

## Research Report

# “You Will Eat All of That!”: A retrospective analysis of forced consumption episodes

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(Received 27 April 2001; final revision 28 January 2002; accepted 26 February 2002)

The present research was initiated to examine the prevalence of forced consumption and its role in subsequent food rejection. A forced consumption episode was defined as a situation where Person(s) A forced or demanded Person B to consume a specific substance against Person B's will. An initial survey of 407 college students revealed that over 69% of them had experienced at least one forced consumption episode. One hundred forty individuals completed a follow-up questionnaire exploring various characteristics of their most memorable forced consumption scenario. Specifically, the most common type of forced consumption (76%) involved an authority figure (e.g. parent, teacher) forcing a child to consume a novel, disliked, or aversive food. In this authority figure scenario, respondents recalled the episode as involving interpersonal conflict and negative affect, and identified the most aversive aspects of this scenario as lack of control and feelings of helplessness. Furthermore, most respondents (72%) reported that they would not willingly eat the target food today. In sum, the forced consumption episode appears to be a unique situation in which distasteful food combines with interpersonal conflict to result in long-lasting food rejection.

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Rozin and Fallon (1980) identified four major types of food rejection in humans. First, danger rejection occurs when an individual recognizes that food consumption could result in illness or death. For example, a person would avoid consuming a mushroom that was reported to be poisonous. Second, inappropriate food rejection occurs when an individual recognizes that an object is not edible or appropriate for consumption. An example of this category is rejection of products such as stone or metal. A third food rejection category is disgust. Rozin *et al.* have examined disgust responses in great detail (e.g. Rozin, 1986; Rozin & Fallon, 1987). Food rejection based on disgust occurs when the individual learns the nature or origin of the edible, and

then refuses to consume it (e.g. learning that a consumed food was not chicken, but snake). Fourth, dis-taste is also a food rejection category, and it can be either unlearned or learned. An unlearned rejection of a food based on its sensory characteristics (i.e. taste, smell, texture) is a *taste dislike*, whereas a rejection of a food based on its learned association with illness is commonly known as *taste aversion* (e.g. Barker *et al.*, 1977; Braverman & Bronstein, 1985). These four broad categories can accommodate most forms of human and non-human food rejection.

The retrospective questionnaire has been a useful tool to investigate human food rejection, particularly in the case of taste-aversion learning (e.g. de Silva & Rachman, 1987; Garb & Stunkard, 1974; Logue, 1985; Logue *et al.*, 1981; Midkiff & Bernstein, 1985). In these reports, individuals recall the circumstances involved with their learning an aversion to a specific food. These studies have established the high rate of taste aversions in humans, and show that the majority of human taste aversions form via classical conditioning

The authors thank Liz Livorine of Kalamazoo College and Tara Blevins of SMU for their assistance in data collection, data scoring, and data encoding.

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in which a food (conditioned stimulus, or CS) is associated with an illness-inducing event (unconditioned stimulus, or US).

Recently, Batsell and Brown (1998) used the retrospective questionnaire technique to examine various sources of food aversions in college students. Even though the majority was acquired via classical conditioning (i.e. learned distaste rejection), a number of responses fell in other categories. Batsell and Brown identified these three additional categories as disgust, negative information, and forced consumption. The disgust scenarios reported by Batsell and Brown were consistent with those described by Rozin (1986). The negative information rejections are conceptually similar to the danger food rejection, but differ in the sense that negative information can influence later food avoidance even if the edible poses little or no immediate harm. Interestingly, the forced consumption episodes can fit in several different food rejection categories because it may involve a food target that was either disgusting, disliked, or aversive (Batsell & Brown, 1998). Furthermore, in the various self-report anecdotes provided by those respondents, the individual's focus tended to emphasize the social interaction or conflict that occurred during the episode more than the sensory properties of the target food. On the basis of these reports, we speculated that the forced consumption situation is associated with enduring food rejection because a non-preferred food item is associated with a negative social conflict.

