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Distanced Self-Talk Enhances Goal Pursuit to Eat Healthier

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Abstract

Attempts to make healthier food choices often fail, particularly for people who are actively trying to diet. Distanced self-talk—using one's name and non-first-person-singular pronouns (vs. first-person pronouns) to reflect on the self—provides a relatively effortless self-control tool that enhances goal pursuit. We investigated whether distanced (vs. immersed) self-talk would enhance goal pursuit to eat healthier using a novel experimental design ($N = 244$). Findings indicated that dieters benefited the most from the combined use of distanced self-talk and a health prime. Nondieters made healthier choices when using distanced self-talk regardless of whether they were primed with a health goal or not. These findings suggest that distanced self-talk may constitute a self-control strategy that encourages healthier eating and highlight the need for future research to examine its translational potential.

Keywords

food, goals, health, psychological distance, self-control

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More than 70% of American adults are overweight or obese (National Center for Health Statistics, 2017). In response, there has been an effort to combat accelerating rates of obesity by focusing on individuals' weight loss. In 1998, the National Heart, Lung, and Blood Institute recommended dietary therapy approaches, such as low-calorie and low-fat diets, to help individuals with overweight and obesity manage their weight. Yet, dietary adherence is poor (Alhassan, Kim, Bersamin, King, & Gardner, 2008; Heymsfield et al., 2007), and many dieters experience repeated failed diets, weight cycling, and associated negative consequences (e.g., cardiovascular disease, diabetes, increased cholesterol; Mann et al., 2007). Thus, a critical challenge is to help individuals control their eating to achieve long-term health goals.

Successful self-control of eating requires one to resist highly palatable unhealthy foods in favor of longer-term health goals (Fujita, 2011; Herman & Polivy, 2004; Mischel et al., 2011).[1] However, when individuals encounter these foods, immediate rewards often overwhelm goals to eat healthier (Higgs, 2016). Self-control of eating is particularly challenging because individuals encounter food-related decisions throughout the day, which requires continuous, long-term self-control. Because instances of self-control are effortful (Ochsner & Gross, 2008; Strack & Deutsch, 2004), self-control strategies that enhance health goal pursuit *without* overtaxing cognitive control may be useful for improving eating behavior.

Distanced Self-Talk as a Route to Healthier Eating

Many people engage in an ongoing internal dialogue with themselves. Recent research indicates that people can refer to themselves differently when they engage in this introspective process (Dolcos & Albarracin, 2014; Kross et al., 2014; Orvell & Kross, 2019). Whereas people usually refer to themselves in the first person, a process we call *immersed self-talk* (e.g., "What do I want?"), they may also use their name and other non-first-person pronouns to refer to themselves (e.g., "What does Lucy

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want?"). We refer to the latter process as *distanced self-talk* because it promotes psychological distance (Grossman & Kross, 2014; Kross et al., 2014; Moser et al., 2017). We propose that the use of distanced self-talk to reflect on one's decisions may be a relatively effortless way of helping people achieve their healthy eating goals.

It is well established that psychological distance facilitates self-control by shifting people's focus away from the highly arousing features of a stimulus and toward characteristics that are relevant to one's broader, abstract goals (Fujita, Trope, Liberman, & Levin-Sagi, 2006; MacGregor, Carnevale, Dusthimer, & Fujita, 2017; Mischel & Rodriguez, 1993; Rees, Fujita, Han, Sherman, & Sklar, 2018; Trope & Liberman, 2003, 2010). For example, a piece of cake can be viewed as a highly palatable food, but a distanced perspective may lead one to pay attention to abstract features relevant to health goals, such as its high caloric content.

These reconstrual processes are pertinent for dieters because dieting involves regulating food intake by taking into consideration the health consequences of one's food choices (de Ridder, Kroese, Evers, Adriaanse, & Gillebaart, 2017). When encountering highly palatable foods, many dieters are sensitive to hedonic properties of the food (e.g., anticipated taste), which can overwhelm the importance of health-relevant cues (Papies, Stroebe, & Aarts, 2007). Distanced self-talk, a process that has been shown to promote abstract reasoning (Gainsburg & Kross, in press; Kross, Ayduk, & Mischel, 2005), should therefore facilitate healthier food choices by redirecting dieters' attention from the hedonic features of the food to abstract characteristics that are relevant to health consequences (for a discussion of the relevance of abstract construal and self-control, see Fujita & Carnevale, 2012).

