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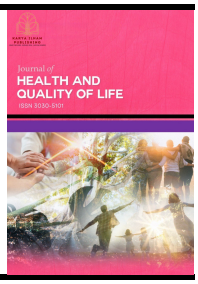

The relationship between Food Intake and Aggressive Behavior: A Correlational Study

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ABSTRACT

The basic presumption is that unfulfilled physiological needs prompt aggressive behavior, and thus, a correlational study was conducted to determine the relationship between food intake and aggression, utilizing a survey questionnaire among nutrition and dietetics students. In this, it is interesting to navigate when the amount of food has a relationship with aggression. In relation to the study, it revealed that the respondents mainly eat rice, followed by bread, chicken, bananas, and fish. The common aggressive behaviors are ignoring, eye-rolling, gossiping, jealousy, and name-calling. Added, the respondents, in relation to their academic program, possess knowledge about food intake and aggression, which has been studied in their subjects. They enjoyed eating rice, a staple food eaten and habitually ignored, and the most aggressive behavior exposed. They manifest similar aggressive behavior, despite the fact that food intake and daily calorie intake were normal. Overall, students' daily food intake was classified as "normal" across different sexes, socio-economic statuses, and year levels. Notably, there were no significant differences in food intake or aggressive behavior when categorized by these demographics. Furthermore, the study found a low correlation between food intake and aggressive behavior among the students. In conclusion, basic physiological needs are generally met among the nutrition and dietetics students; the low correlation with aggressive behavior suggests that other factors may influence aggression, recommending further research on the aspects of food and aggression.

1. Introduction

‘‘You are what you eat’ is the central concept of the relationship between food and aggression, as Brillat-Savarin [1] said, “Tell me what you eat, and I will tell you what you are.” Food intake was presumed to be a factor in determining a person’s health and disease, particularly mental processes and behavior, including temperaments and moods [2]. These mental processes and behaviors need requirements to suffice, and if not, aggressive behavior will enter and demand to satisfy the human physiological needs [3].

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There are several pieces of documentation that show the possible implication of food intake and aggression, such as those of adult offenders who claim that diet increases antisocial behavior [4]; changes in diet result in deterioration of mental health [5]; supplementation and criminal behavior [4]; consumption in relation to homicide and anger [6]; and lastly, Gesch [7], who claimed that the lack of nutrients during pregnancy resulted in antisocial behavior during adolescence. Added to that, there is growing evidence from both humans and other animals that diet affects behavior, and intake of fat has been linked, positively and negatively, with traits such as exploration, social interaction, anxiety, and fear [8].

Among medical doctors, understanding nutritional medicine does not include learning the relationship between nutrition and behavior, and they seldom include it in their practices [6]. If they do, it is not as often to meticulously identify the kind of food people eat and its effect or influence on their daily actions. This is the main reason why this study was conducted: to determine the correlation between food intake and aggressive behavior. Four objectives were framed to determine the correlation between food intake and aggressive behavior. Specifically, it seeks to answer the following questions:

i. What is the common food intake of the nutrition dietetics student when taken as whole and when group according to sex, economic status, and year level?
ii. What are the common aggressive behaviors among nutrition dietetics students when taken as whole and when group according to sex, economic status, and year level?
iii. Is there a significant difference on the food intake among nutrition dietetics students when taken as whole and when group according to sex, economic status, and year level?
iv. Is there a significant difference on the common aggressive behavior among nutrition dietetics students when taken as whole and when group according to sex, economic status, and year level?

2. Methodology

This study is a quantitative study employing the descriptive-correlational research design using a survey questionnaire as the method. According to Sanchez [9], descriptive survey status research was directed towards ascertaining the prevailing conditions, that is, the facts that prevail in the group of cases chosen to study. This method is a technique for a quantitative description of the general characteristics of the group. This approach to problem solving seeks to answer questions as to real facts relating to existing conditions with such facts as bases; those concerned are in a better position to decide on an appropriate course of action in dealing with the condition [9]. In addition to the research design, Fraenkel [10] emphasizes that correlational research shows relationships among two or more variables are studied without any attempt to influence them. In their simplest form, correlational studies investigate the possibility of relationships between only two variables, although investigations of more than two variables are common.

