ETH zürich

The Validation and Application of Virtual Reality in Consumer Behavior Research

Chengyan Xu[1]
[1]Consumer Behavior Group, Institute for Environmental Decisions, ETH Zurich

1   Thesis Introduction

The development of new technologies provides opportunities for scientific research to make improvements in experimental settings, data acquisition, and processing. Virtual reality (VR) as an emerging technology, because of its cost- and time- efficiency, high compatibility, and wide applications, can provide not only entertainment for consumers but also numerous possibilities in scientific research. The focus of my doctoral thesis is to explore the potential and possibilities of VR as a research tool in consumer behavior research.

2   Project Method

Project title: The validation of VR as a data collection tool based on a Ranking task

a. Participants: 98 participants recruited at the German-speaking part of Switzerland. 36 participants were male (37%), and 62 were female (63%). The mean age was 34 years (SD = 14), with a range from 19 years to 71 years.

b. Experimental design: Participants were randomly assigned to one of the two conditions and had to rank 20 cereal products from healthy to unhealthy. In the real life (RL) condition, real cereal products were used, and participants could rank them physically on a table. The environment in the VR condition was designed to mimic the environment of the RL condition as closely as possible.

c. We examined whether the data (i.e., the evaluation, the information-seeking behavior, and the cues used for assessing the healthiness) collected in VR and in RL were comparable.

3. Results

1. The perceived healthiness of the 20 cereals in the VR and RL conditions (the evaluation) were highly correlated ($r_s = .91$, $p < .001$, $N = 20$).
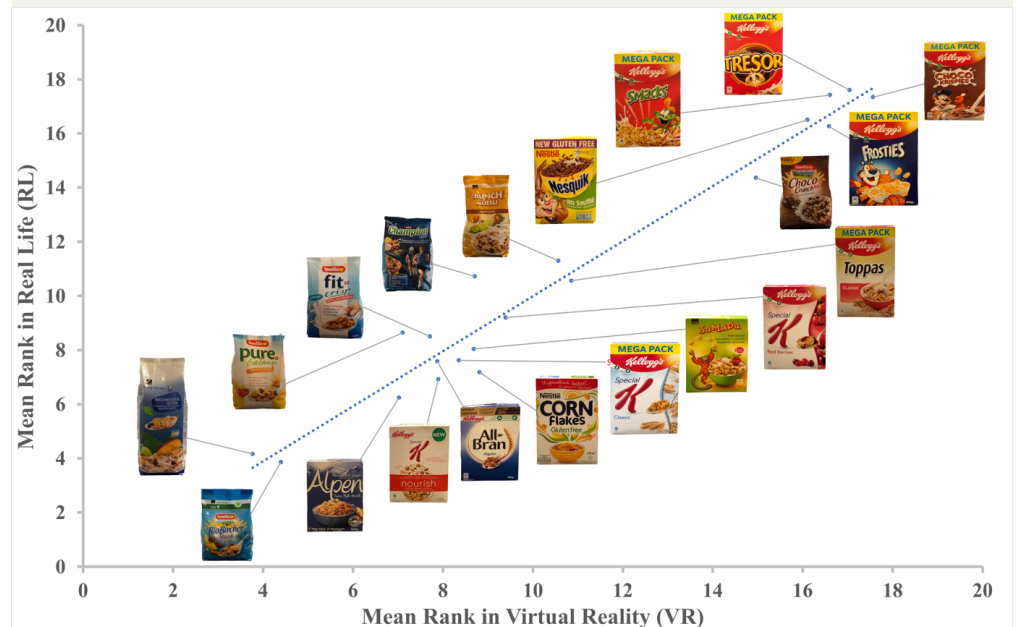
2. The information seeking behavior did not significantly differ between the two conditions, t (96) = –1.11, p = .27.

3. The attributes employed by the participants to evaluate the healthiness of the cereals did not vary between the two conditions, which were sugar content (g/100g), contains fruit (yes or no), and contains chocolate (yes or no).