This interpretation of the forced consumption scenario is consistent with Birch and Fisher's model (1996) of how experiences can influence a child's eating habits. This model emphasizes that the development of eating reflects a shift in the "balance of power" between the parent and the child as the child assumes more control of their dietary choices. Learning plays a crucial role in their model because a child learns not only how much food to eat, but also which foods to eat. Associative learning processes are important because certain foods can be associated with positive consequences or negative consequences (i.e. taste aversions). Furthermore, a food may become associated with the social context of the meal. For example, food preferences can develop if a specific food is presented in positive social situations or is used as a reward (Birch *et al.*, 1980). Furthermore, Birch and Fisher (1996) have argued that foods that are presented in negative social situations (i.e. coercion of eating is involved) may be rejected. Thus, a specific food may be rejected not only because of its sensory properties or its association with illness, but also because it is associated with negative effect or negative social consequences.

The purpose of the present study was twofold. First, we conducted a survey to determine the frequency of forced consumption episodes in an undergraduate student population. In our earlier report (Batsell & Brown, 1998), 24 of 493 individuals (5%) reported a forced consumption episode as the source of their strongest taste aversion. Because our previous survey asked for the participants' *strongest* aversion, it seems reasonable that the frequency of forced consumption episodes could be higher. Second, this project sought to identify those characteristics common to forced consumption episodes, including an analysis of the primary factors mediating the forced consumption episode. On the basis of the self-report forced consumption samples in Batsell and Brown (1998), we identified five factors that may mediate the forced consumption episode. These included the two food rejection categories of dislike and disgust, and three social interaction categories of lack of control, helplessness, and betrayal of trust. We predicted that if the forced consumption episode is mediated by interpersonal conflict, the respondents would identify social interaction categories as more disturbing than food rejection categories.

## Method

### Participants

The participants were Southern Methodist University undergraduates recruited from sections of Introduction to Psychology during the 1998–2000 academic years. There were 407 participants (254 females and 153 males) with an average age of 19.4 years (range = 16–46 years).

### Materials and procedure

#### Initial survey

An initial 2-page survey was designed to determine the incidence of forced consumption in a college student population. This brief survey was distributed to the class, and students were instructed that if they wished to participate, they should return the completed questionnaire during the following class period. The students were informed that they would receive extra class credit for their participation and that their responses would remain confidential. This set of questions requested information about the participant's age, gender, the number of different foods or liquids they dislike or actively try to avoid, and whether they were a "picky eater" as a child and as an adult (on a 5-point scale with 1 = "not picky" and 5 = "very picky").

Next, the following forced consumption definition was presented:

Forced consumption situations are where an individual (e.g., parent; primary caregiver; relative; friend; acquaintance) forced/demanded that you consume a specific substance (e.g., food; beverage; other) against your will. It is not necessary that you actually consumed the substance, but that someone tried to make you.

Participants answered a yes/no question whether they had ever been forced to consume a substance, and if "yes," they were asked to describe in detail the circumstances of this episode (e.g. year, setting, individuals, situation, substance, specific comments). If there were several such experiences, they were requested to describe the most vivid experience.

It took approximately 5 min to complete the initial survey. Students were not informed that there would be an opportunity for more credit if they reported experiencing a forced consumption episode.

#### **Forced consumption questionnaire**

In some of the Introduction to Psychology sections, during a subsequent class meeting, all students who responded affirmatively to the forced consumption question were invited to complete a more extensive questionnaire. Thus, the number of individuals who completed the Forced Consumption Questionnaire would be less than the number who completed the Initial Survey. The Forced Consumption Questionnaire contained a series of questions designed to determine if these episodes shared any common characteristics. The participants first were asked to provide another written self-report description of the episode; these personal accounts were assigned to categories by two raters during data analysis. The remaining questions were organized around the following five topics: (1) situational variables of the episode, (2) behaviors of the forcer, (3) responses of the forcee, (4) primary factor in food rejection, and (5) current rating of the target food.