2.1 Population and Samples

The respondents of the study are the 32 nutrition and dietetics students ages 16–20 at a private university in the Philippines, taken from a list given by the registrar's office upon the approval of the letter, which was drawn as a representative sample taken from the population.

Table 1
Profile of the participants

Category	F	%
A. Entire Group	23	100
B. Sex		
Male	22	96
Female	1	4
C. Socio-Economic Status		
Class AB	0	0
Class C	4	17
Class D	6	26
Class E	13	57
D. Year Level		
2nd Year	11	48
3rd Year	6	26
4th Year	6	26

The demographic profile of the thirty two (32) students covered in this study is presented in Table 1

2.2 Research Instrument

The data-gathering instrument used in this research is a researcher-made questionnaire on the correlation between food intake and aggressive behavior. The questionnaire on the correlation between food intake and aggressive behavior was presented to a panel of jurors for face-to-face and content validation. The panel of jurors is composed of experts in the fields of statistics, research, social research, tests and measurements, and evaluation. The instrument has three parts: Part I for the respondent's profile, then Parts II and III for the main questionnaire on the correlation between food intake and aggressive behavior, which include the questions of food and drinks consumed for a span of 7 days, while from the 2nd day up to the 7th day is a question of exposing any form of aggressive behavior [11]. The respondent's profile data includes sex, year level, and socioeconomic status. The second part is an item on the correlation between food intake and aggressive behavior. The researcher-made correlation between food intake and aggressive behavior inventory was purposely constructed for this study. This instrument was composed of a checklist and written statements for a span of seven days, developed by the researcher.

2.3 Collection of Data

(For Part 1 of the Questionnaire, each item in the instrument was answered with his/her written statement of what food or drinks were consumed for a span of 7 days. (For Questionnaire No. 2), each participant was asked to respond by putting a check mark on the box provided for his or her answer among the different choices in the checklist on the form of aggressive behavior exposed by the respondent for a span of 4 days. The written statement and checks on the checklist for each item represented the participant's answer. The obtained mean score was computed. To determine the correlation between food intake and aggressive behavior, the researcher obtained the means of their scores. For part 1 of the questionnaire, specific kinds of food or drinks consumed with an estimated amount are calculated by the calorie intake table, and for part 2 of the questionnaire, a checklist of aggressive behavior exposed by the respondent was used, and they were classified under food intake and aggressive behavior exposed where they got the highest sum.

2.4 Data Analysis

The data gathered for this study was subjected to appropriate computer-processed statistics employing the Statistical Package for the Social Sciences software (SPSS). All inferential statistics were set at a .05 alpha level. The frequencies were used to determine the number of participants inspecified mediator categories such as sex, socioeconomic status, and year level. The standard deviations were used to determine the participants' homogeneity or heterogeneity in terms of their food intake and aggressive behavior. The Pearson R was used in determining the strength of correlation between two or more interval data. Moreover, the Spearman's R was used in determining the strength of correlation when two variables have ordinal data.

Completed r-value	Interpretation
0.00 to + 0.10	No correlation
+0.11 to +0.25	Negligible correlation
+0.26 to +0.50	Moderate correlation
+0.51 to +0.75	High correlation
+0.76 to +1.00	Very high/perfect positive correlation

3. Results

Table 2

Common food Intake of respondent when taken as a whole

Food Intake	Total	Average	Ranks
Rice	297	49.29	1
Bread	67	9.57	2
Chicken	55	7.86	3
Banana	41	5.86	4
Egg	41	5.86	5
Fish	39	5.57	6
Porkchop	36	5.14	7
Juice	29	4.14	8
Milk	27	3.86	9
Soft drinks	27	3.86	10
Beef	24	3.43	11
Hotdog	23	3.29	12
Tea	23	3.29	12
Biscuits	21	3	13
Coffee	21	3	13
Junk Food	19	2.71	14
Lumpia	16	2.29	15
Chocolate	16	2.29	15
Adobo	16	2.29	15
Soup	14	2	16
Pancit	13	1.86	17
Siomai	11	1.57	18
Sandwiches	10	1.11	19
Fries	10	1.11	19
Laswa	9	1.29	20
Chicken Tinola	9	1.29	20
Ice Cream	8	1.28	21
Noodles	8	1.28	21

