

Individual Differences in Perceived Influence of Maintaining a Food Diary on Eating Behaviors

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Introduction

Food diaries are the most accurate and unbiased measure of dietary intake in humans (Crawford, Obarzanek, Morrison, & Sabry, 1994; Krantzler et al., 1982).

However, the self-monitoring needed to complete a diary might alter eating behaviors (Mossavar-Rahmani et al., 2004; Zepeda & Deal, 2008).

- Keeping food diaries encourages weight loss for dieters (Streit, Stevens, Stevens, & Rossner, 1991).
- Food diaries allow individuals to closely follow dietary guidelines (Acharya, Elci, Sereika, Styn, & Burke, 2011).

Food diaries could be useful for intervention.

- *Perceptions* about the effectiveness of food diaries for influencing eating behaviors may affect willingness to maintain food diaries long and accurately enough to allow for potential health benefits.
- If people do not believe keeping a diary will positively affect their behaviors, they may be less willing to keep one.

However, few studies have examined perceptions of food diary use, or individual differences in these perceptions.

- Gender, age, education, and social status may be related to willingness to complete or perceived usefulness of food diaries (Jørgensen, 1992).

The Current Study

There are three primary aims of the current study:

1. Examine the extent to which individuals believe keeping a food diary is influential and reasons why
2. Examine the extent to which individuals believe keeping a food diary is useful and reasons why
3. Examine individual differences related to these beliefs

Methods

Thirty-four college students participated in a one-week diary study documenting names, types, and amounts of all foods/drinks consumed.

Data from 23 participants (13 females; 21.2 – 47.4 years old; $M_{age}=26$) who completed all seven days of the diary is included.

After completing the one-week diary, participants rated:

- The extent to which they thought keeping the food diary influenced their eating/drinking behavior
 - “How much do you think keeping a food diary influenced your eating/drinking behaviors?”
 - 1 = Not at all, 5 = Very Much
- “In what way did keeping a diary influence your eating/drinking behaviors?”
 - Open-ended
- How much they thought keeping the diary was useful
 - “Do you think keeping a food diary was useful for you?”
 - Yes/No
 - “If so, in what way?”
 - Open-ended

BMI scores (kg/m²) were calculated based on self-reported height and weight. Approximately 4% of the sample was underweight, 65% were normal weight, 22% were overweight, and 9% were obese (Centers for Disease Control and Prevention, 2011).

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Results

Aim 1: A one-sample *t*-test found that participants believed keeping a diary influenced their eating/drinking behaviors, $t(22) = 6.07, p < .001$.

Reason for Influence	Example	Percentage
Influence due to new awareness	"I think it really has impacted my behavior now that I see how irregular my eating habits are."	22%
Influence due to laziness/time constraints	"I may have eaten less because of the time it took to document all the food I consume."	13%
Influence due to desire for health	"I think it influenced my thinking... I wanted to make sure that I was at least having one healthy meal a day."	13%
Influence due to undescribed reason	"[It] made me want to eat less."	9%
No influence/No response	"I ate as normal."	43%

Aim 2: 52% of participants believed keeping a diary was useful.

Reason for Influence	Example	Percentage
Useful for increasing awareness of eating habits	"I became aware of how I mistreat my body with all the junkfood"	13%
Useful for dealing with feelings related to food	"It is very cathartic. Especially, when someone has had food-related issues in the past."	4%
Useful for keeping track of foods eaten	"I like seeing on paper what I have eaten. It makes me think more about what I am eating."	22%
Useful for changing future eating habits	"It allowed me to see what I'm actually consuming on a daily and weekly basis. It was an eye opener and I plan to make some changes because of it."	13%
Not useful/No response		48%

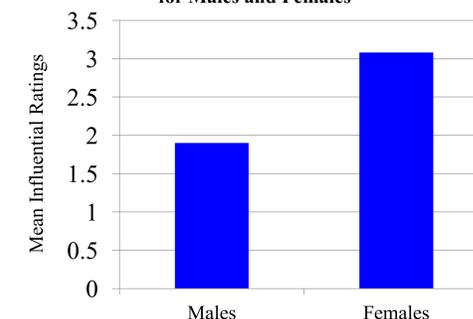
Aim 3: Ratings of how influential keeping a diary was on eating/drinking behaviors tended to be negatively related to income and education (Table 3).

	Influential	Useful
Education	-0.36†	-0.09
Income	-0.35†	-0.08
Age	0.30	-0.09
BMI	-0.29	-0.05

Note. † $p < .10$

Females believed keeping a food diary influenced their eating/drinking behaviors more than males, $t(21) = -2.52, p = .02$ (Figure 1). Females also thought keeping a diary was more useful than males, $\chi^2(1, N = 23) = 3.49, p = .06$ (Table 4).

Figure 1
Ratings of the Influentialness of Food Diaries for Males and Females



	Useful	Not Useful	Total
Males	(13%)	(30%)	(43%)
Females	(39%)	(18%)	(57%)
Total	(52%)	(48%)	(100%)

Discussion

Many participants believed keeping a food diary was useful (52%) and that it influenced their eating behaviors (57%).

Individuals believed keeping a food diary influenced their eating/drinking behaviors due to time constraints, a newfound awareness of their eating habits, and a desire for health changes.

Individuals believed keeping a food diary was useful for increasing awareness of eating habits, keeping track of foods eaten, improving eating-related affect, and changing future eating habits.

These findings are important for future research because:

- Food diaries may be biased accounts of dietary intake
- Research using food diaries to assess intake should consider new methods for assessing intake, such as using partner diaries to supplement self-reports
- Food diaries may be useful for interventions focusing on improving dietary habits

Interventions using food diaries to promote healthy development may be more beneficial for females.

- Females may be more willing to maintain a diary due to their perceptions of its influence on eating/drinking behaviors

In contrast, individuals with higher incomes and education may be less influenced by food diaries.

- The beneficial aspects of maintaining a diary may not supersede the time-consuming nature of this task for individuals with higher incomes and education
- Individuals with lower incomes may engage in more unhealthy eating, which may be more influenced by keeping a food diary

Future research should investigate long-term effects that temporary food diaries may have on eating behaviors.

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