Issues that were addressed under *situational variables* included the identity of the forcer, the participant's age at the time of the incident, the identity of the target food, the respondent's previous experience with the target food, and the amount of the target food that was consumed. Topics that were addressed in the *behaviors of the forcer* included the forcer's justification for forced consumption, and the forcer's means of inducing forced consumption (e.g. threats, guilt induction, ridicule, punishment, deception, bribery). Items under the *responses of the forcee* included presence of crying, nausea, and vomiting, rating of

the interpersonal conflict, experience of a standoff, identification of a "winner," and the respondent's emotional response during the episode. Additional questions were directed at determining the *primary factor in their food rejection*. Within this category, respondents were requested to rate on a 5-point scale how disturbing they recalled the forced consumption episode according to two food rejection categories (dislike and disgust) and three social interaction categories (lack of control, helplessness, and betrayal of trust). Finally, a number of questions assessed the participant's *current rating of the target food*: willingness to consume the target substance, comfort with the target substance, comfort with the sensory characteristics (taste, smell, texture, and visual components) of the target substance, and whether the episode changed their eating habits.

## **Results**

### **Initial survey**

Two hundred eighty-two (69%) of the 407 respondents reported an episode of forced consumption and 125 reported no such episode. Also, females ( $N=184$ , 72%) and males ( $N=98$ , 64%) reported a forced consumption experience with equal frequency,  $X^2(1)=3.2$ ,  $p>0.05$ . This percentage of affirmative forced consumption episodes was much higher than the 5% found in Batsell and Brown (1998). Because the previous report asked respondents to identify their strongest taste aversion, it is a reasonable conclusion that such forced consumption episodes do not always result in aversions as strong as those produced by other factors (i.e. nausea, disgust).

Individuals reporting a forced consumption episode were more likely to characterize themselves as a picky adult eater ( $M=2.9$ ) compared to respondents who had not experienced forced consumption ( $M=2.5$ ),  $t(395)=2.7$ ,  $p<0.05$ . Although the forced consumption respondents were more picky eaters as children ( $M=3.1$ ) compared to the respondents without a forced consumption episode ( $M=2.8$ ), this difference did not surpass the statistical criterion,  $t(395)=1.8$ . Also, the forced consumption respondents reported avoiding significantly more foods as an adult ( $M=12.3$  foods) than respondents without a forced consumption episode ( $M=8.1$  foods),  $t(395)=2.7$ ,  $p<0.05$ .

### **Forced consumption questionnaire**

One hundred forty individuals, including 102 females and 38 males, completed the follow-up Forced

Consumption Questionnaire. On the basis of the respondents' self-report, their forced consumption episode was placed in one of five categories by two different raters (inter-rater reliability:  $r(140)=0.85$ ,  $p<0.01$ ). Assignments where there was disagreement were resolved by discussion. The most common category was *Authority Figure* forced consumption ( $n=107$ , 76.4%), in which a parent, relative, teacher, babysitter or other authority figure was the forcer. Additional categories were *Family Rule* ( $n=11$ , a generalized rule to eat all of the food on the plate), *Peer Pressure* ( $n=8$ , a same-age friend(s) pressuring the respondent to consume an edible, usually an alcoholic beverage), *Forced Medication* ( $n=7$ , a doctor or a parent forcing the respondent to consume medication), and *Hazing* ( $n=4$ ) same-age peers demanding that the respondent consume alcohol, disgusting foods (e.g. raw eggs), or an inappropriate food item (e.g. shaving cream). Finally, three cases were designated as "other" because they could not be assigned to any of the above categories. Considering that over 75% of the forced consumption episodes were in the Authority Figure category, and that no other category accounted for more than 10% of the episodes, we chose to examine the characteristics that were common to the Authority Figure category. The subsequent analyses are based on the 107 individuals assigned to the Authority Figure category.

