

The potential problem of picky eating : A pilot study among university students of food and nutrition

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Background and Purpose

- Nutritional imbalances among adults are currently being recognized, particularly among those in their early 20s.
- **Previous studies suggest that this problem might be related to adult picky eating (PE) behaviors.**
- It has been taken for granted that university students majoring in food and nutrition, as prospective nutrition professionals, have already developed well-balanced dietary habits.
- However, this predisposition seems to be no longer entirely valid.
- **Therefore, this study aimed to explore the potential problem of PE among university students majoring in food and nutrition.**

Methods

- The current pilot study included a total of 87 South Korean students majoring in food and nutrition.
- The Self-Designed Food Bridge Program was applied to identify the underlying causes of PE and examine the possibility of overcoming it.
- **The program included planning and practicing stepwise exposures to target foods that were the subject of PE. The program consisted of four stages, each lasting 15 days: The 1st stage of "Getting familiar with the food items", the 2nd stage of "Indirect exposure", the 3rd stage of "Passive exposure", and the 4th stage of "Active exposure".**
- Descriptive statistics were calculated, and distributive differences between the success and failure groups in the program were analyzed using a chi-square test.

Results and Conclusions

- **Vegetables were the most commonly disliked foods (74.7%) (Table 1).**
- About 46% of all students mentioned **negative experiences as a reason for food dislikes**. Almost half (45%) of these negative experiences were **due to external coercion: forced eating (30.0%) and vomiting after forced eating (15.0%) (Table 2).**
- **About 66% of the students achieved relatively positive results in overcoming PE (Table 3).**
- **The proportion of failures tended to be higher when the reasons for food dislike included negative experiences (Table 4).**

Table 1. General characteristics of participants

Classification		n	%
Grades	Sophomores	43	49.4
	Seniors	44	50.6
Total		87	100.0
Disliked food items	Vegetables		
	Root vegetables	26	29.9
	Fruit vegetables	25	28.7
	Leafy vegetables	8	9.2
	Flower vegetables	4	4.6
	Others	2	2.3
Sub total		65	74.7
Disliked food items	Non-vegetables		
	Legumes	10	11.5
	Fruits	6	7.0
	Fish	3	3.4
	Mushrooms	2	2.3
	Nuts	1	1.1
Sub total		22	25.3
Total		87	100
Reasons for food dislikes	Negative experiences only	10	11.5
	Negative experiences plus sensory properties	30	34.5
	Sensory properties only	47	54.0
	Total	87	100

Table 2. Reasons for food dislikes¹⁾

Negative experiences	n	%	Sensory properties	n	%
Forced eating ²⁾	12	30.0%	Texture	48	33.1%
Vomiting after forced eating ³⁾	6	15.0%	Smell	42	29.0%
Vomiting or stomachache after eating	6	15.0%	Taste	41	28.3%
Unpleasant emotional experiences when first eaten	7	17.5%	Color	7	4.8%
Unfamiliarity	4	10.0%	Appearance	7	4.8%
Others	5	12.5%	Total	145	100.0%
Total	40	100.0%			

¹⁾ Multiple answers

²⁾³⁾ forced eating by school or nutrition teachers (n=12), parents (n=2), and relatives or others (n=4)

Table 3. Results of the Self-Designed Food Bridge Program

Final Judgement	Step-by-Step Judgement ¹⁾			Total score of success	n	%	
	2 nd Stage	3 rd Stage	4 th Stage				
Failure ²⁾ Group (n=30, 34.5%)	0	0	0	0	3	3	3.5%
	0	1.0	0	1.0	1	1	1.2%
	1.0	0.5	0		1		
	0	1.0	0.5		2		
	1.0	0	0.5	1.5	1	5	5.7%
	0	0.5	1.0		1		
	1.0	1.0	0		12		
	1.0	0.5	0.5		2		
	0	1.0	1.0	2.0	4	21	24.1%
	0.5	0.5	1.0		1		
Success ²⁾ Group (n=57, 65.5%)	1.0	0	1.0		2		
	0.5	1.0	1.0		3		
	1.0	0.5	1.0	2.5	5	21	24.1%
	1.0	1.0	0.5		13		
	1.0	1.0	1.0	3.0	36	36	41.4%
Average				2.4			

¹⁾Success was determined for Stage 2-4 of the program according to a scoring scheme: "1" for success, "0" for failure, and "0.5" if ambiguous (for example, it was possible for participants to eat the food items during the program, but they were not likely to spontaneously do so in the future). The first stage of the program was excluded from this analysis because no actual eating was involved.

²⁾The numbers were then totaled, and an average was determined to indicate final success. Participants were placed into the "success" group if the total number of success was higher than the average of the total sum. Participants with scores lower than the average were placed into the "failure" group.

- The results implies that **students of food and nutrition as prospective nutrition professionals can be subject to PE.**
- **If left unchecked, this habit may eventually have a negative impact on their performance as nutrition professionals.** It was thus necessary for them to identify the underlying causes of their own PE and find solutions to treat the associated behaviors. This deserves more attention since these individuals were not only in a period of critical transition into adulthood as university students, but would eventually play expert roles in educating and promoting healthy and balanced diets among their clients. Additionally, in terms of pedagogy, their own experiences of overcoming PE can be useful for improving PE among future clients.
- **The study is also expected to serve as a basis for further research on adult PE.**

Table 4. Distribution of success and failure in the Self-Designed Food Bridge Program according to grades, disliked food items, reasons for food dislike

Classifications	Success	Failure	P-value ¹⁾	
Grades	Sophomores	27 (47.4%)	16 (53.3%)	P=.501
	Seniors	30 (52.6%)	14 (46.7%)	
	Total	57 (100%)	30 (100%)	
Disliked food items	Vegetables	45 (78.9%)	20 (66.7%)	P=.210
	Non-vegetables	12 (21.1%)	10 (33.3%)	
	Total	57 (100%)	30 (100%)	
Reasons for food dislike	Negative experience	21 (36.8%)	19 (63.3%)	P=.018
	Sensory characteristics	36 (63.2%)	11 (36.7%)	
	Total	57 (100%)	30 (100%)	