Cookies	7	1	22
Chopsuey	6	0.87	23
Waffle	6	0.86	23
Siopao	5	0.71	24
Isaw	5	1.67	24
Pizza	5	1.67	24
Lansones	5	1.67	24
Tuna	4	0.57	25
Tocino	4	0.57	25
Meat loaf	4	0.57	25
Isaw	4	0.57	25
Camote	4	0.57	25
Yakult	4	0.57	25
Pasta	4	0.57	25
Coco milk	4	0.57	25
Pork barbeque	4	0.57	25
Eggplant	4	0.57	25
Menudo	3	0.43	26
Tabala	3	0.43	26
Sisig	3	0.43	26
Spaghetti	3	0.43	26
Bacon	3	0.43	26
Monggo	3	0.43	26
Cake	3	0.43	26
Chorizo	3	0.43	26
Bacon	3	0.43	26
Chicken curry	3	0.43	26
Palabok	3	0.43	26
Embutido	3	0.43	26
Veggies	3	0.43	26
Chicken Inasal	3	0.43	26
Apple	3	0.43	26
Peanut butter	3	0.43	26
Dinuguan	2	0.29	27
Chicharon	2	0.29	27
Cheese	2	0.29	27
Batchoy	2	0.29	27
Milo	2	0.29	27
Arroz Caldo	2	0.29	27
Suman	2	0.29	27
Tambo	2	0.29	27
Paksiw	2	0.29	27
Cupcake	2	0.29	27
Sausage	2	0.29	27
Bicol express	2	0.29	27
Sinigang	2	0.29	27
Monggo	2	0.29	27
Fishball	2	0.29	27
Sarsiado	1	0.14	28
Pinakbet	1	0.14	28
Butterscotch	1	0.14	28
Papaya	1	0.14	28
Tapa	1	0.14	28
Kimbab	1	0.14	28
Ham	1	0.14	28

Caramel frapper	1	0.14	28
Pancit molo	1	0.14	28
Afritada	1	0.14	28
Buko pie	1	0.14	28
Oatmeal	1	0.14	28
Kawali	1	0.14	28
Okra	1	0.14	28
Pochero	1	0.14	28
Lomi	1	0.14	28
Orange	1	0.14	28
Barnuts	1	0.14	28
Munchkin	1	0.14	28
Pinangat	1	0.14	28
Chuckie	1	0.14	28
Puto	1	0.14	28
Donut	1	0.14	28
Hopia	1	0.14	28
Corn	1	0.14	28
Shrimp paste	1	0.14	28
Pastillas	1	0.14	28
Cassava cake	1	0.14	28
Sea weeds	1	0.14	28
Green peas	1	0.14	28
Redhorse	1	0.14	28
Chili con carne	1	0.14	28
Tapa	1	0.14	28
Paksiw	1	0.14	28
Shawarma	1	0.14	28
Buko salad	1	0.14	28
Rambutan	1	0.14	28
Bean	1	0.14	28
Calamares	1	0.14	28
Salted peanut	1	0.14	28
Longganisa	1	0.14	28
Peanut brittle	1	0.14	28
Chicken Cordon Bleue	1	0.14	28

The above data shows different food intakes, which reveals that rice is the most eaten food among the nutrition and dietetics students, and it is the most common source of calories for the said respondents. In a week, there are a total of 297 pieces of rice eaten by the respondents, with an average of 49.29. Second in rank is bread, with a total consumption of 67 and an average of 9.57. Next is chicken, with a total number of 55 consumptions and an average of 7.86 consumptions, which makes chicken the 3rd rank. Then followed bananas, with a total of 41 consumption and an average of 5.86 consumption, leading to the 4th rank. For the 5th rank is fish, with a total of 39 consumptions and an average of 5. Agoncillo [12] explains the abundance of rice was already part of economic life during the pre-colonial days and was not much different from what is found today. The daily food consisted of rice, which is part of the daily mainstay for the entire country, together with boiled fish, of which there is an abundance. He added that the daily food consisted of rice, which is part of the daily mainstay for the entire country, together with boiled fish, of which there is an abundance. A recent study conducted by Litonjua and Beltran [13] found that rice is the main and most eaten food in the Philippines, deeply engrained in the traditions and daily activities of the Filipinos, and because Filipinos are one of the largest consumers of rice in the world, rice is eaten in almost every meal.