#### *Situational variables of the episode*

As mentioned above, the common characteristic of the Authority Figure category is that an identified authority figure forced a younger individual to consume the food. Of the 107 reported episodes, the forcer was a parent in 76 cases (71%), a teacher or babysitter in 17 cases (16%), an adult relative/non-parent in 9 cases (8%), and a step-parent in 5 cases (5%). Although parent and stepparent may appear to represent the same category, the respondents explicitly stated that the stepparent forced them to consume something that their biological parent might not force them to consume. The forcees were generally young at the time of the experience, with the respondents' mean age being 8.1 years (S.D. = 3.3; range 3–20 years, with 84% listing 10 years or younger) at the time of the incident.

The most common types of "forced" substances were vegetables ( $n=53$ , 49.5%), red meat ( $n=17$ , 15.9%), and seafood ( $n=8$ , 7.5%). The high number of responses in these categories was not surprising because vegetables are often cited as food dislikes, and vegetables, meats and seafood are also common CSs in taste-aversion learning (e.g. Midkiff & Bernstein,

1985). Additional foods that were mentioned include fruits ( $n=7$ , 6.5%), milk ( $n=6$ , 5.6%), dairy ( $n=3$ , 2.8%), pasta ( $n=3$ , 2.8%) and 10 responses were categorized as 'other' because none of these items was named by more than 2 respondents. Note all of the target foods listed by the respondents were edible and did not fall in the danger or inappropriate food rejection categories.

Another factor that would influence the child's food consumption is neophobia, or the unwillingness to consume a novel food item. Neophobia has been documented extensively in both the human and non-human literature (e.g. Barker *et al.*, 1977; Birch, 1990). In fact, Birch (1990) reported that in 2- to 5-year-olds, neophobia may persist for up to 10 exposure trials before the child begins to accept the novel food. To assess the role of unfamiliarity (i.e. neophobia) in the forced consumption episodes, respondents were asked to recall whether they had any experience with the target food prior to the episode. Overall, the target food was unfamiliar in half of these forced consumption episodes: 54 respondents (50.5%) had consumed the target food prior to the forced consumption episode, and 53 respondents (49.5%) had not. Of those 54 individuals who reported a previous experience with the food item, 31 individuals reported experiencing nausea to this substance in a prior encounter; therefore, this food was considered aversive by almost a third of the respondents. As expected, one of the prime conditions that sets the table for a forced consumption episode is that the child is encountering a novel food or one that has already been associated with illness.

Another key variable in the forced consumption scenario is the amount of food that was actually consumed, and respondents used a 5-category scale to indicate this. Seven individuals (6.5%) did not consume any of the substance, 47 respondents (44%) consumed very little of the substance (e.g. a bite or two), 28 respondents (26%) consumed a regular portion, 17 respondents (16%) consumed a sizable portion, and only 8 respondents (7.5%) consumed an excessively large amount. Thus, whereas all of these episodes began because the forcee did not want to eat the target food, only 7 of the 107 respondents did not eat any of the substance. It is noteworthy that the amount of food consumed was not significantly correlated with the current rating of the food,  $r(106)=-0.16$ , or with any of the primary factors in food rejection, largest  $r(106)=0.11$ .

#### *Behaviors of the forcer*

A key component of the forced consumption scenario is that the authority figure coerces the forcee to

consume the target food, and respondents were asked to identify the forcer's justification. The three most common justifications were healthy food ( $n=32$ , 29.9%; "it's good for you"), variety in diet ( $n=26$ , 24.3%; "try something new"), and avoid wastefulness ( $n=26$ , 24.3%). The wastefulness justification used guilt to induce consumption, and this is discussed in more detail below. Some respondents ( $n=10$ , 9.3%) identified "child was too skinny" as a justification; obviously, the forcer's admonishments were to increase the child's size, not necessarily the child's health. The final justification was tradition or good luck ( $n=5$ , 4.7%). Interestingly, all five of these respondents reported the same episode: they were forced to eat black-eyed peas on New Year's Day, and were threatened with being the only unlucky member of the family. (It is a tradition in the Southern United States to eat black-eyed peas on New Year's Day to insure good luck during the upcoming year.) In almost all of these justifications, the forcer's stated purpose was to benefit the child. Eight respondents did not list a justification.

