#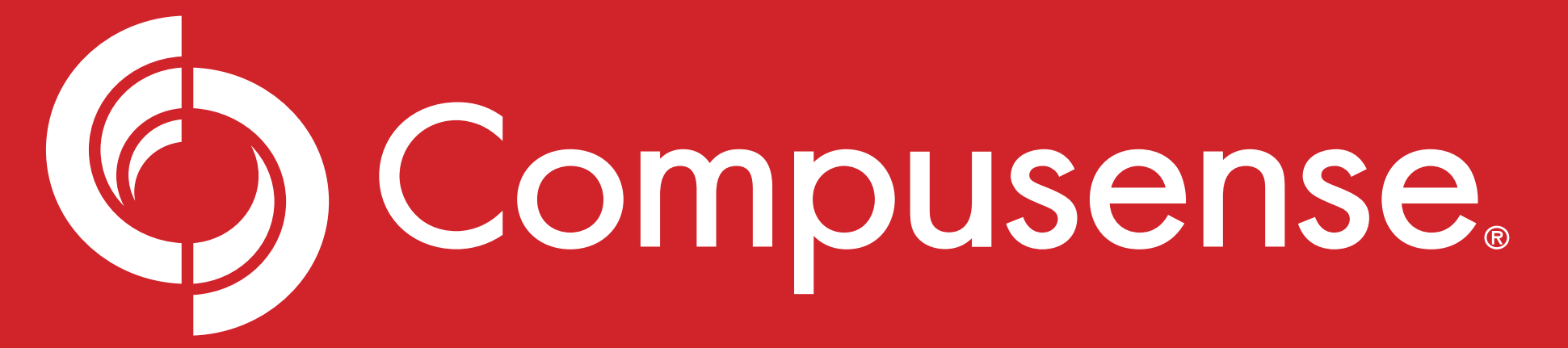 Evaluating cereal snack bars using dual-attribute time intensity and temporal dominance of sensations as complementary temporal sensory methods
P1.13

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SenseAsia 2016
The 2nd Asian Sensory and Consumer Research Symposium
15-17th May 2016 • Hyatt on the Bund, Shanghai, China

Compusense

Background

Temporal methods are a useful tool to understand dynamic processes in consumer experience. Data collection of both qualitative and quantitative data can be a challenge. In this study, we used two temporal methods, dual-attribute time intensity (DATI) and temporal dominance of sensations (TDS) to investigate the potential advantage of combining the results of the two methods.

