

Case Study

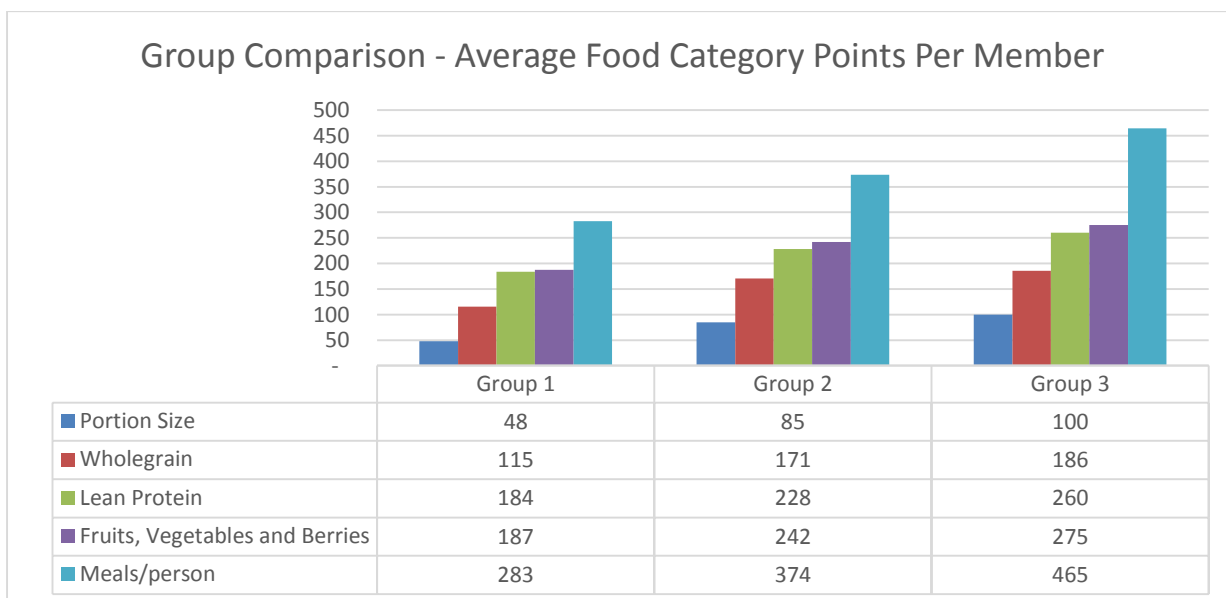
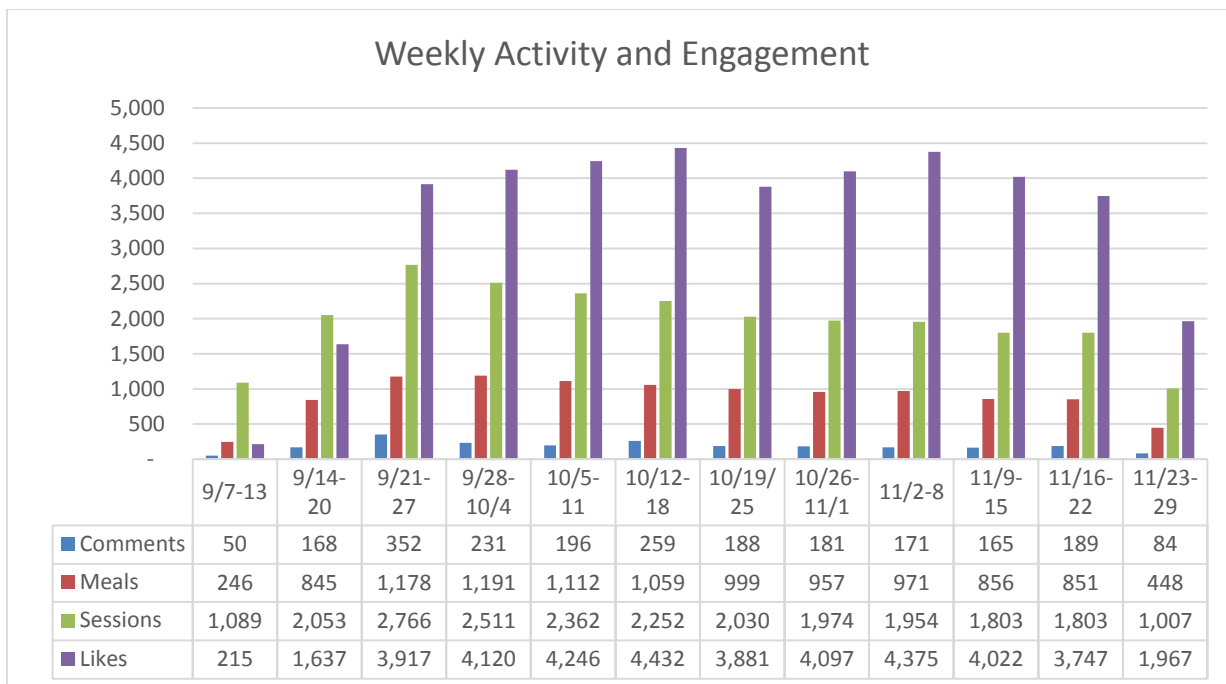
Mobile Group Lifestyle Intervention in a Primary Care Setting to Prevent Type 2 Diabetes Mellitus

A group of Finnish researchers showed in 2001, for the first time, that type 2 diabetes mellitus can be prevented or postponed in as many as 58% of study participants, by achieving a reduction in body weight of 5%, implementing simple and non-extreme lifestyle changes. The study was published in The New England Journal of Medicine, the most cited scientific medical series (NEJM 344: 1343, 2001), and followed by several similar studies with similar results in other populations. However, limited resources in regular health care settings have proven prohibitive in reproducing these outstanding results that were obtained in test conditions.