Respondents identified the various types of coercion that the forcer employed to induce the forcee to consume the target substance; the mean number of responses was 1.9 (S.D. = 1.1). The most commonly used method was a threat ( $n=61$ , 57%), and most of these involved negative punishment (e.g. "you cannot leave the table until you finish;" "you cannot have dessert until you finish your vegetable"). The second coercion technique ( $n=46$ , 43%) involved making the target food more appetizing, and was usually accomplished either through the authority figure eating the food and proclaiming its appeal, or adding flavoring to the target (e.g. butter, ketchup). A third technique ( $n=35$ , 32.7%) involved guilt-inducing efforts, and can be subdivided into the categories of wastefulness guilt or emotional guilt. Wastefulness guilt (19 cases) involved either *effort* wastefulness (e.g. "Your father worked really hard to cook this meal for you"), *financial* wastefulness (e.g. "I spent good money for this meal"), or *food* wastefulness (e.g. "Think of all of the starving children in (name of third-world country) that would love to have this meal"). Emotional guilt (16 cases) was related to the child's health (e.g. "We worry about your health when you do not eat").

Another means of coercing consumption involved the opportunity to earn rewards (e.g. dessert) and 31 respondents (29%) indicated that they were so bribed. Also, 31 respondents (29%) reported that they experienced ridicule because they would not consume the target food, most commonly in the form of being called "childish" or a "baby" (18 cases). Additional forms of ridicule involved questioning one's

health, masculinity, or patriotism (one respondent indicated they were called "un-American" because they would not consume a hot dog on the 4th of July).

Twenty-eight respondents (26.2%) reported that they were punished because they did not consume the target food: 20 experienced negative punishment (staying at the table, going to bed without any dinner), and 8 suffered positive punishment (e.g. spankings). Finally, 10 respondents (9.3%) indicated that they were deceived into eating the food, either through a lie about the true nature of the food (e.g. telling the child that the liver dinner was really chicken) or preparing the target food in another dish (e.g. cooking pieces of liver in pancakes).

### Responses of the forcee

An essential component in any forced consumption episode is the clash of wills between the forcee and the forcer. When respondents were asked to rate the level of conflict that they perceived during the forced consumption episode (on a 4-point rating scale), 31 (29%) reported strong conflict, 44 (41%) reported moderate conflict, 29 (27%) reported slight conflict, and only 3 (3%) reported no conflict. Thus, it is clear that some level of interpersonal conflict is present in the majority of these situations. This conclusion is bolstered by the responses to a similar question: "Was there a standoff?" A majority of the respondents ( $n=61$ ; 57%) reported that there was a "standoff" with the forcer, and the average time of this standoff was 50 min (range = 1–240 min). Finally, when asked whether anyone "won" the forced consumption episode, the forcer was identified as the winner by 68 respondents (63.6%), the forcee was the winner in 17 episodes (15.9%), and no winner was specified in the remaining 22 episodes (20.6%). Interestingly, many respondents in the no-winner subcategory indicated "tie" because they consumed the food, and then they became ill.

During the conflict, the respondents reported a number of different physical and psychological reactions. Fifty-two individuals (49%) reported that they cried, 59 (55%) reported that they experienced nausea, and 21 (20%) reported vomiting. In a follow-up question, 15 of the 21 respondents who vomited reported feeling vindicated after vomiting in that this demonstrated that they knew the food was not good to eat. Clearly, there is no way to determine if the target food was tainted or if the respondent's negative expectations led to vomiting.

