



## Research report

## Comparative optimism about healthy eating ☆

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## ABSTRACT

The present study investigated people's perception of their own as compared to their peers' healthy eating and related these perceptions to actual healthy eating, BMI, and subsequent healthy eating behavior. Data were collected within the framework of the longitudinal cohort study *Konstanz Life Study* (T1:  $N = 770$ ; T2:  $N = 510$ ). Our results demonstrated an optimistic bias on the group level. Specifically, people rated their own eating behavior as healthier on average than that of their average peers. This comparative optimism occurred even when actual healthy eating was unfavorable and BMI was high. However, it increased with actual healthy eating behavior. Importantly, optimistic perceptions were positively related to the intention to eat healthily and healthy eating six months later. Hence, the results suggest that an optimistic comparative view of one's own healthy eating is grounded in reality and boosts rather than deters subsequent health behavior. This implies that there might not be a need to reduce optimistic perceptions of healthy eating behavior.

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## Introduction

Most people tend to perceive themselves more favorably than others (e.g., Miles & Scaife, 2003; Shepperd, Klein, Waters, & Weinstein, 2013; Taylor & Brown, 1988).

In a similar vein, Weinstein (1980) demonstrated in his agenda-setting study that, on average, people rated their own chances of experiencing positive events as above average and those of negative events as below average. On the individual level such an optimistic view might be accurate. On the group level, however,

it represents an unrealistic optimistic bias: "If all people claim their changes of experiencing a negative event are less than average, they are clearly making a systematic error, thus demonstrating unrealistic optimism" (Weinstein, 1980, p. 806). Interestingly, such an unrealistic optimistic bias has also been found when children or adults evaluated the healthiness of their own eating behavior (Giese, Juhasz, Schupp, & Renner, 2013; Paisley & Sparks, 1998; Sparks, Shepherd, Wieringa, & Zimmermanns, 1995). One important question concerning this phenomenon is whether people perceive their eating as healthier than their peers' eating regardless of their actual healthy or unhealthy eating habits. A second and maybe even more important question is which consequences arise from having an optimistic view of one's own eating regarding motivation for subsequent behavior.

## Perceptions of and actual healthy eating

It is important to note that the optimistic bias consists of two components: The perception of *oneself* as compared to *average others* (e.g., Helweg-Larsen & Shepperd, 2001; Perloff & Fetzer, 1986; Renner, Gamp, Schmäzle, & Schupp, 2015; Weinstein, 1980). Consequently, when investigating whether the extent of comparative optimism changes as a function of actual healthy eating, this change might be driven by people's self-perception or the perception of their average peers.

Regarding people's self-perception, studies suggest that people are relatively accurate in perceiving objective indicators (Chok, 2011; Renner, Gutierrez-Dona, Kwon, & Schwarzer, 2009; Renner, Knoll, & Schwarzer, 2000). For instance, people with lower body mass index (BMI) perceived their lifestyle as healthier (Chok, 2011) and their risk for cardiovascular diseases lower (Renner et al., 2000) as compared

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to people with higher BMI. BMI is an objective indicator which has been associated with healthy eating (e.g., Gao et al., 2008; Haslam & James, 2005; but see Beydoun & Wang, 2010; Kleiser, Mensink, Scheidt-Nave, & Kurth, 2009). Moreover, the frequency of intake of healthy and unhealthy foods can be regarded as a more objective measure of healthy eating compared to people's general perception (see also Glanz, Brug, & van Assema, 1997) because the first captures healthy eating behavior as defined by official nutrition guidelines.

When it comes to the relationship between objective indicators and people's peer-perception, past research reported mixed findings. In conditions of increasingly favorable objective indicators, people a) did not change their peer-perception (Chok, 2011), b) raised their peer-perception to the same degree as their self-perception (Renner et al., 2000), and c) raised their peer-perception even to a higher degree than their self-perception (Renner et al., 2009).

These patterns suggest three possible relationships between actual healthy eating and comparative optimism. First, with increasing actual healthy eating, people might increasingly perceive their eating as healthier than their peers' eating. In this case, people who actually eat healthily would have a greater optimistic view, grounded in reality (de Ridder, Fournier, & Bensing, 2004; Gramling et al., 2008; Renner & Schupp, 2011). Second, people might hold a constant optimistic view of their own compared to their peers' healthy eating regardless of actual healthy eating. Here, people might project different levels of self-perception onto their peers (Giese et al., 2013; Van Boven & Loewenstein, 2003). Last, people's comparative optimistic perception of their healthy eating might be especially high if their actual eating habits are rather unhealthy. This pattern would speak in favor of a compensatory social downward comparison (Renner & Schupp, 2011; Wilcox & King, 2000).

#### Consequences of an optimistic view of eating behavior

Concerning the optimistic bias in risk perception, research suggests negative consequences for behavior change (e.g., Davidson & Prkachin, 1997; Dillard, Midboe, & Klein, 2009; Leikas, Lindeman, Roininen, & Lähteenmäki, 2009; Shepherd, 2002; Weinstein, 1982). For instance, people who perceived their own risk as below average were less motivated to take precautions (Weinstein, 1982), showed less behavior change (Davidson & Prkachin, 1997), and experienced more negative future events (Dillard et al., 2009). In a similar vein, Sparks et al. (1995) considered that an overestimation of one's own as compared to one's peers' healthy eating might prevent diet modification (see also Oenema & Brug, 2003). Improving eating behavior, however, is a major societal task regarding the high and increasing prevalence of obesity (WHO, 2008). Hence, it is crucial to clarify the impact of an optimistic view of one's own as compared to one's peers' healthy eating behavior on the intention to eat healthily and subsequent eating behavior.