In practice, individuals might attend to health-relevant features only when their health goals are highly accessible (Carrera, Muñoz, Fernández, & Caballero, 2018). The salience of healthy eating goals frequently fluctuates, especially in situations that activate shorter-term hedonic goals (Papies, 2016). For example, dieters' sensitivity to hedonic food cues can elicit a conflicting motivation to eat highly palatable foods and thus reduce the accessibility of health-related goals (Hofmann, van Koningsbruggen, Stroebe, Ramanathan, & Aarts, 2010; Stroebe, Mensink, Aarts, Schut, & Kruglanski, 2008). Thus, distanced self-talk may be most effective for resisting highly palatable foods when used in combination with strategies that increase the accessibility of people's health goals.

Cognitive neuroscience research suggests that distanced self-talk promotes self-control relatively effortlessly without overtaxing people's cognitive control resources. For example, Moser and colleagues (2017) demonstrated using event-related brain potentials and functional MRI (fMRI) that distanced self-talk predicted reductions in brain regions that support self-referential emotional processing (e.g., medial prefrontal cortex) when people were confronted with negative emotionally arousing stimuli. However, distanced self-talk did not predict concomitant increases in activity in the brain's front-parietal cognitive control network (for a conceptual replication of these findings, see Leitner et al., 2017). Complementing these findings is research that indicated that young children who score low on individual difference measures of executive function (and thus are characterized by difficulty exerting cognitive control) benefit from distanced self-talk (Grenell et al., 2019).

Taken together, these findings suggest that distanced self-talk should aid people in their ability to pursue their healthy eating goals when they are confronted with highly palatable foods.

Research Overview

We tested these predictions using a novel food-choice paradigm. Participants were presented with pairs of healthy and unhealthy food images and asked to select the foods they wanted the most while thinking about their decisions using either immersed self-talk ("What do I want?") or distanced self-talk ("What does [participant's name] want?").

We hypothesized that distanced self-talk would promote healthy food decisions for those with health goals and examined this idea in two ways. First, we measured individual differences in preexisting goals to eat healthier by assessing whether participants were actively dieting. Second, drawing from prior work indicating that exposure to health advertisements increases the salience of health goals (Anschutz, Van Strien, & Engels, 2011), we randomly assigned participants to view either a health-related advertisement video or control video at the start of the study. We predicted that distanced (vs. immersed) self-talk would be most effective for dieters because they have preexisting goals to eat healthier. Moreover, we aimed to test whether the effectiveness of distanced self-talk would depend on the salience of these health goals in a three-way interaction (e.g., Self-Talk Type × Dieting Status × Video Condition).

Method

Participants

An a priori power analysis using G*Power (Version 3.1; http://www.psychologie.hhu.de/arbeitsgruppen/allgemeine-psychologie-und-arbeitspsychologie/gpower.html) indicated that a sample size of 179 participants was required for the study to have 80% power to detect

Table 1. Descriptive Characteristics According to Video Condition

Characteristic	Health prime (n = 121)	Control prime (n = 123)	Total sample (N = 244)
Sex			
Male	31 (25.6)	44 (35.8)	75 (30.7)
Female	90 (74.4)	79 (64.2)	169 (69.3)
Race			
White	79 (65.3)	85 (69.1)	164 (67.2)
Asian/Pacific Islander	21 (17.4)	20 (16.3)	41 (16.8)
African American/Black	8 (6.6)	8 (6.5)	16 (6.6)
Hispanic	2 (1.7)	3 (2.4)	5 (2.0)
Arabic	2 (1.7)	2 (1.6)	4 (1.6)
American Indian	0 (0.0)	1 (0.8)	1 (0.4)
Other	9 (7.4)	4 (3.3)	13 (5.3)
Age	M = 18.90 (SD = 0.92)	M = 18.79 (SD = 1.02)	M = 18.84 (SD = 0.97)
BMI	M = 24.05 (SD = 4.04)	M = 23.76 (SD = 3.83)	M = 23.90 (SD = 3.93)
Weight class			
Underweight	3 (2.5)	4 (3.3)	7 (2.9)
Healthy weight	74 (61.2)	79 (64.2)	153 (62.7)
Overweight	33 (27.3)	33 (26.8)	66 (27.0)
Obese	11 (9.1)	6 (4.9)	17 (7.0)
Missing data	0 (0.0)	1 (0.8)	1 (0.4)
Dieting status			
Dieting	45 (37.2)	44 (35.8)	89 (36.5)
Not dieting	76 (62.8)	79 (64.2)	155 (63.5)