Materials and Methods

A well-trained sensory panel (n=15) evaluated 4 commercial cereal bars using both dual-attribute time intensity (DATI) and temporal dominance of sensations (TDS). In the DATI test, a 120 s eating experience was evaluated using two complex attributes: Breakdown and Overall Flavour. In the TDS test, a 45 s evaluation was done using 5 sensory attributes: Caramelized Flavour, Dried Fruit Flavour, Grain Flavour, Nutty Flavour, and Sweetness. Our interest was focused on the first 45 s, which we investigated by superimposing TDS and DATI results onto a single plot.
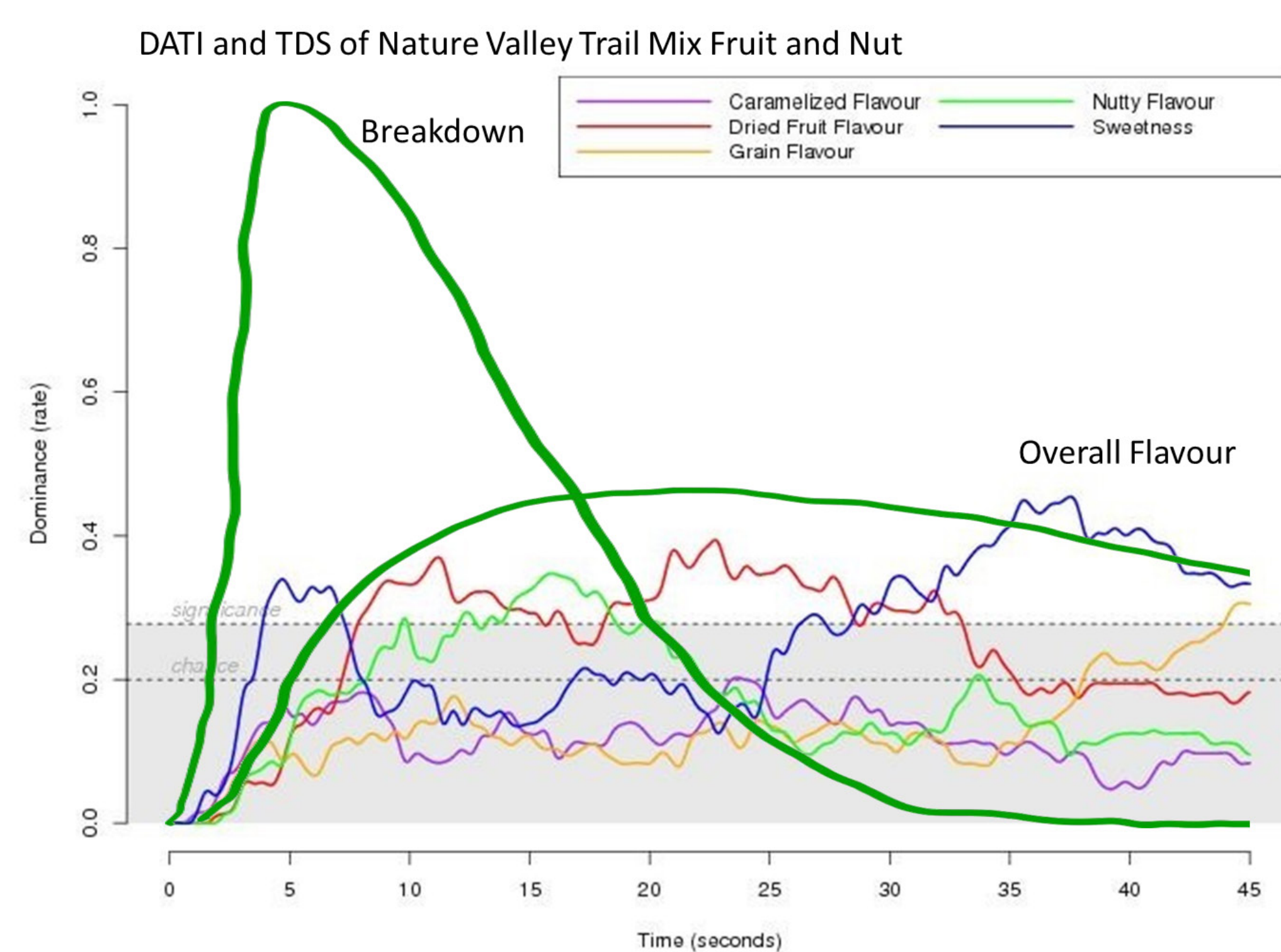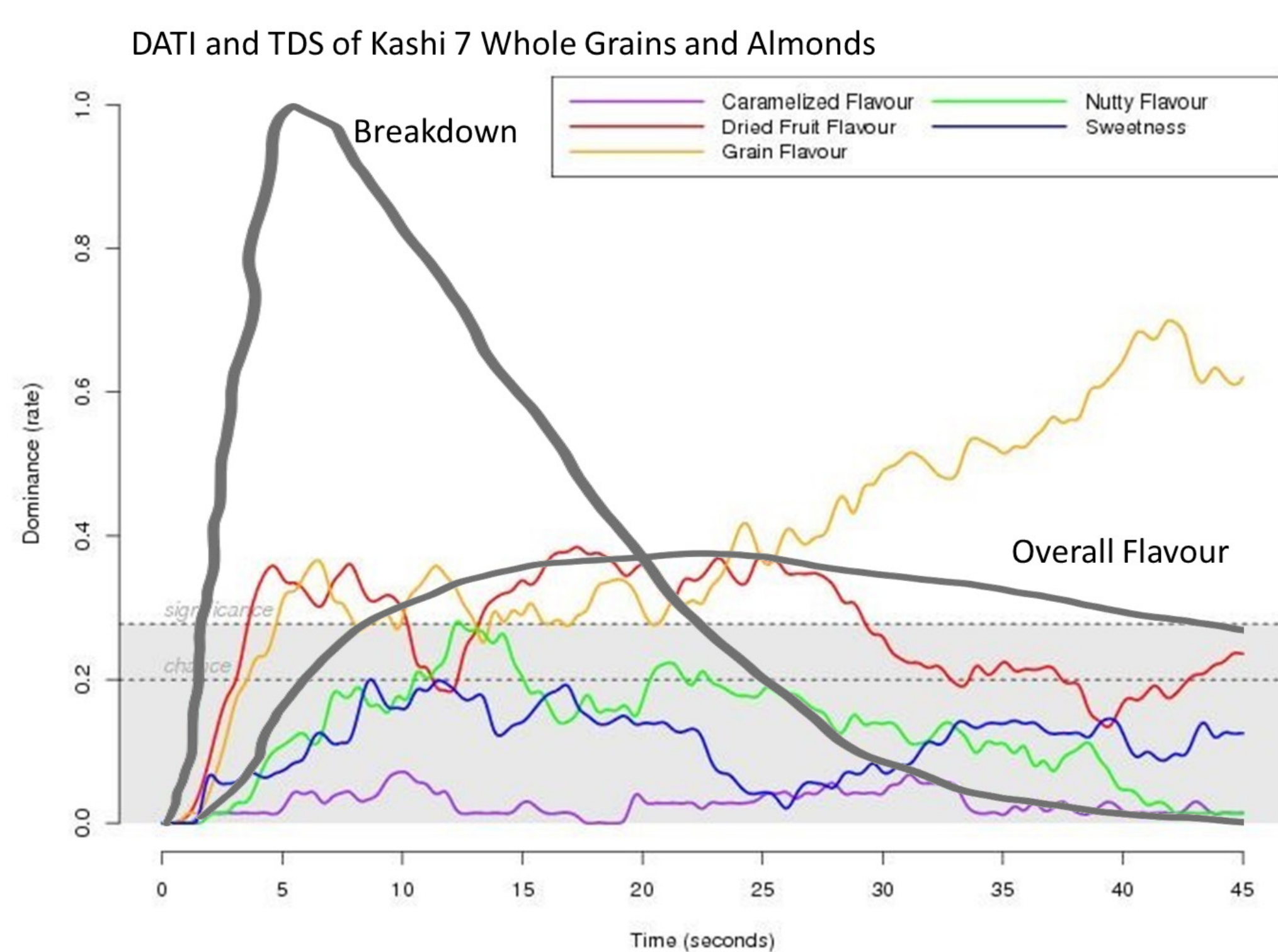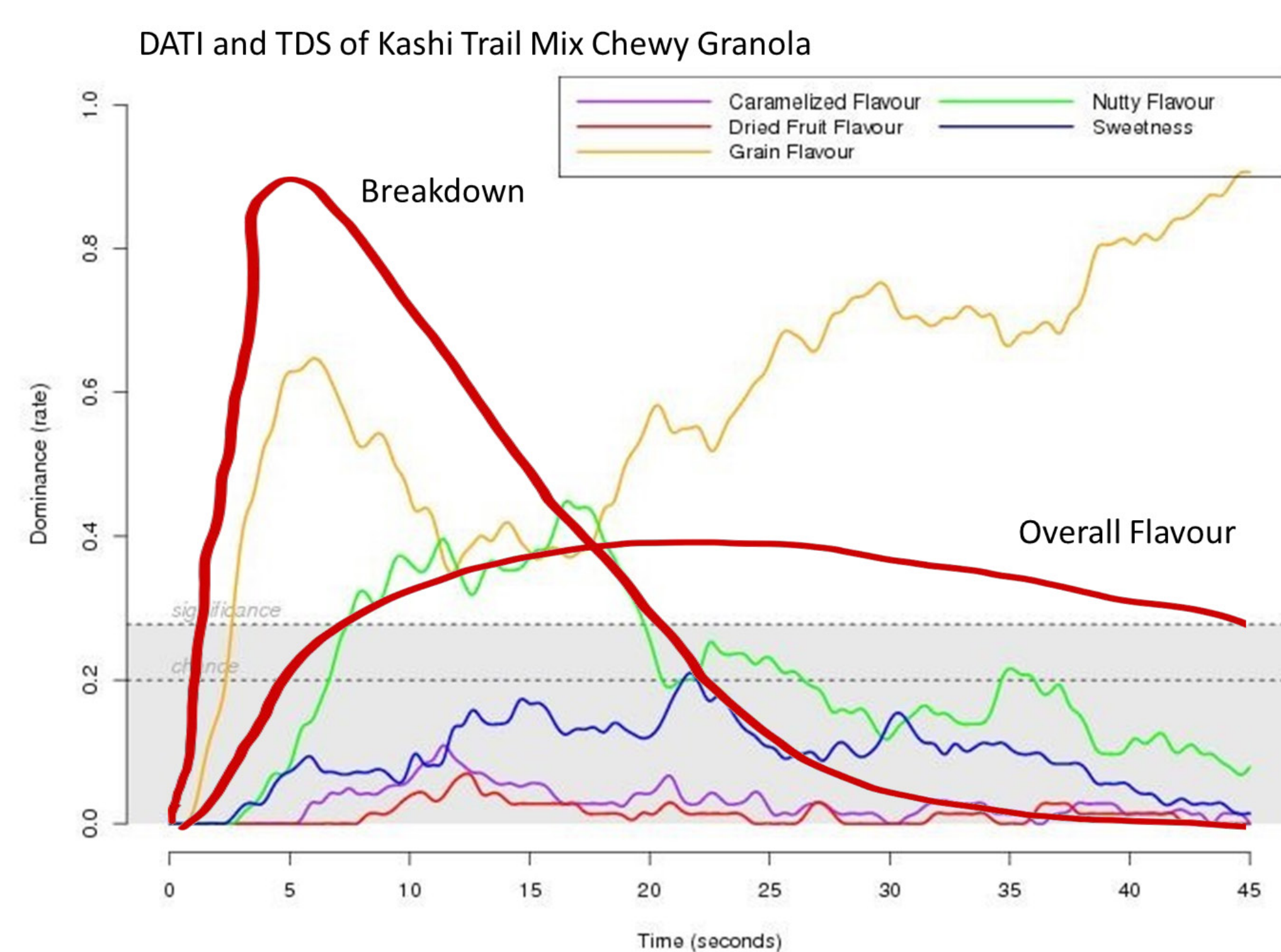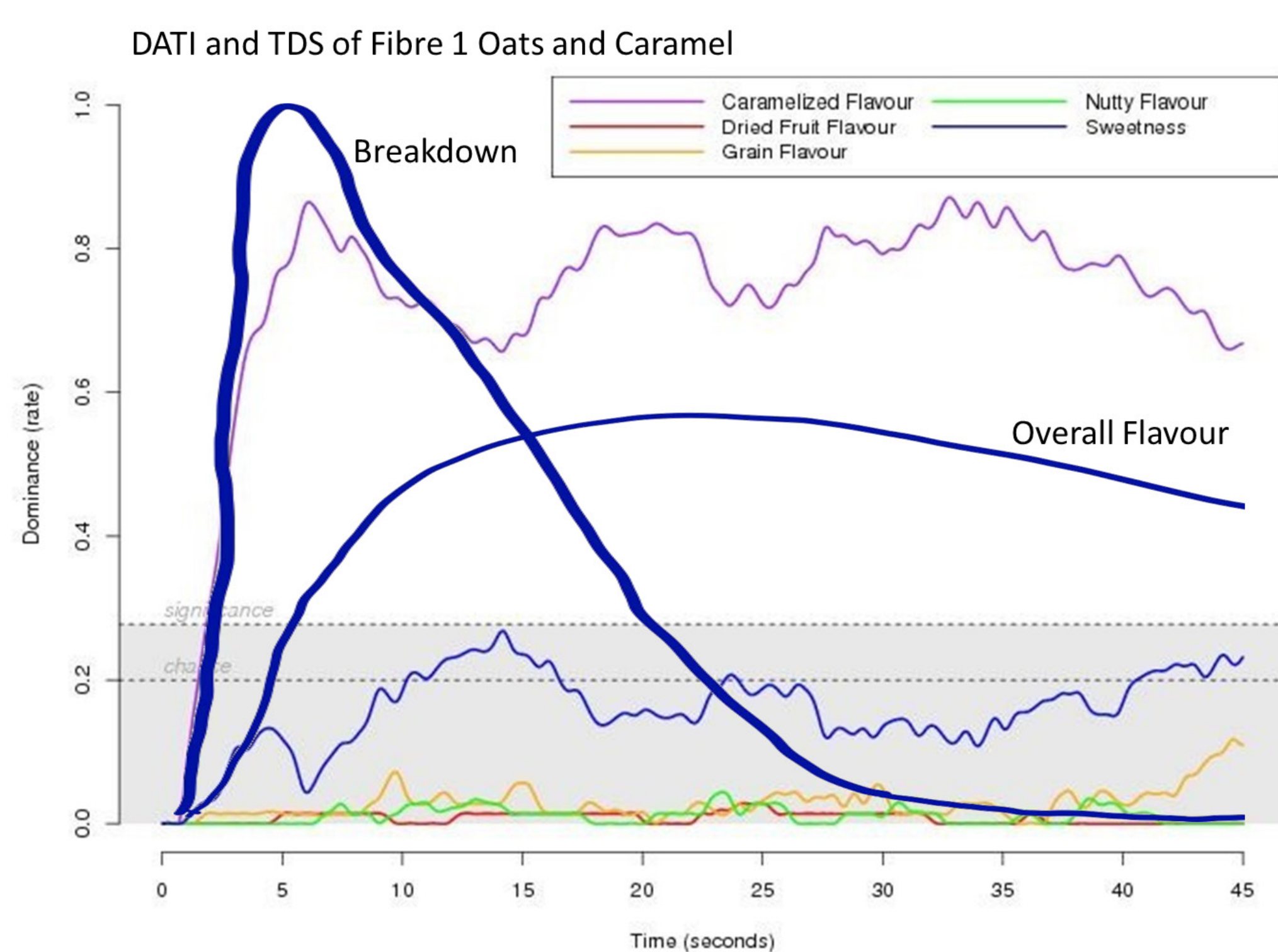
Discussion

Fibre 1 Oats & Caramel has the highest Overall Flavour intensity and the fastest Breakdown of the bars, and a high Caramel dominance rate throughout. Kashi Trail Mix Chewy shows alternating dominance between Grain and Fruit which we attribute to fruit pieces in the bar releasing flavour upon chewing. It also has the slowest breakdown according to DATI. Kashi 7 Whole Grains and Almonds has an initial spike in the dominance of Grain, followed by an emergence of Nutty flavour, then Grain again, which we attribute to flavour release arising from chewing on pieces of nut that are embedded in the heterogeneous bar composition. Nature Valley Trail Mix, Fruit & Nut shows a steady increase in Overall Flavour to the second-highest peak intensity. Its TDS curves show that the most dominant attributes evolve from Sweet, Fruit, Nutty, and Fruit before ending on a sustained Sweet.

Conclusions

We found DATI to be an appropriate method for comparing the mastication duration and the Overall Flavour intensity delivered by the product, and TDS appropriate if the objective is to understand the most noticeable attributes over time. However the methods are also complementary, and allowed us to explore the relationship between Breakdown and Overall Flavour intensity, and how each of these complex attributes affected dominance rates.