Acceptance of 3D printed food by adults and children

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1 Motivation & Method

3D food printing allows food to be produced in a variety of ways. Because the consumer acceptance appears to be relatively low, attitudes towards 3D printed food and influential factors were investigated. An online survey with 519 adults and their 129 children in the German-speaking part of Switzerland was conducted. Participants rated 3D printed food on pictures in different shapes (heart, cube, original form for adults; lobster, heart, guitar for children) and with various ingredients (meat, peas, potato, carrot) regarding the acceptance measures healthiness, naturalness, willingness to buy and eat.

Fig 1. 3D printer shown to the participants, currently printing carrot puree in a heart shape. Used by the Texas Tech University to print the food presented in the survey. Credit: Paul Egan, Texas Tech University.

2 Results

- Across adults and children, the heart shape received better ratings
- Meat as an ingredient received lowest acceptance ratings
- Children's acceptance of the 3D printed food did not depend on the ingredient used

3 Conclusion

In future studies, a sensory tasting will be needed. As children are an important target group, their acceptance should be investigated further as well. 3D printed food might be used to increase the consumption of vegetables by children, for example by 3D printing vegetables in playful shapes.
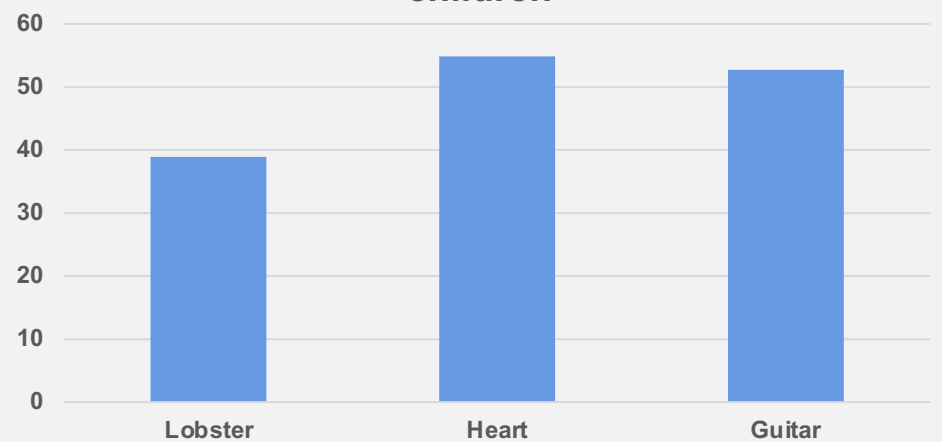
4 Contribution to Sustainable Food Systems

3D printed food can provide a solution to many global challenges, such as world hunger, food waste and food sustainability. Food can be printed for people with diseases and meat from substitutes can be printed more appealing.

World Food System Center