Note: Values are *n*s with percentages in parentheses or means with standard deviations in parentheses, as noted. BMI = body mass index.

a small to medium effect (Cohen's f = .2) with an α level of .05, using an analysis of variance (ANOVA; four groups, two measurement points, correlation among repeated measures = 0) for a repeated measures, within-between interaction. Participants were recruited for a laboratory experiment from a university undergraduate subject pool through an online research sign-up system. After one semester of recruitment, data were examined to ensure that random assignment was successful with regard to self-reported variables of interest. Dieting status was unbalanced among video conditions. Thus, we continued recruitment for a second semester to reach the recommended number of participants and allow this distribution to even out through random assignment (resulting in 263 participants). Participants were excluded from analyses a priori if they had dietary restrictions (n = 3) or if English was not their first and primary language (n = 4). Twelve participants were also excluded because of experimenter error, which resulted in a final sample of 244 participants (see Table 1 for descriptive statistics). Participants took part in the study voluntarily and received research credits for their psychology course for their attendance.

Study design

We employed a 2 (between subjects: health video vs. control video) × 2 (within subjects: distanced vs. immersed self-talk) experimental mixed-subject design in which we also assessed individual differences in dieting (dieters vs. nondieters). To standardize hunger, all study sessions were conducted between lunch time and dinner time (1:00 p.m. and 4:30 p.m.), and a rating of hunger was collected before the food-choice task.

Written informed consent was obtained from all participants. To begin, participants were randomly assigned to watch a 2-min video consisting of either health-related commercials (health video) emphasizing eating healthy, exercising, and having an active lifestyle or home improvement commercials (control video) on a desktop computer. A pilot test conducted with 11 undergraduate students demonstrated that relative to baseline levels, watching the health video increased motivation to be healthy (e.g., "How MOTIVATED are you to be healthy right now?" on a scale from 0 to 100; change in mean after intervention = +16.83, SD = 18.65) more than the control video (which did not increase

motivation to be healthy; change in mean after intervention = −5.80, *SD* = 12.19, Cohen's *d* = 1.44). After the video, participants rated it on several cover questions (e.g., "Which commercial did you like best?"; "Which commercial was most effective?") and then completed a visual analogue scale to measure affect.[2] They also indicated how hungry they were on a scale from −100 (e.g., most full) to 100 (e.g., most hunger; *M* = −19.77, *SD* = 54.69).

Next, participants completed the food-choice task. They were asked to choose between food items on a computer screen. To motivate participants to provide accurate responses, they were told they would receive one of the items they chose at the end of the study and thus to choose the items they would actually like to have.

The food-choice paradigm was designed using E-Prime software (Version 2.0; Schneider, Eschman, & Zuccolotto, 2002). It allowed participants to choose between paired images of foods by pressing either "1" (left image) or "6" (right image) on a keyboard. Participants were presented with 40 trials of paired images (two blocks of 20 trials) that had been matched on the basis of meal size (snack or meal) and flavor profile (sweet or savory). Eighty percent of trials were healthy–unhealthy pairs (16 in each block); 20% were filler pairs (two healthy–healthy and two unhealthy–unhealthy per block) that were not included in analyses. Healthy foods included unprocessed foods such as fruits, vegetables, and grilled chicken. Unhealthy foods included foods high in added fats and refined carbohydrates, such as chips, candy, baked goods, and fried foods.

Following prior research (e.g., Kross et al., 2014, 2017; White et al., 2017), we manipulated self-talk by altering the words we asked participants to use when reflecting on their food choice. For immersed self-talk trials, participants were told to think about their decisions using first-person singular pronouns ("When you are thinking about which items you would like to order, think using the pronouns 'I' and 'my' as much as possible. In other words, ask 'What do I want?'"). The corresponding food choice on the computer was presented with the text, "What do I want?"; food images were presented below this line of text.