Another common food in the Philippines is bread, which was introduced by the Spanish during the Spanish colonization of the Philippines. It became a common breakfast food and became part of the daily eating activities of the Filipinos [14]. Aside from breakfast, it is also eaten as a snack due to its suitability, availability, and convenience. Chicken is a national, regional, and personal preferred food in the Philippines, especially the ever-popular Chicken Adobo, which is informally revered as a national dish and a well-sought food in many houses. Aside from that, chicken is less costly as compared to other meats in the Philippines, and due to its culinary flexibility, it can be cooked in various ways, like grilled (inasal), fried, etc. The abundance of bananas anywhere on the islands of the Philippines is undeniable, and it is for the same reason why Filipinos love to eat bananas. Aside from that, it is cheaper but nutritious, and it can be cooked and eaten in various ways, such as banana cue, turon, and sab-a [15]. Lastly, there is fish, which is equally abundant in the Philippines because it is composed of many islands and surrounded by a huge body of water that is abundant in fish and other marine resources. Its versatility is undeniable, as it can be fried, grilled (inihaw), or made into sour soup (sinigang) and is a good source of protein and other nutrients [16]. It has been explained by Balisacan [17] that economic factors play a vital role in ascertaining the food intake of the Filipinos, which is why rice and bananas hold the highest consumption due to their availability, which is nutritious and cheap, making them one of the main foods among Filipinos. It is equally true when it comes to breaks as part of a daily snack or breakfast. It is worth taking note that most Filipinos are poor, so they opt to choose food that they can afford and that is convenient to seek as part of their daily meal. Though chicken and fish are more expensive than the food previously mentioned, they are cheaper than other forms of fish and marine resources, and there are areas in the Philippines where fish is in surplus.

Table 3
The common food intake of the nutrition and dietetics student grouped according to sex

Sex	F	Bread	Rice	Spaghetti
Male	1	0	1	0
Female	22	1	20	1
Total	23	1	21	1

Table 3 shows the common food intake in accordance with sex, which reveals that there was 1 male respondent, which shows that males ate a total of 1 quantity of rice while females ate a total of 1 quantity of bread, 20 quantities of rice, and 1 quantity of spaghetti. In total, both ate 1 quantity of bread, 21 quantities of rice, and 1 quantity of spaghetti.

Table 4
The common food intake of the nutrition and dietetics student grouped according to socio-economic status

Socio-Economic Status	F	Bread	Rice	Spaghetti
Class C	4	0	3	1
Class D	6	0	6	0
Class E	12	1	12	0
Total	23	1	21	1

Table 4 shows the different classifications of socio-economic status with consideration for common food intake. For Class C, which has a total of 4 respondents, the most common foods eaten are rice with a quantity of 3 and spaghetti with a quantity of 1. In class D, which has a total of 6 respondents, the most common food eaten is rice, with a quantity of 6. Lastly, Class C has the highest

number of respondents, with a total of 12 respondents, whose common foods eaten are bread with a quantity of 1 and rice with a quantity of 12.

Table 5
The common food intake of the nutrition dietetics student group according to year level

Year Level	F	Bread	Rice	Spaghetti
Second	11	1	9	1
Third	6	0	6	0
Fourth	6	0	6	0
Total	23	1	21	1

