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## **Differentiation of granola bars and sports bars by sensory evaluation: Does the sample presentation influence the results?**

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### **Objectives**

The goal of the study was to find out whether the various products in this growing market segment really differ in significant sensory attributes (not only in added aromas) or if differentiation is created by marketing claims only. A further goal was to determine whether results of the descriptive analysis were independent from the sample presentation (monadic vs. seriell).

### **Procedure**

Seven generally available sport bars and two candy bars were evaluated by members of fitness clubs (n=121) on a nine point Hedonic Scale. The results were compiled and related to the outcome of instrumental and sensory tests (quantitative descriptive method; similar to QDA™, 3 reps. monadic sample presentation and 3 reps. seriell sample presentation). The data thus obtained were statistically evaluated using ANOVA, regression- and correlation analysis ( $\alpha \leq 0.05$ ) as well as PCA.

### **Results and Conclusions**

The findings indicate that the protein bars and a subgroup of the fitness bars (although containing more carbohydrates than the protein bars) differ but slightly in dedicated attributes. The second subgroup of the fitness bars can be clearly differentiated from the first. An energy bar made of various grains and carbohydrates - a sort of muesli bar - was also included. Finally, two chocolate bars were evaluated to examine the differences between classic candy products and new "engineered" sports bars; they formed a further segment of the PCA correlation circle. Although these candy bars were characterized with attributes like "melting", "milky", "creamy", "caramel", "chocolate" and "sweet", consumers liked the grainy energy bar best. Protein bars and some fitness bars were rated lowest by the consumers. The survey shows as well that the results of the descriptive analysis were independent from how these samples are presented (monadic vs. seriell) to the judges.