For distanced self-talk trials, participants were told to think about their decisions using their own name ("When you are thinking about which items you would like to order, think using '[participant's name]' as much as possible. In other words, ask '[Name], What do you want?'"). The corresponding food choice on the computer was presented with the text, "[Name], what do **you** want?"; the food images were presented below this line of text. Participants' first names were programmed into E-prime at the start of the study so they were presented with their actual names for each trial.

Participants completed 20 trials with each self-talk prompt. An example of an immersed self-talk and a distanced self-talk trial are included with the Supplemental Material available online. Participants were preassigned to a counterbalanced self-talk order. There were no order effects, $F(1, 242) = 0.01$, $p = .91$. Thus, all cases were aggregated for analyses.

After completing the food-choice task, participants reported their current dieting status (i.e., "Are you currently dieting or trying to lose weight?"). This assessment was based on prior studies of dieting behavior (Kemps & Tiggemann, 2005) and specifically asks about current dieting status (because the desire to diet fluctuates over time; Lowe, 1993). Participants then completed a survey assessing demographic information, had their height and weight measured, and were guided through a funneled debriefing about their thoughts during the study. No participants reported having insight into the study's hypotheses, and thus all data were retained for analyses. Finally, participants were presented with a bowl of snacks when leaving the lab, from which they were able to select a food (e.g., Oreos or clementines) to take with them.

Results

Data-analysis plan

All variables were normally distributed and had no outliers. There were no differences in sex, age, race, dieting, hunger, or body mass index (BMI) across video conditions, indicating that random assignment was successful (all *p*s > .05). Table 1 includes descriptive information for each video condition. Preliminary analyses were conducted to test BMI, sex, and hunger because covariates such as these are key factors associated with greater responsivity to unhealthy foods (Kemps, Tiggemann, & Hollitt, 2014; Siep et al., 2009). BMI was not significantly associated with the number of unhealthy choices selected ($p = .70$). Sex (0 = male, 1 = female; $r = -.15$, $p = .02$) and hunger ($r = .20$, $p < .01$) were significantly associated with the number of unhealthy choices selected. The inclusion of sex and hunger as covariates did not substantively influence any of the results. Therefore, we present findings from the simplified model. The results from each model are included in the Supplemental Material. We used a repeated measures mixed ANOVA to examine our main prediction concerning the interactive effects of self-talk type (within subjects: immersed vs. distanced), video condition (between subjects: healthy vs. control), and dieting status (between subjects: dieters vs. nondieters) on the number of unhealthy food choices selected.

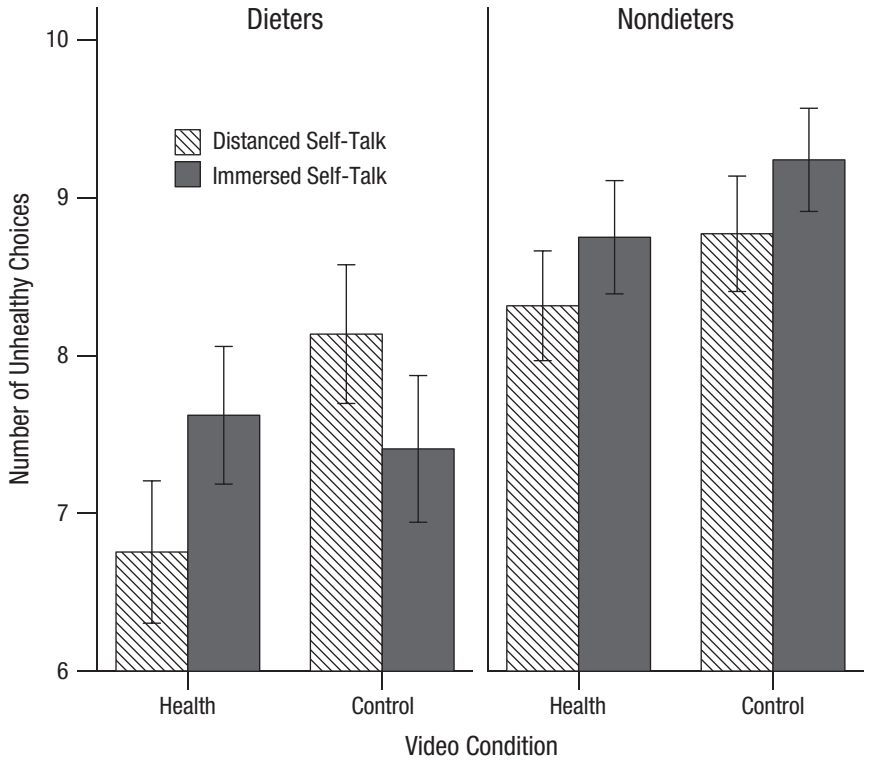

Fig. 1. Interaction among self-talk type, dieting status, and video condition. Error bars represent ±1 *SE*.