Table 5 shows the different year levels of the respondents, taking into consideration their common food intake. Second-year respondents have a total of 11, and the data reveals that the respondents' common food intake was 1 quantity of bread, 9 quantities of rice, and 1 quantity of spaghetti. Then, in the third year, with a total of six respondents, the data shows that the common food intake was six quantities of rice. Lastly, the fourth has a total number of 6 respondents, in which the data reveals that the respondent's common food intake is rice, with a total quantity of 6. Both third- and fourth-year students have the same food and quantity intake. Tables 3–5 show that rice is part of economic life and has continuous relevance as a staple food in the Philippines, and Filipinos are one of the largest consumers of rice in the world [18,19]. That is why it holds the highest consumption. Bread is also a common food, and it became a common breakfast food and became part of the daily eating activities of the Filipinos [20]. Spaghetti is an equally popular Filipino dish that is widely available among fast food chains, and it has a localized taste that suits the preferences of Filipinos. They are cheaper, faster, and taste better than those made in a normal household. It has been explained by Balisacan [17] that financial and resource factors play a vital role in determining the food intake of Filipinos, which is why rice, bread, and spaghetti hold the highest consumption due to their availability and cheap price, making them one of the main foods among Filipinos. It is equally true when it comes to breaks as part of a daily snack or breakfast. It is worth taking note that most Filipinos are poor, so they opt to choose food that they can afford and that is convenient to seek as part of their daily meal.

Table 6
Average Food Intake according to year level

Year Level	N	Mean	Standard Deviation	Interpretation
Second	11	1895.70	402.85	Normal/No Significant Difference
Third	6	2013.99	276.79	Normal/No Significant Difference
Fourth	6	1966.55	408.54	Normal/No Significant Difference
Total	23	1944.78	362.96	Normal/No Significant Difference

The above data show the average food intake according to year level. For the second year, there are 11 total number of respondents with a mean of 1895.70 and a standard deviation. Deviation = 402.85, and the interpretation is normal with no significant difference. Then the third year, which has a total number of 6 respondents with a mean of 2013.99 and a standard deviation of 0.89. Deviation = 276.79, and the interpretation is normal with no significant difference. Next is the fourth year, which has a total of six respondents with a mean of 1966.55 std. Deviation = 408.54, and the interpretation is normal with no significant difference. As a total among the year levels, there are 23 total number of respondents with Mean = 1944.78, Std. Deviation = 362.96, and the interpretation is normal with no significant difference.

Table 7
Average food Intake according to sex

Sex	N	Mean	Standard Deviation	Interpretation
Male	1	1934.57		Normal/No Significant Difference
Female	22	1945.25	371.49	Normal/No Significant Difference
Total	23	1944.78	362.96	Normal/No Significant Difference

The above data show the average food intake according to sex. For male respondents, there is a total number of 1 respondent with a mean of 1934.54, and the interpretation is normal with no significant difference. Then the female respondents, who have a total number of 22 respondents with a mean of 1945.25 and a standard deviation of 10.25. Deviation = 371.49, and the interpretation is normal with no significant difference. As a total among the sex, there are 23 total number of respondents with Mean = 1944.78, Std. Deviation = 362.96, and the interpretation is normal with no significant difference.

Table 8
Average Food Intake according to socio-economic status

Socio-economic Status	N	Mean	Standard Deviation	Interpretation
Class C	4	2053.37	588.25	Normal/No Significant Difference
Class D	6	2025.53	155.75	Normal/No Significant Difference
Class E	13	1874.10	353.73	Normal/No Significant Difference
Total	23	1944.78	362.96	Normal/No Significant Difference

The table shows the average food intake according to socio-economic status. For class C who have a 4 total number of respondents with Mean = 2053.37, Std. Deviation = 588.25, and the interpretation is normal with no significant difference. Then there's Class D, which has a total number of 6 respondents with a mean of 2025.53 and a standard deviation of 1. Deviation = 155.75, and the interpretation is normal with no significant difference. Next, the Class E who have a 13 total number of respondents with Mean = 1874.10, Std. Deviation = 353.73, and the interpretation is normal with no significant difference. As a total among the socio-economic status, there are 23 total number of respondents with Mean = 1944.78, Std. Deviation = 362.96, and the interpretation is normal with no significant difference. Table 6-8 shows that the respondents' average food intake regardless of sex, year level, and socio-economic status consumed the normal daily calorie intake of individuals, ranging from 1800 to 2400 kcal, which is construed as the above table showing that average food intake and year level are all normal. Moreover, Williams [21] supported a total daily intake of 1800–2400 calories, which is the recommended daily caloric intake. The amount of food intake can be converted into calories in order to measure energy. In human nutrition, the gram of calorie is the main expression of energy, and it represents thermal or heat energy, which may be equated to other forms of energy that can be used by the human body.