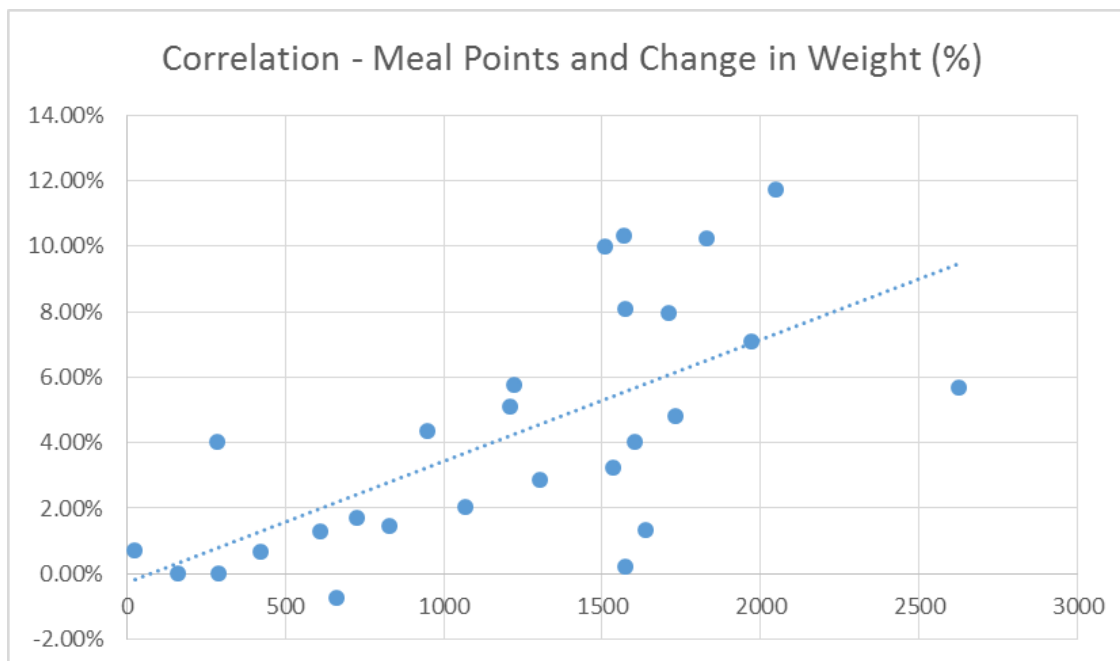
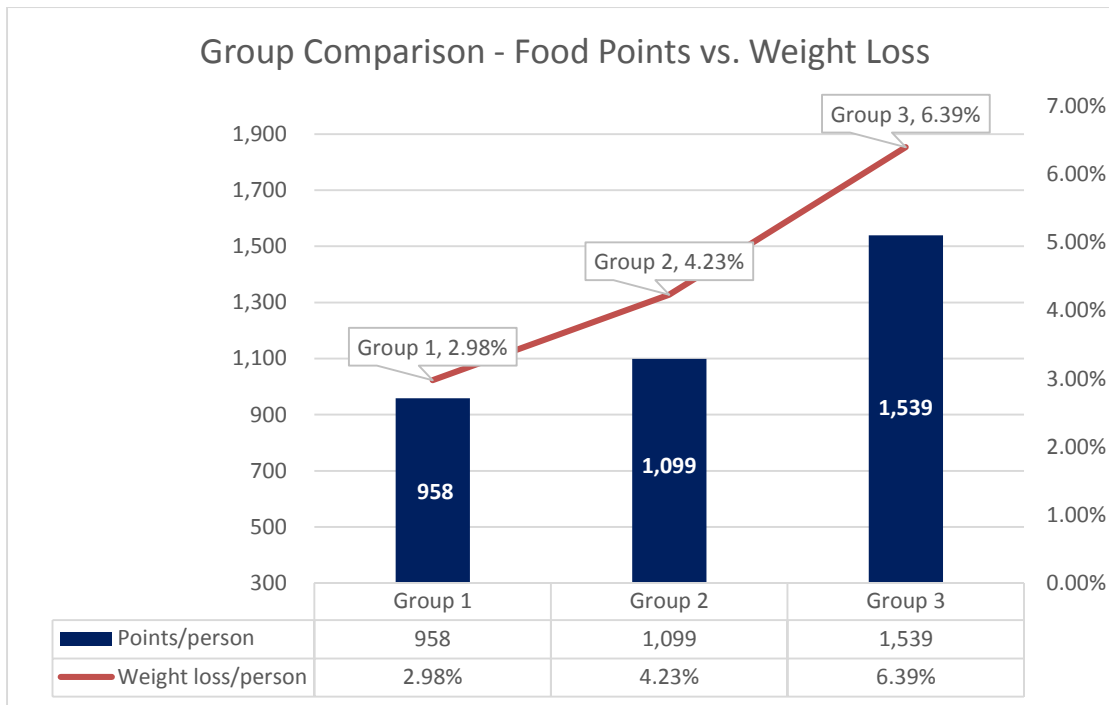
Attendo, a Nordic health care provider, implemented a three month weight control and lifestyle modification program in the primary health care center of Puolanka, a Finnish municipality with one of the highest concentrations of diabetes in the world. Volunteers were invited to participate in weekly group sessions held by health care nurses. The participants were also instructed to record all their meals using MealLogger, a mobile food journal. In addition, they were offered the ability to attend weekly group exercise events. The intervention program was designed by a dietitian, who moderated the groups remotely. The goal for the intervention was to reach a 5% reduction in body weight in 75% of the participants.