Primary analyses

The repeated measures mixed ANOVA revealed a significant three-way interaction, $F(1, 240) = 5.46$, $p = .02$, $\eta_p^2 = .02$ (see Fig. 1). We predicted that distanced self-talk should decrease unhealthy food choices for dieters and that health primes should increase the impact of distanced self-talk by making these goals more salient. Simple effects analyses confirmed that self-talk type interacted with video condition for dieters, $F(1, 87) = 8.24$, $p < .01$, $\eta_p^2 = .03$. Dieters who watched the health video before participating in the food-choice task made fewer unhealthy choices when using distanced self-talk ($M = 6.76$, $SD = 3.02$) than when using immersed self-talk ($M = 7.62$, $SD = 2.93$), $F(1, 44) = 4.93$, $p = .03$, $\eta_p^2 = .02$. There was a trend in the opposite direction (i.e., more unhealthy choices) between the number of distanced ($M = 8.14$, $SD = 2.91$) and immersed ($M = 7.41$, $SD = 3.08$) unhealthy choices for dieters who saw the control video. However, this effect did not reach conventional levels of significance ($p = .07$) and was not predicted.

Type of self-talk and video condition did not interact to predict unhealthy food choices for nondieters ($p = .93$). Instead, analyses revealed that nondieters made fewer unhealthy choices when using distanced ($M = 8.55$, $SD = 3.14$) as opposed to immersed self-talk ($M = 9.00$, $SD = 3.02$) across both video conditions, $F(1, 154) = 4.61$, $p = .03$, $\eta_p^2 = .02$.

Finally, we tested whether participants primed with the health (vs. control) video would make fewer unhealthy choices when using distanced (vs. immersed) self-talk, regardless of dieting status (i.e., an interaction between self-talk type and video condition). Simple effects analyses indicated that those who viewed the health video made significantly fewer unhealthy choices when using distanced ($M = 7.74$, $SD = 3.11$) as opposed to immersed self-talk ($M = 8.33$, $SD = 3.09$), $F(1, 120) = 6.24$, $p = .01$, $\eta_p^2 = .03$. There was no significant difference between distanced ($M = 8.54$, $SD = 3.14$) and immersed choices ($M = 8.59$, $SD = 3.09$) for those who viewed the control video ($p = .86$).

Discussion

Identifying self-control strategies that can be used to facilitate healthy eating among vulnerable populations is a central public-health challenge. The current research examined the role that distanced self-talk plays as one candidate strategy toward this end. Our examination revealed three key findings.

First, dieters chose fewer unhealthy foods when they deliberated using distanced self-talk and had their health

goals primed. Prior research indicates that psychological distancing enhances the pursuit of accessible, higher-order goals by helping individuals focus on more abstract features of stimuli that are relevant to those goals (Fujita et al., 2006; MacGregor et al., 2017; Rees et al., 2018). Dieters often experience ambivalence around a conflicting desire to enjoy highly palatable foods and a long-term health or weight goal (Stroebe et al., 2008). Thus, to the extent that dieters' higher-order goal of eating healthy was not accessible, we reasoned that distanced self-talk might not predict healthy eating choices in this group. Our findings supported this expectation.

Second, distanced self-talk led nondieters to make healthier food choices regardless of whether their health goals were primed. The dominant message in our society is that people *should* eat healthier and limit their intake of unhealthy foods. Distanced self-talk may prompt these expectations for individuals who are not actively dieting. As indicated by our data, these actions may occur even without an accompanying health goal prime, likely because this group experiences less goal conflict surrounding highly palatable, unhealthy foods. Future research is needed to explore this interpretation.

