

Running Head: A MULTIPLE-BASELINE EVALUATION OF THE TREATMENT OF FOOD

PHOBIA IN A YOUNG BOY

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Psy 3620 Psychology of Learning

[Student Name]

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The study, “A multiple-baseline evaluation of the treatment of food phobia in a young boy,” conducted in 2001, by Matthew K. Nock, is a study of the effectiveness of behavioral treatment program using modeling, graduated exposure, contingency management, positive reinforcement, and time-out to treat a 4-year old boy’s food phobia. The results suggested that this treatment was “responsible for the observed changes” in the boy’s ability to eat at the end of the study and at a 6-month follow up.

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Food, chewing, swallowing, and choking phobias are among the most serious of all phobias due to the probability of serious health problems if one does not receive proper nutrition. The term “food phobia” was used in this study because it is the term most often used when referring to phobias of this sort when found in children. Food phobia is considered a more general term and since small children are often unable to verbalize specifics about their fears the more general term is appropriate. Food phobia “is characterized by the fear and avoidance of chewing or swallowing food or fluids, which most often occurs directly following a conditioning experience involving choking on food or swallowing.”

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Little research has been done and more is needed concerning food phobias, so its prevalence and duration is largely unknown. Nock recognizes the seriousness of eating disorders, which affects approximately 25% of pediatric age children. The limited research currently available suggests some success in behavioral treatment approaches; however, most research has been done with adults or “pubertal” children. The treatment evaluations used are largely uncontrolled making it difficult to draw scientific conclusions about the effectiveness. There has been one recent promising study by Chorpita and colleagues (1997) involving a young adolescent girl with a food phobia using criteria for treatment similar to this study. Chorpita and his colleagues suggest that further study should be done involving younger children.

This study “evaluated the effectiveness of behavioral treatment program using therapist and parent modeling, graduated exposure and contingency management to treat food phobia in a 4-year-old boy. This study employed a multiple-baseline design across different food categories to provide a controlled evaluation of the effectiveness of this treatment program.” The subject expressed his fear of food by vomiting after ingesting food, so it was necessary to include in the treatment a “time-out from reinforcement and re-introduction” of the target food to address his phobia.

The methods used to choose the participant in the study was that of referral by his parents. The child at baseline refused to eat all solid food or fluids. His parents reported that he had only eaten soft baby food since he choked on partially solid baby food as an infant at age 7-months. The participant was healthy and of normal weight at baseline. The reported problems were largely social causing tension with his peers and frequent arguments within his family. His parents also reported nightmares and other problems with sleeping, such as refusal to sleep in his own room and bed-wetting.

A diagnostic assessment was conducted using the “schedule for affective disorders and schizophrenia for school-age children—present and lifetime version” (K-SADS-PL). This assessment uses input from both the parents and the child. This process has an excellent track record for reliable and repetitive “test-retest” functionality. This assessment was administered at baseline, after treatment, and again for a 6-month follow up.

A behavioral avoidance and anxiety test was also administered before and after treatment and then again at follow up to assess the child’s “anxiety and avoidance of solid food”. He was asked to try a chain of behaviors involving progressive interaction with solid food up to and including ingestion, so that his anxiety and avoidance could be measured. Both were measured

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on a scale of 0-8, with 0 representing no anxiety and avoidance and 8 representing high anxiety and avoidance. The reliability of this test equals .99.

The child's food consumption and vomiting episodes were logged daily by his parents from baseline to the end of treatment and then again for two weeks at 6-months post-treatment. The records were reviewed weekly and converted into number of servings by the study administrators using a chart provided by the US Department of Agriculture (2000) and were totaled and charted. Weekly interviews with the parents and the child were used to support accuracy of the records.