Finally, two questions requested that the respondents characterize the emotional response they recall having at the time of the episode, as well as their current emotional response when recalling the event today. As

shown in Table 1, negative emotional responses predominated at the time of the episode, with more than 95% of the responses classified under negative affect (anger, fear, disgust, confusion, and humiliation). Although negative affect still predominates in the current emotional evaluation, there are substantial increases in no emotion/neutral (28.6%), humor (24.8%), and acceptance (6.7%) categories.

### Primary factor in food rejection

On the basis of the forced consumption responses in our previous survey (Batsell & Brown, 1998), we composed five statements to identify the source of the discomfort produced by forced consumption: (1) feelings of *lack of control* because of doing something against one's will; (2) feelings of *helplessness* because protests went unheeded; (3) being forced to put something *disgusting* in one's mouth; (4) being forced to consume a *disliked* substance; and (5) *betrayal* from a trusted other. Each of these statements were rated on a 5-point scale (1 = not at all disturbing; 5 = very disturbing), and the mean ratings are presented in Table 2.

On the basis of these responses, the most disturbing aspects of the forced consumption episode were being forced to do something against your will (lack of

control) and protests went unheeded (feelings of helplessness). A within-subjects analysis of variance (ANOVA) conducted over the respondents' responses to each of these five statements revealed a significant difference,  $F(4,420) = 14.8$ ,  $p < 0.01$ , and post hoc *t*-test comparisons confirmed that Lack of Control was significantly more aversive than Disgust, Dislike, and Betrayal (for all  $p < 0.01$ ). Similarly, Helplessness was rated as significantly more aversive than Disgust, Dislike, and Betrayal (for all  $p < 0.03$ ). Although there were no significant differences between Lack of Control and Helplessness, or between Dislike and Disgust, Dislike and Disgust were both rated as significantly more aversive than Betrayal ( $p < 0.01$ ). Thus, the most common disturbing aspects of the forced consumption episode (lack of control and helplessness) were produced by the social dynamics involved in the forcee–forcee relationship. When these findings are considered along with the ratings of conflict and the presence of negative affect, it can be concluded that the forced consumption episode is a powerful negative social experience.

### Current rating of the target food

The respondents' response to the target substance was assessed in a number of different questions. First, when asked if they would willingly consume the target food today, 77 (72%) of 107 respondents said "no." Second, when asked their current rating of the target food (1 = extreme comfort; 2 = moderate comfort; 3 = neutral; 4 = moderate discomfort; and 5 = extreme discomfort), 14 (13%) respondents reported extreme comfort, 10 (9%) reported moderate comfort, 9 (8%) were neutral, 34 (32%) reported moderate discomfort, and 40 (37%) reported extreme discomfort. Third, in addition to measuring the participant's response to the food on the 5-point scale, the participants also rated their response to the specific sensory

**Table 1.** Emotional response to the forced consumption ( $N = 105$ )

Emotion	At incident	Today
Anger	54 (51.4%)	27 (25.7%)
Fear/upset	31 (29.5%)	5 (4.8%)
Disgust	7 (6.6%)	8 (7.6%)
Confusion	5 (4.8%)	1 (0.9%)
Humiliation	3 (2.9%)	1 (0.9%)
Acceptance	3 (2.9%)	7 (6.7%)
No emotion	2 (1.9%)	30 (28.6%)
Humor	0 (0.0%)	26 (24.8%)

**Table 2.** Mechanism making forced consumption disturbing ( $N = 107$ )

Question	Mean rating (S.D.)
To what extent was this episode disturbing because...	
Lack of control	3.9 (1.1)
You were forced to do something against your will	3.8 (1.3)
Helplessness	3.5 (1.3)
Your protests went unheeded	3.4 (1.2)
Disgust	3.1 (1.5)
You were forced to put something disgusting in your mouth	
Dislike	
You were forced to eat something you did not like	
Betrayal	
A <i>trusted</i> individual forced you to do something against your will	