The intervention had 26 participants, divided into three groups. The mean weight of the participants was 80.2kg. Eight of the participants were overweight (BMI > 25), eleven were obese (BMI > 30) and five were morbidly obese (BMI > 35). Everyone except one participant achieved weight loss, with a cumulative weight loss of 94,3kg, or 4,6%. The most successful 75% of the participants achieved an average weight loss of 5.6%.

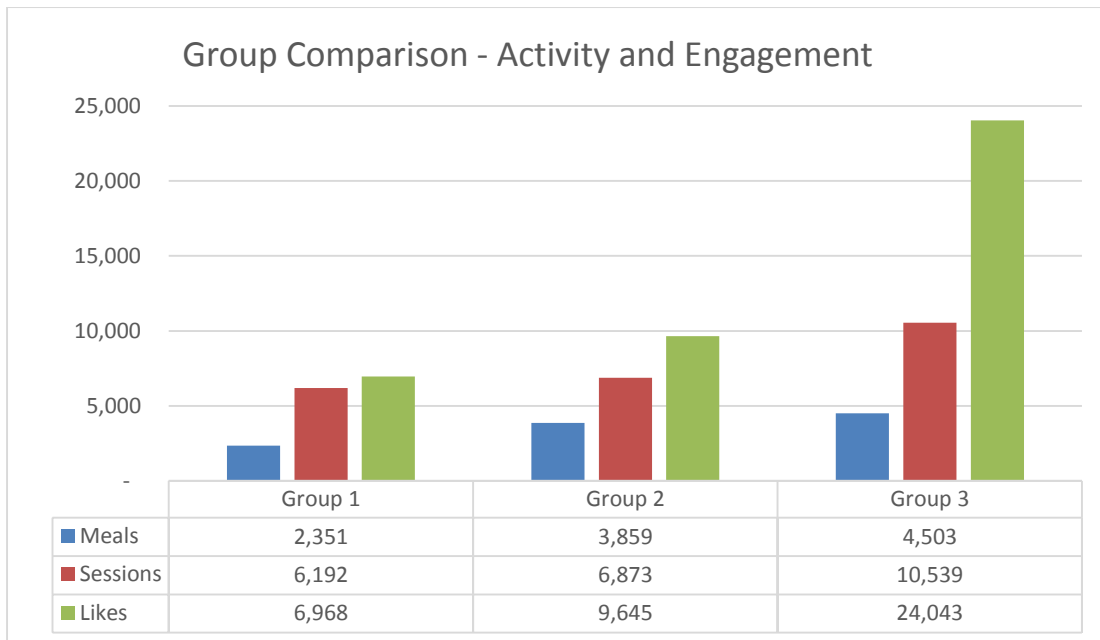
The study subjects posted a total of 9181 meals, gave each other 1913 comments and recorded 1134 exercises. All of the recorded meals were evaluated and scored based on the amount of fruits, vegetables, whole grains and lean protein contained in the meals, as well as portion size.



There were large variations between the activity and engagement levels of the groups. At the same time, there was a strong correlation between the quality of food consumed and weight loss (see charts below.)



The weight in the start of the follow up had no influence to the percentage of weight loss. The amount of virtual engagement in the groups contributed to how connected the group members felt to each other. The more interactions, activity and engagement, the better the results.



Novel aspects of the intervention

1. Proved how a dietitian can remotely and in a scalable way improve the effectiveness of conventional weight loss groups.
2. Virtual peer support improves group coherence and enables group members to reach their goals.
3. Virtual groups, where not only participants but also professionals participate, provide means to recognize different aspects in group dynamics and detect motivational issues, making it possible to address them immediately.

In summary

The three month intervention demonstrated that combining traditional and virtual behavior modification can help overcome obstacles that previously prevented the implementation of fast and effective weight loss and behavior modification programs in primary health care settings. Digital technology not only enables virtual non-synchronized presence of participants and all professionals. It also yields new type of data that can be used to track down different health behaviors, understand group dynamics and to interfere in time if group functionality seems to be decreasing.

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