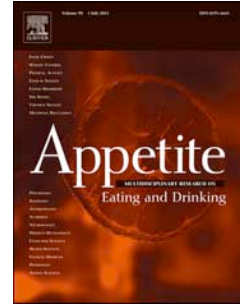


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Standardized food images: A photographing protocol and image database

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1 Standardized food images: A photographing protocol and image database

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15 **Keywords: food images, photographing protocol, high calorie, low calorie, adults,**  
16 **children**

## 17 18 **Abstract**

19 The regulation of food intake has gained much research interest because of the current obesity  
20 epidemic. For research purposes, food images are a good and convenient alternative for real  
21 food because many dietary decisions are made based on the sight of foods. Food pictures are  
22 assumed to elicit anticipatory responses similar to real foods because of learned associations  
23 between visual food characteristics and post-ingestive consequences. In contemporary food  
24 science, a wide variety of images are used which introduces between-study variability and  
25 hampers comparison and meta-analysis of results. Therefore, we created an easy-to-use  
26 photographing protocol which enables researchers to generate high resolution food images  
27 appropriate for their study objective and population. In addition, we provide a high quality  
28 standardized picture set which was characterized in seven European countries.

29 With the use of this photographing protocol a large number of food images were created. Of  
30 these images, 80 were selected based on their recognizability in Scotland, Greece and The  
31 Netherlands. We collected image characteristics such as liking, perceived calories and/or  
32 perceived healthiness ratings from 449 adults and 191 children.

33 The majority of the foods were recognized and liked at all sites. The differences in liking  
34 ratings, perceived calories and perceived healthiness between sites were minimal.

35 Furthermore, perceived caloric content and healthiness ratings correlated strongly ( $r \geq 0.8$ )  
36 with actual caloric content in both adults and children. The photographing protocol as well as  
37 the images and the data are freely available for research use on  
38 <http://nutritionalneuroscience.eu/>. By providing the research community with standardized  
39 images and the tools to create their own, comparability between studies will be improved and  
40 a head-start is made for a world-wide standardized food image database.

## 41 42 **1. Introduction**

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