Scale: Not at all 1 2 3 4 5 Very disturbing.

characteristics of the food (i.e. the food's taste, smell, texture, and visual properties) on the same 5-point scale: taste ( $M=3.7$ ), smell ( $M=3.6$ ), texture ( $M=3.4$ ) and visual properties ( $M=3.0$ ). It can be seen that each of these sensory components were rated either "somewhat discomforting" or 'neutral.' Thus, these responses indicate that the participant's negative reaction to the food included a continued dislike for the sensory properties of that food.

In evaluating whether the forced consumption episode had changed their general eating habits, 37 (35%) of the respondents said "yes", whereas 70 (65%) indicated "no." Of the 37 individuals who reported a change in their eating habits, 10 (27%) reported that the forced consumption episode expanded their diet selection and 27 (73%) indicated that the episode had limited their diet selection.

## General discussion

The present project was initiated to examine the prevalence of forced consumption episodes, to establish commonalities across forced consumption episodes, and to identify how a forced consumption experience is related to food rejection behaviors. In brief, the present project revealed that: (1) forced consumption episodes are quite common, (2) the majority of the forced consumption episodes share common patterns, and (3) food rejection mediated by forced consumption appears to be produced by a combination of social factors and distaste/disgust.

The results from the initial survey showed that forced consumption episodes are fairly common. Almost 70% of our respondents indicated that they had experienced a forced consumption episode at some period in their life. Although this number may be inflated by situations involving medication or the general rule of eating all of the food on one's plate, many people were able to provide a detailed account of an episode when someone demanded that they consume a specific edible. Since we initiated this project, Carper, Fisher, and Birch (2000) have reported similar results from 5-year-old girls. In their study, the girls and their parents were questioned about experiences involving parental pressure to eat and parental restriction of eating. Even though the parents did not report a high level of pressure, 61% of the girls responded that they had experienced parental pressure to eat. Thus, both theirs and our studies have shown that the incidence rate of forced consumption or pressure to eat involves more than half the sample of individuals.

Furthermore, the initial survey suggests that there are differences between those eaters who had experienced a forced consumption episode and the population who had not. Specifically, the forced consumption population rated themselves as significantly pickier adult eaters than the control population, even though these differences were not significant at the time of the forced consumption episode. It appears that the individuals who reported a forced consumption episode might be more restrictive in their eating habits and this disposition may have resulted in the forced consumption episode. However, it is also possible that the forced consumption experience changed their eating habits as adults and their memory of their childhood eating habits (27 individuals did report the forced consumption episode limited their diet selection).

The results from the forced consumption questionnaire also indicate that although there are various scenarios that can be classified as forced consumption episodes, the authority figure scenario is most common. In our analysis, over 75% of the reported episodes could be classified as an authority figure forcing a younger individual to consume an undesirable substance. This authority figure scenario appears to have a number of common characteristics: (a) the forcee was required to eat an unfamiliar or distasteful food; (b) because the forcee did not readily consume the food, the conflict escalated to a point when various coercion techniques were employed (e.g. threats, bribes, ridicule, guilt) to induce consumption; (c) after some period of time, the forcee acquiesced and consumed some of the target food; and (d) in spite of this consumption, the participants' current rating of the target food suggests that many of them still reject the food.

The present data also suggest that the forced consumption scenario imposes social conflict onto a pre-existing food rejection situation. The familiarity and comfort ratings of the target food indicate that it was novel, disliked, or aversive at the time of the incident. The high ratings for lack of control and helplessness associated with the episode suggest the interpersonal conflict increases the level of negative affect that the forcee experiences when they have to consume the target food (i.e. they lose). The social conflict and "losing" the forced consumption episode may lead to subsequent rejection of the target food. When the forcee encounters the target food on subsequent occasions, and chooses not to consume that food, this may serve as a "win." Thus, every time that they reject the food, they re-assert their control.