The normal food intakes among Filipinos are a by-product of several factors, such as tradition and culture, environment and economic resources, and daily nourishment needs, and could be the general reason for the lack of variation in the average food intake among Filipinos regardless of sex, socio-economic status, and year level, showing similar consumption across socio-demographic profiles. Food, especially when served on the table, is significant among Filipino family members and guests if it is a big celebration where they are having a social gathering and communicating, forming connections, or rekindling relationships among family and friends. The foods that are usually served in the gathering (in the Philippines, they have fiestas for bigger celebrations) are rice, bread, chicken, fish, bananas, and spaghetti, which are part of the widely available livestock and food as well as the

gastronomic culture in the Philippines and hold a traditional value among Filipinos in their continuous consumption. Litonjua and Beltran [13] found that rice came first and holds the highest and most irrefutable importance in every Filipino gathering and is the reigning foundation of every Filipino meal. Added, breakfast holds significant importance, but not as much as rice, as a cornerstone influences the food intake among Filipinos, especially during breakfast and snacks [14].

The basic consumption in the Philippines leads to an average intake among Filipinos. The lack of variation among males and females in their respective food intake can be attributed to the primary food sources, such as rice, bread, fish, chicken, bananas, and spaghetti, that are commonly consumed in the country. According to Gibson [22], staple foods in a society are indispensable and, thereby, need to be satisfactorily eaten across sexes, which eventually became their norm. It is the same with their socio-economic status; specifically, both the usual and celebratory dishes established their place in the diets of all economic groups and became part of their dietary patterns [23].

Table 9
Common aggressive behavior among nutrition dietetics students when taken as whole

Aggressive Behavior	Total	Average	Rank
Ignoring	37	7.4	1
Eye-rolling	29	5.8	2
Gossiping	26	5.2	3
Jealousy	21	4.2	4
Name-calling	18	3.6	5
Direct anger toward others	15	3	6
Exclusivity	14	2.8	7
Social Exclusion	12	2.4	8
Intimacy	12	2.4	8
Direct anger toward themselves	11	2.2	9
Disdaintful facial expression	10	1.6	10
Rumor Spreading	10	1.6	11
Mean-spirited teasing	7	1.4	12
Threating to disclose personal information	5	1	12
Cursing	6	1	12
Engage in physical fighting	3	0.6	13
Character-defamation	2	0.4	14
Taunting	1	0.2	15
Threatening to end friendship	1	0.2	15

The above data shows the rank of the common aggressive behavior exposed by nutrition and dietetics students when taken as a whole. Data reveals that ignoring is the most common aggressive behavior exposed, with a total of 37 and an average of 7.4. Then followed by eye rolling as the 2nd rank, with a total of 29 and an average of 5.8. The 3rd rank is gossiping, with a total of 26 and an average of 5.2. Then, for the 4th rank, there is jealousy, with a total of 21 and an average of 4.2. The 5th rank is name-calling, with a total of 18 and an average of 3.6. The 6th rank is direct anger toward others, with a total of 15 and an average of 3. The 7th rank is exclusivity, with a total of 14 and an average of 2.8. The 8th rank is social exclusion, with a total of 12 and an average of 2.4, and intimacy, with a total of 12 and an average of 2.4. The 9th rank is direct anger toward themselves, with a total of 11 and an average of 2.2. The 10th rank is disdainful facial expression, with a total of 10 and an average of 1.6, and rumor spreading, with a total of 10 and an average of 1.6. The 11th rank is mean-spirited teasing, with a total of 7 and an average of 1.4. The 12th rank is threatening to disclose personal information with a total of 5 and an average of 1, mean-spirited teasing, with a total of 5

and an average of 1, and cursing, with a total of 5 and an average of 1. For the 13th rank, engage in physical fighting with a total of 3 and an average of 0.6. The 14th rank is character defamation, with a total of 2 and an average of 0.4. Lastly, for the 15th rank, taunting has a total of 1 and an average of 0.2, and threatening to end friendship has a total of 1 and an average of 0.2.