#### The present study

The present study examines people's perception of their own as compared to their peers' healthy eating behavior. The aims were: (1) to investigate whether people perceive their own eating behavior as healthier on average than an average peer's eating behavior; (2) to examine how people's self- and peer-perceptions are related to actual food intake and BMI; (3) to clarify the relevance of these perceptions to the intention to eat healthily; and (4) to investigate the impact of these perceptions on interindividual differences in healthy eating behavior six months later.

## Methods

### Design and procedure

Data were collected as part of the Konstanz Life Study, a longitudinal cohort study which was launched in spring 2012 (see Renner,

Sproesser, Klusmann, & Schupp, 2012). The Konstanz Life Study was part of the EATMOTIVE project which was funded by the Federal Ministry of Education and Research (BMBF Grant 0315671, granted to B.R. and H.S.). At Wave 1, 1321 participants were recruited via flyers, posters, and newspaper articles. Waves 2 and 3 took place in autumn 2012 and spring 2013. Participants were invited to re-attend via mail and phone calls. The three measurement points included the collection of blood samples, questionnaires, as well as a standardized checkup including anthropometric measures and functional and cognitive fitness tests. This study presents data measuring perceived healthiness from waves 2 (T1) and 3 (T2).

### Sample

In total, 799 participants took part at T1. Of these, 29 were excluded due to missing data (see Analytical Procedure for details). Of the remaining 770 participants, 445 (58%) were female and 201 (26%) were living alone. At T1, the sample had a mean age of 47.7 years ( $SD = 17.5$ , ranging from 19 to 87 years). The mean BMI was  $24.8 \text{ kg/m}^2$  ( $SD = 3.9$ , ranging from  $17.3$  to  $45.8 \text{ kg/m}^2$ ). Participants had completed 15.8 years ( $SD = 2.4$ , range from 8 to 20 years) of education on average and had a mean household income after taxes of 2250 € ( $M = 6.93$  on an 11-point rating scale,  $SD = 2.35$ ). Compared with German population data (Statistisches Bundesamt, 2014a, 2014b), this sample was 4 years older, comprised 7% more females, and had a slightly lower average BMI (the average BMI of the German population is  $26 \text{ kg/m}^2$  according to Microcensus data from 2009).

At T2, 543 participants re-attended the study. Of these, 33 had to be excluded due to missing data. Thus, the longitudinal sample comprised 510 participants (66% of the cross-sectional sample). The longitudinal sample ( $N = 510$ ) did not differ from the drop-out sample ( $N = 260$ ) in terms of sex (57% vs. 60% women,  $\chi^2(1) = 0.49$ ,  $p = .488$ ), living conditions (26% vs. 27% living alone,  $\chi^2(1) = 0.846$ ,  $p = .362$ ), BMI ( $25.0$  vs.  $25.0 \text{ kg/m}^2$ ,  $t(768) = -0.19$ ,  $p = .848$ ), education (15.9 vs. 15.6 years,  $t(743) = 1.13$ ,  $p = .290$ ), or study variables (i.e., actual food intake, perception of own and peers' healthy eating, intention to eat healthily,  $|t|s(768) \leq 0.52$ ,  $ps \geq .600$ ). However, the longitudinal sample was 6 years older than the drop-out sample (49.1 vs. 43.3 years,  $t(768) = 4.44$ ,  $p < .001$ ) and had a higher income; 2,250 € vs. 1,750 €,  $t(467.56) = 4.53$ ,  $p < .001$ .

In terms of the representativeness of the longitudinal sample ( $N = 510$ ) compared to the initial sample at T0 ( $N = 1321$ ), the longitudinal sample did not differ from the drop-out sample ( $N = 811$ ) in gender (57% vs. 61% women,  $\chi^2(1) = 0.17$ ,  $p = .185$ ), living conditions (26% vs. 27% living alone,  $\chi^2(1) = 0.64$ ,  $p = .424$ ), BMI ( $25.0$  vs.  $24.8 \text{ kg/m}^2$ ,  $t(1305) = 1.05$ ,  $p = .293$ ), or study variables (i.e., actual food intake, perception of own and peers' healthy eating, intention to eat healthily,  $|t|s \leq 0.55$ ,  $ps \geq .580$ ). The longitudinal sample was on average 9 years older than the drop-out sample (49.1 vs. 40.4 years,  $t(1311) = 8.94$ ,  $p < .001$ ), slightly better educated (15.9 vs. 15.5 years,  $t(1269) = 2.86$ ,  $p = .004$ ), and had a higher income; 2250 € vs. 1750 €,  $t(1148.09) = 7.98$ ,  $p < .001$ .

All participants gave written informed consent prior to the collection of data and the ethical board of the University of Konstanz approved the study protocol. The procedures were performed in compliance with relevant laws and institutional guidelines. We strictly followed the German Psychological Society's (Deutsche Gesellschaft für Psychologie) guidelines for conducting psychological studies (see <http://www.dgps.de/index.php?id=96422>; see paragraph C.III). These are similar to those of the American Psychological Association. The study conforms to the Declaration of Helsinki.

### Measures

#### Actual food intake

Actual food intake was assessed with a validated food frequency questionnaire at T1 (Winkler & Döring, 1995, 1998; see also Sproesser, Strohbach, Schupp, & Renner, 2011). Participants were

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