What's cooking? Promoting 10-13 year old children's acceptance of fish through experiential learning

Højer, Rikke ; Frøst, Michael Bom

Publication date: 2018

Citation for published version (APA):
What's cooking? Promoting 10-13 year old children's acceptance of fish through experiential learning

Højerr, Rikke1,2 & Frøst, Michael Bom2

1Presenting and corresponding author (rikke.h@food.ku.dk)
2University College Absalon, Center for Nutrition and Rehabilitation, Health and Nutrition, Slagelsevej 70-74, DK-4180 Sore, Denmark

Nordic Food Lab, Design and Consumer Behaviour Section, Department of Food Science, Faculty of Science, University of Copenhagen, Rolighedsgade 26, DK-1956 Frederiksberg C, Denmark

Introduction

Danish children aged 10-17 years only eat 1/3 of the 350 grams of fish per week recommended by health authorities1. Eating fish, especially fatty fish, as a part of a varied diet, ensures a contribution of the polyunsaturated fatty acid (PUFA) which is important to ensure children's positive cognitive development and function, and over the life span reduces the risk of developing cardiovascular diseases2,3,4. In Danish public schools Family and consumer sciences (fam: Madkundskab, similar to Home economics) is mandatory for fifth schools and the control group from ten schools. Students in three fifth schools in a school setting affects 10-13 year old children’s acceptance of fish.

The aim of this study is to examine if practical experience, e.g. cooking, in a school setting affects 10-13 year old children’s acceptance of fish.

Methods and Materials

Study population

Students age 10-13 years from 5th - 6th grade. The students in both the main group and the control group came from different public schools on Zealand: The maingroup from five schools and the control group from ten schools respectively.

Study design

This study is an interdisciplinary, quasi-experimental intervention with a main group (MG, n = 270) and a control group (CG, n = 299). Furthermore, the control group was randomly divided into two sub-groups: Control group 1 and 2 (CG1: n = 159; CG2: n = 140).

The main group participated in a five week theme course on fish developed for FCS in 5th - 6th grade (5 x 3 lessons of 45 minutes) Control group 2 had an oral lecture (2 x 45 min.) based on the same themes: The senses, quality of fresh fish, tacility, filleting, cooking, food history, preservation, food waste, sustainability, nutrition etc.

Results and Discussion

Differences between MG and both control groups at baseline were analyzed, no significant differences were found (p > 0.05). Hence, the groups were considered similar at baseline. Control subgroup 1 and 2 were pooled, as no differences between them were found (p > 0.05) (data not illustrated).

The lack of increase in liking of fish in the main group after participating in the five week experiential sensory-based theme course on fish could be due to the fact that being faced with fresh whole fish with slime, blood, and internal organs is very different from the fish accessible in the supermarket, which typically is already cleaned and filleted. Wherefore it could be due to either diastase or disgust and the fear of contamination of the theory of disgust as laid out by Rozin and Fallon (1986)5, or a case of what Fischer (1980)6 calls gastro-anomia; a loss of the ability to identify foods as a result of industrial purification.

Although no significant increase in liking of fish was demonstrated in the main study after participation in the five week theme course an evaluative question detected that approximately 44% of the students in this group had become more curious about eating fish (median 3), which is a significant difference from before (p = 0.013, CI: 0.04, 0.38).

Compared to CG a significant increase in self-evaluated fish cooking skills (table 1, p = 0.0005, mean: illustration 2, top) for participants in the fish cooking course (MG), was demonstrated. In liking of fish, means revealed a tendency to decreased liking compared to baseline, especially in MG (table 1, p = 0.144, mean: illustration 2, bottom).

Conclusions

In conclusion practical experience increases the students' self-evaluated skills, but even though no increase in liking was observed in the questionnaire, there was an increase in curiosity for trying other fish, for those students that participated in the five week experiential sensory-based theme course. Thus, practical sensory-based experience with fish and gaining a practical skill increase positive views toward eating fish, which can set a direction for future motivation and curiosity to try fish.

References

1. Pedersen, A. N.; Christensen, T.; Matthiessen, J.; Knudsen, V. K.; Rosenlund, N.; Schuchardt, M.; Mouritsen, O.G.; Fischler, C. Nordic Food Lab, Design and Consumer Behaviour Section, Department of Food Science, Faculty of Science, University of Copenhagen, Rolighedsgade 26, DK-1956 Frederiksberg C, Denmark

2. Methods and Materials

Study population

Students age 10-13 years from 5th - 6th grade. The students in both the main group and the control group came from different public schools on Zealand: The maingroup from five schools and the control group from ten schools respectively.

Study design

This study is an interdisciplinary, quasi-experimental intervention with a main group (MG, n = 270) and a control group (CG, n = 299). Furthermore, the control group was randomly divided into two sub-groups: Control group 1 and 2 (CG1: n = 159; CG2: n = 140).

The main group participated in a five week theme course on fish developed for FCS in 5th - 6th grade (5 x 3 lessons of 45 minutes) Control group 2 had an oral lecture (2 x 45 min.) based on the same themes: The senses, quality of fresh fish, tacility, filleting, cooking, food history, preservation, food waste, sustainability, nutrition etc.

Results and Discussion

Differences between MG and both control groups at baseline were analyzed, no significant differences were found (p > 0.05). Hence, the groups were considered similar at baseline. Control subgroup 1 and 2 were pooled, as no differences between them were found (p > 0.05) (data not illustrated).

The lack of increase in liking of fish in the main group after participating in the five week experiential sensory-based theme course on fish could be due to the fact that being faced with fresh whole fish with slime, blood, and internal organs is very different from the fish accessible in the supermarket, which typically is already cleaned and filleted. Wherefore it could be due to either diastase or disgust and the fear of contamination of the theory of disgust as laid out by Rozin and Fallon (1986)5, or a case of what Fischer (1980)6 calls gastro-anomia; a loss of the ability to identify foods as a result of industrial purification.

Although no significant increase in liking of fish was demonstrated in the main study after participation in the five week theme course an evaluative question detected that approximately 44% of the students in this group had become more curious about eating fish (median 3), which is a significant difference from before (p = 0.013, CI: 0.04, 0.38).

Compared to CG a significant increase in self-evaluated fish cooking skills (table 1, p = 0.0005, mean: illustration 2, top) for participants in the fish cooking course (MG), was demonstrated. In liking of fish, means revealed a tendency to decreased liking compared to baseline, especially in MG (table 1, p = 0.144, mean: illustration 2, bottom).

Conclusions

In conclusion practical experience increases the students' self-evaluated skills, but even though no increase in liking was observed in the questionnaire, there was an increase in curiosity for trying other fish, for those students that participated in the five week experiential sensory-based theme course. Thus, practical sensory-based experience with fish and gaining a practical skill increase positive views toward eating fish, which can set a direction for future motivation and curiosity to try fish.

Acknowledgements

This study is a part of Smag for Livet (www.taste-for-life.org), supported by Nordisk-Konfident.