The treatment "consisted of a behavioral program implemented within the context of a multiple-baseline design to increase the range and volume of food and fluids consumed by the participant." Foods were divided into four classes including (A) fluids, (B) soft, processes foods, (C) hard, crunchy foods and (D) tough, chewy foods. Each group was slowly introduced to the child over a period of 21 one-hour sessions spanning 27 weeks. The parents were taught proper methods having to do with modeling, reinforcement, and time-out. Reinforcement included praise and material rewards. Ignoring was used when behavior was not desirable, such as vomiting, then foods were re-introduced until desired behavior was achieved. The parents demonstrated proficiency with each of the techniques outlined for the treatment sessions.

Food consumption was reported using graphs. The graph describing fluid consumption increased over the 27 week period from just over 2 servings at week one to 8 servings per week at week 27. The graph describing soft food consumption begins at 5 servings per week at week 5 and at week 27 remained at 5 servings. Hard food was not introduced until week 14 and increased from 2 servings per week to 35 servings at week 27. Chewy food was not started until week 14 and increased from 0 servings to 6 servings per week at week 27. All food groups were reported to either have increased slightly or stayed consistent at the 6 month follow up. "Within the context of the multiple-baseline design used in this study, it could be concluded that the

treatment program caused an increase in food consumption if the number of servings of food in each category increased when and only when the treatment program focused on that food category.”

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The suggested data was inspected visually and determined to be reliable and consistent. The data showed that the treatment was indeed the cause of the change in food consumption. Vomiting remained consistent for 4-weeks, until the introduction of the time-out treatment component, and then the vomiting decreased from 1-2 times per week to 0 and remained at 0 for the rest of the treatment and follow-up period. This suggested that the time-out component of the treatment criteria was an effective treatment of this behavior.

At base-line, the child “was able to hold a spoon and insert it into the target food but was unable to raise the spoonful of food (mean avoidance score = 5), in addition, his observer-reported anxiety while performing this task was high (mean anxiety score = 7). At post-treatment and follow up the child was able to consume the food and exhibited no avoidance and only a slight “food-related anxiety”.

A diagnostic assessment at post-treatment suggested that the child no longer met “criteria for Specific Phobia or any other DSM diagnosis”. The subject’s interpersonal functioning was no longer impaired. In addition, this was maintained at the 6-month follow up.

This study shows that a behavioral treatment program using modeling and reinforcement in an operant learning environment is effective in increasing food consumption and decreasing food-related anxiety. These changes occurred not only at home, but also at school and during therapy sessions. The study also shows that planned ignoring, time-out from reinforcement, and re-introduction of an initial request were effective treatments in reducing vomiting.

Limitations found in other studies are improved upon in this study. First, the multi base-line experimental design brought the study under better control than previous studies,

demonstrating that behavior changes were in fact due to treatment rather than unknown stimuli. Second, this study suggests that pre-pubertal children who have food-related phobias can be effectively treated with a behavioral intervention program.

This study also has its limitations. The treatment criteria involve several components. The author reports that it is difficult to tell if all the components used in this study are necessary for successful treatment. Also, food consumption reporting was reliant on the child's parents and no evaluation or assessment of the accuracy of the reporting was completed. However, the parent-reported food consumption was consistent with food consumption observed during the treatment sessions.

This study provides "a clear demonstration of the effectiveness of therapist and parent modeling, graduated exposure, and contingency management in the treatment of food phobia..." This study was fascinating in that it was/is somewhat pioneering research in the treatment of childhood eating disorders affecting 25% of all children. What on earth has taken so long? Is it that parents are reticent to report such disorders and just muddle through without professional support? If so, then how would we know that eating disorders indeed affect 25 % of our children? I suppose it could be that parents are even more reticent in offering their children to a less than tried and true treatment method. Nonetheless, this appears to be a very important research area and one in desperate need of pursuit. In addition, I found it interesting that a multi base-line evaluation was used to assess the child's condition. This hasn't been discussed in our class, but yet it seems that most behavioral studies would require it.

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### References

M. K. Nock. (2002). A multiple-baseline evaluation of the treatment of food phobia in a young boy. *Journal of Behavior Therapy and Experimental Psychiatry*, 33, 217-225.

**Commented [JRS8]:** This is correct APA format. Only list the sources that you cited in the paper, which is usually just the one article you summarized.