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10s Fork REVIEW

Healthier Living | Less Calories | Less Fatigue

TAKE IT SLOW!

Can feedback from a smart fork reduce eating speed?

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INTRODUCTION

Eating rate is a basic determinant of appetite regulation, as people who eat more slowly feel sated earlier and eat less. Unfortunately without assistance, eating rate is difficult to modify due to its highly automatic nature. These studies address the hypothesis that real-time feedback can reduce eating rate.

INTERVENTION: THE 10SFORK

The 10sFork, designed by Slow Control, Paris, provides feedback to raise awareness of eating rate in order to help people eat more slowly. It records behaviour and provides real-time vibrotactile feedback on individual eating rates.

EFFICACY STUDY

Does feedback delivered by the 10sFork reduce eating rate?

METHOD

Participants used the 10sFork to not a standardized meal (pasta bolognese) in a laboratory setting. 123 participants (77 female, 46 male, age m = 29.35 ± 13.15, body mass index (BMI) m = 24.04 ± 4.19) were randomly assigned to either the experimental condition (n = 64), in which they received vibrotactile feedback from the fork when eating too fast (period between bites <10 seconds), or a control condition (n = 59) in which they did not receive feedback from the fork.

RESULTS

Participants in the experimental condition:
Ate significantly slower, $F(1,123) = 5.40$, $p = .02$, $d = 0.42$,
Had a higher success ratio, i.e. took less bites within a ion timeframe, $F(1,123) = 24.20$, $p = .00$, $d = 0.9243$,
Took longer (m = 9 minutes, 51 seconds) to eat their meal than participants in the control condition (m = 7 minutes, 35 seconds), $F(1307) = 0.929$, $p = .ocn$, $d = 0.64$,
Reported higher satiation after their meal than those in the control condition, $F(1,123) = 6.268$, $p = .014$, $d = 0.4588$,
Ate similar amounts of pasta than participants in the control condition, $F(123) = .081$, $p = .777$.

QUALITATIVE USER EXPERIENCE STUDY

Is the 10sFork an acceptable and comfortable tool to reduce eating rate in real-life settings?

METHOD

11 participants (aged 18-35) used the fork both in a laboratory setting and at home. All participants were self-perceived fast eaters. We interviewed them on perceived efficacy, acceptability, comfort, accuracy, motivation, and sustained use of the fork.

RESULTS

Participants feel the 10sFork is an acceptable tool to decelerate eating rate. The fork is generally seen as comfortable and sufficiently accurate. The vibrotactile feedback worked as expected, but the visual feedback largely remained unnoticed. Participants did not feel uncomfortable using the fork in a social setting.

Participants were more aware of their eating rate, but this did not always lead to behaviour change. Every participant tried to cheat the fork at some point. Sustained motivation to use the fork was limited because participants did not see themselves as the product's target group.

CONCLUSIONS AND FURTHER RESEARCH

Vibrotactile feedback through a smart fork is an acceptable and comfortable means to reduce eating rate. Because of the fork's vibrotactile feedback, participants ate slower, with extended meal duration and more time between bites.

In further research, we will test the sustained effect of vibrotactile feedback on eating rate in real life settings.

HOW IT WORKS

It uses a very easy principle. The fork measures how much time passes between one bite and another. If you are eating too fast, a red light will appear and the fork vibrates 'uncomfortably' in your hand.

HOW TO USE IT

Just switch it on and start eating. You should however always remember to use also the 10sKnife. If you use another knife it will interfere with the device and it will vibrate also when you are just cutting the food. If you have finished your meal, turn it off. Don't forget to pull out the device before starting to clean it.

After having used it some times it is useful to connect to the Slow Control site and platform.

USER FRIENDLINESS

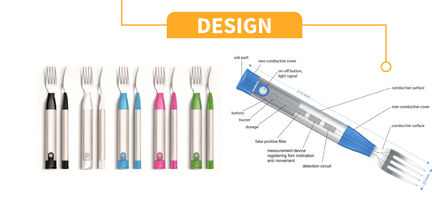
At first sight the fork may seem quite 'unwieldy'. But taking it in your hand it is actually very comfortable. Probably it weights more than a classic fork. But that makes you more aware of the fact that you actually have a fork in your hand, and that you are actually eating. The only comment I would give is that the knife does not have an optimal cut on the lower part of the blade. And that if you erroneously touch the metal of your knife, the fork starts to vibrate, even if you're not eating.

RESULTS/OUTPUT

There is an instantaneous result. I was directly forced to eat more slowly. Principally because the vibration of the fork is annoying. But, also because I experienced some kind of psychologic effect.

You just don't want the fork to vibrate! It almost felt like playing an oldfashioned simple eighties video game. It feels like if you get penalty points for every vibration.

DESIGN



As mentioned above, at first sight the fork seems quite big.

But it has a very simple and smooth design. It really has the look and feel of a new gadget, you would want to show to your friends. Also the fact it comes with a case makes it easy to always take it with you. Even more simple than an electric toothbrush that always needs charging; the device has a battery that works for over ten days