women's Survey. A further 19 women were recruited from a variety of sources, including from amongst friends of one of the research team.

Materials and procedures

The women were asked to complete the questionnaires either on paper in the presence of the researchers, or, in the case of university students, online. The FIS consists of 12 items in the form of statements: I don't think much about food each day; cooking or barbequing is not much fun; talking about what I ate or am going to eat is something I like to do; compared with other daily decisions, my food choices are not very important; when I travel, one of the things I anticipate most is eating the food there; I do most or all of the cleaning up after eating; I enjoy cooking for others and myself; when I eat out, I don't think or talk much about how the food tastes; I do not like to mix or chop food; I do most or all of my own food shopping; I do not wash dishes or clean the table; I care whether or not a table is nicely set. These 12 items represent the five different areas of acquisition, preparation, cooking, eating and procurement, and disposal of food. We asked respondents to indicate how strongly they agreed or disagreed with each statement on a five-point scale. The original FIS used a seven-point scale. We made this modification to simplify the questionnaire for women who might have a low literacy level. These 12 items produced two sub-scales–the 'set and disposal' involvement scale, and the 'preparation and eating' involvement scale—in addition to the overall FIS score. Bell and Marshall (2003) found evidence of high test–retest reliability using this measure with a group of 769 male and female laboratory employees, graduate students, and undergraduates in a military academy.

Information on age, number of children living in the home and level of education attained was recorded for each woman. A dietary survey instrument was introduced in the