Table 10
Aggressive behavior exposed of the nutrition dietetics student group according to sex

Sex	F	Social Exclusion	Collusion	Gossiping
Male	1	2	0	1
Female	22	12	0	26
Total	23	14	0	27

Sex	F	Rumor Spreading	Intimacy	Name-calling
Male	1	0	0	2
Female	22	6	13	18
Total	23	6	13	20

Sex	F	Ostacism	Threatening to end valuable friendship	Exclusivity
Male	1	0	0	0
Female	22	0	2	12
Total	23	0	2	12

Sex	F	Character-Defamation	Jealousy	Threatening to disclose personal information
Male	1	0	0	0
Female	22	0	2	2
Total	23	0	2	2

Sex	F	Mean spirited teasing	Eye-Rolling	Disdainful facial expression
Male	1	0	1	1
Female	22	6	33	10
Total	23	6	34	11

Sex	F	Engage in Physical Fighting	Carrying of deadly weapons	Direct anger toward themselves
Male	1	0	0	0
Female	22	5	2	12
Total	23	5	2	12

Sex	F	Direct anger toward others	Ignoring
Male	1	0	3
Female	22	18	49
Total	23	18	52

Table 10 represents the aggressive behavior exposed by the nutrition and dietetics student group according to sex. Among the sexes, there was a total of 1 respondent for males and a total of 22 respondents for females. In males, ignoring is the most common aggressive behavior, experienced three times, followed by exclusion and name-calling two times, followed by jealousy, disdainful facial expressions, eye rolling, and gossiping once. Among females, the most common aggressive behavior exposed is ignoring, with 49 times exposure, followed by eye rolling for 33 times exposure, then

gossiping for 26 times exposure, followed by name-calling and direct anger toward others, which are tied with 18 times exposure, and then by intimacy, direct anger towards themselves, exclusivity, social exclusion, disdainful facial expression, physical fighting, rumor-spreading, threatening to end valuable friendship, and carrying deadly weapons. In total, ignoring tops the list with a total of 52 times, followed by eye rolling with a total of 34 times, then gossiping with a total of 27 times, then by jealousy with 23 times, name-calling with 20 times, direct anger towards others with 18 times, social exclusion with 14 times, intimacy with 13 times, exclusivity with 12 times, disdainful facial expression with 11 times, rumor spreading with 6 times, mean-spirited teasing with 6 times, physical fighting with 5 times, character defamation with 3 times, threatening to end valuable friendship with 2 times, and lastly, carrying deadly weapons with 2 times. All of the exposed aggressive behaviors are for 5 days.

Table 11
Aggressive behavior exposed of the nutrition dietetics student group according to socio-economic status

SES	F	Social Exclusion	Collusion	Gossiping
Class C	4	3	0	3
Class D	6	5	0	4
Class E	12	3	0	12
Total	23	11	0	19

Sex	F	Rumor Spreading	Intimacy	Name-calling
Class C	4	1	0	12
Class D	6	1	2	5
Class E	12	5	8	10
Total	23	7	10	17

Sex	F	Ostracism	Threatening to end valuable friendship	Exclusivity
Class C	4	0	0	0
Class D	6	0	1	1
Class E	12	0	1	8
Total	23	0	2	9

Sex	F	Character-Defamation	Jealousy	Threatening to disclose personal information
Class C	4	0	1	0
Class D	6	0	3	4
Class E	12	3	12	1
Total	23	3	16	5

Sex	F	Mean spirited teasing	Eye-Rolling	Disdainful facial expression
Class C	4	1	1	1
Class D	6	1	10	1
Class E	12	4	8	8
Total	23	6	19	10

Sex	F	Engage in Physical Fighting	Carrying of deadly weapons	Direct anger toward themselves
Class C	4	0	0	0
Class D	6	1	1	2
Class E	12	3	0	8
Total	23	4	1	10