Finally, collapsing across dieters and nondieters, distanced self-talk decreased unhealthy choices for all participants who viewed the health video. From a public-health perspective, this finding is interesting insofar as it suggests that distanced self-talk may serve as a tool that magnifies the effectiveness of healthy eating campaigns. Moreover, given that the vast majority of the U.S. population does not meet the recommended dietary guidelines (Krebs-Smith, Guenther, Subar, Kirkpatrick, & Dodd, 2010), the combined use of distanced self-talk and health primes may provide a useful tool to encourage healthier eating on a broader scale.

The ease of distanced self-talk (Moser et al., 2017) has implications for eating healthier in our current food environment. Because we are regularly confronted with cheap and accessible highly palatable foods, self-control strategies that are easy to implement and can be repeatedly used when encountering those foods are more likely to be effective for improving dietary choices. Future studies should examine conditions under which distanced self-talk is most effective to determine its clinical utility. For example, it will be essential for future studies to examine if distanced self-talk effectively improves self-control in the context of real-world eating decisions (e.g., grocery shopping, ordering at a restaurant) in which food-cue-rich environments may heighten experiences of hunger and craving and opportunities for food consumption are present.

It will also be important to examine the mechanisms underlying the beneficial effect of distanced self-talk that we identified in this experiment. Specifically, future research should seek to document not only how distanced self-talk influences healthy eating choices but also how it influences the way people mentally represent appetitive stimuli. In this vein, it is noteworthy that converging evidence from several domains indicates that psychological distance promotes abstract reasoning (Fujita et al., 2006; MacGregor et al., 2017; Mischel & Rodriguez, 1993; Rees et al., 2018; Trope & Liberman, 2003, 2010).

Finally, future research should test the effectiveness of distanced self-talk in vulnerable populations who experience particular difficulty regulating their eating (e.g., individuals with obesity enrolled in weight-loss treatment programs, individuals who experience loss of control of eating, people at risk for weight gain). Adding self-distancing approaches to existing empirically supported treatments that aim to improve diet quality is an important next step. Distanced self-talk may also be beneficial as a preventive approach to encourage healthier eating in individuals at high risk for weight gain. This finding is relevant for the current study's sample because college students are a group of individuals at high risk for weight gain (Lloyd-Richardson, Bailey, Fava, & Wing, 2009), in part because of changes in eating patterns (Pliner & Saunders, 2008). These individuals may particularly benefit from learning efficient self-control strategies to combat the development of unhealthy eating habits and ultimately this critical period of weight gain.

Concluding Remarks

Despite widespread desire for people to eat healthier, there is continuing failure (Alhassan et al., 2008), in large part because of the difficulties with sustaining a continuous effort to eat healthily in a food environment in which hedonically appealing foods are cheap, accessible, and heavily marketed (Guerrieri, Nederkoorn, & Jansen, 2008). This study provides evidence for a self-control strategy (i.e., distanced self-talk) that is relatively effortless (Grenell et al., 2019; Leitner et al., 2017; Moser et al., 2017) and may be especially pertinent to improve eating outcomes for individuals with health goals and who struggle with dietary adherence. Moreover, although obesity is a multifactorial issue, distanced self-talk has potential as a strategy that might play a role in reducing risk for obesity through healthier food choices. This minimal approach offers many exciting future directions for research in clinical samples and real-world settings.

Transparency

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Author Contributions
All of the authors developed the study concept. C. R. Furman contributed to the study design, oversaw data collection, and performed the data analysis and interpretation. C. R. Furman drafted the manuscript, and E. Kross and A. N. Gearhardt provided critical revisions. All of the authors approved the final manuscript for submission.
Declaration of Conflicting Interests
The author(s) declared that there were no conflicts of interest with respect to the authorship or the publication of this article.

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Supplemental Material

Additional supporting information can be found at http://journals.sagepub.com/doi/suppl/10.1177/2167702619896366

Notes

1. There is consensus that a healthy diet consists of less unhealthy food (i.e., calorie-dense, nutrient-poor foods high in added refined carbohydrates and fat) and more healthy food (e.g., fruits, vegetables; de Ridder, Kroese, Evers, Adriaanse, & Gillebaart, 2017). Eating less unhealthy food and more healthy food is a common approach to weight loss (Martin, Herrick, Sarafrazi, & Ogden, 2018).
2. These questions were included as part of the cover story, and data were not analyzed.

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