One possible mechanism to explain the forced consumption results is through evaluative conditioning. Evaluative conditioning is a type of classical conditioning in which a relatively neutral CS is paired

with a US that evokes an emotional response. In fact, Rozin *et al.* have argued that the learning of food preferences and food dislikes are mediated via evaluative conditioning (Rozin *et al.*, 1998). Our participants' recall of their emotional response during the forced consumption episode suggests that this social event was present in most cases. Interestingly, the experimental data suggest that evaluative conditioning is highly resistant to extinction (e.g. Baeyens *et al.*, 1995); this outcome appears to parallel the present results.

The present results about forced consumption episodes also have implications for other investigations of food choice. Although the present results do not alter Rozin and Fallon's original taxonomy of food rejection (1980), these results do show the relations of interpersonal conflict on food rejection. Furthermore, these data provide partial support for the development of food preferences model of Birch and Fisher (1996). They have proposed that foods associated with negative social contexts may become less preferred or rejected. The present data support this view. In the Authority Figure scenario, the respondents indicate a large amount of conflict and negative affect because they were not able to control what they ingested. Also, the evidence from the respondent's current rating of the food confirms that most of them still reject the food. Finally, even though the forced consumption questionnaire focused on the most memorable episode, some respondents indicated that these conflicts were common events at the dinner table. Thus, an investigation of multiple forced consumption episodes may provide additional information about the broader negative effects of parental control on the development of a child's eating habits.

Although the present results have provided much new information on forced consumption, there are some limitations. First, the present experiment only evaluated changes of a food that had been experienced in conjunction with a forced consumption episode; we did not concurrently measure the changes to a disliked food that was not experienced along with forced consumption. Therefore, we cannot assess whether the forced consumption episode produces stronger food rejection. None the less, the present data show the importance of the social context in mediating food choice, and future studies should assess whether the social dynamics present during the forced consumption episode produce longer-lasting food rejection.

Second, the present results only reflect one viewpoint from the dyad, that of the forcee. Future research should be directed at either the recall of the forcee in the forced consumption scenario, or possibly, the recall of both members of the dyad. Interestingly,

the present data are somewhat at odds with parents' opinions of the most effective strategies for altering consumption. Casey and Rozin (1989) reported the results of a parental survey in which parents were asked to rate the effectiveness of a number of strategies to increase food liking or food disliking. In terms of altering food liking, the majority of the parents listed positive strategies as the most effective in producing food likes, and the negative strategies such as "threaten" or "only food offered" were listed as less effective. Although parents rated these negative strategies as less effective in the Casey and Rozin report, the present data suggest that these negative strategies are still employed by many parents.

Third, the results reported here may be limited in terms of population validity because the present sample consisted almost exclusively of college-age students. Because 18- to 25-year-old individuals are trying to establish their attitudinal independence from their parents (and other authority figures), their recall of parent-child conflict may be heightened. As a result, a survey of young adults (25- to 35-years-old) who have their own children may reveal a more moderate view of forced consumption. Similarly, the present results may lack generalizability because this sample was drawn from an affluent private university. It is possible that situations of forced consumption occur more often in affluent households where children can reject some foods and know that there are other food choices.

In closing, there is a certain irony to the forced consumption situation. A review of the justifications used by the forcee to induce consumption reveals a variety of justifications that are meant to *increase* the forcee's dietary selections and consumption of different foods, especially the target food. In no case in the Authority Figure scenario did we see any reports that the forcee wanted to *decrease* consumption of the target food. Unfortunately, because of the coercion and interpersonal conflict involved in the forced consumption situation, the exact opposite often occurred – most forcees became less likely to consume the target food in the future. Thus, conservative advice to parents may be that if the child does not want to eat the novel food, do not force them to, but try again at another time.

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