Sex	F	Direct anger toward others	Ignoring
Class C	4	0	3
Class D	6	6	11
Class E	12	6	18
Total	23	12	32

Table 11 presents the aggressive behavior exposed by the nutrition and dietetics student group according to socio-economic status. Among the respondents, there are 4 respondents for Class C, 6 respondents for Class D, and 12 respondents for Class E. In Class C, ignoring, gossiping, and social exclusion top the list with 3 times exposed, followed by name-calling with 2 times exposed, and then by rumor-spreading, jealousy, mean-spirited teasing, eye rolling, and disdainful facial expression with 1 time exposed individually. In Class D, ignoring tops the list with 11 times exposed, followed by eye rolling with 10 times exposed, then exclusivity with 8 times exposed, then direct anger towards others with 6 times exposed, then social exclusion with 5 times exposed, gossiping with 4 times exposed, jealousy with 3 times exposed, intimacy, name-calling, direct anger towards themselves with 2 times exposed, and rumor-spreading, threatening to end valuable friendship, threatening to disclose personal information, mean-spirited teasing, disdainful facial expression, engaging in physical fighting, and carrying of deadly weapons with 1 time exposed individually.

In Class E, ignoring tops the list with 18 times exposed, followed by gossiping and jealousy with 12 times exposed, then by name-calling with 10 times exposed; eye rolling, intimacy, direct anger towards themselves, and disdainful facial expression with 8 times exposed; direct anger towards others with 6 times exposed; rumor-spreading with 5 times exposed; mean-spirited teasing with 4 times exposed; social exclusion; engaging in physical fighting; character defamation with 3 times exposed; and threatening to end valuable friendship, exclusivity, and threatening to disclose personal information with one time exposed individually. As a total, ignoring tops the list with a total of 32 times exposed, seconded by gossiping and eye rolling with a total of 19 times exposed, then by name-calling with a total of 17 times exposed, jealousy with a total of 16 times exposed, direct anger towards others with a total of 12 times exposed, social exclusion with a total of 11 times exposed, disdainful facial expression, direct anger towards themselves, intimacy with a total of 10 times exposed, exclusivity with a total 9 times exposed, rumor- spreading with a total of 7 times exposed, mean spirited teasing a total of 6 exposed, threatening to disclose personal information with a total of 5 times exposed, engage in physical fighting with a total of 4 times exposed, character-defamation with a total of 3 times exposed, threatening to end valuable friendship with a total of 2 times exposed, and carrying of deadly weapons a total of 1 exposed. All exposed are in 5 days.

Table 12
Aggressive behavior exposed of the nutrition dietetics student group according to year level economic status

Year Level	F	Social Exclusion	Collusion	Gossiping
2nd	11	7	0	15
3rd	6	1	0	7
4th	6	6	0	5
Total	23	14	0	27

Sex	F	Rumor Spreading	Intimacy	Name-calling
Year Level	F	3	9	9
2nd	11	3	1	8
3rd	6	2	3	5
4th	6	8	12	22

Year Level	F	Ostracism	Threatening to end valuable friendship	Exclusivity
2nd	11	0	0	5
3rd	6	0	1	2
4th	6	0	1	5
Total	23	0	2	12

Year Level	F	Character-Defamation	Jealousy	Threatening to disclose personal information
2nd	11	0	13	5
3rd	6	2	7	0
4th	6	2	3	0
Total	23	4	26	5

Year Level	F	Mean spirited teasing	Eye-Rolling	Disdainful facial expression
2nd	11	4	13	9
3rd	6	0	9	1
4th	6	2	12	1
Total	23	6	32	11

Year Level	F	Engage in Physical Fighting	Carrying of deadly weapons	Direct anger toward themselves
2nd	11	2	0	4
3rd	6	0	1	3
4th	6	1	1	3
Total	23	3	2	10

Year Level	F	Direct anger toward others	Ignoring
2nd	11	9	21
3rd	6	4	7
4th	6	5	15
Total	23	18	43

Table 12 represents the aggressive behavior exposed by the nutrition and dietetics student group according to year level. There are a total of 12 respondents for the 2nd year, a total of 6 respondents for the 3rd year, and 6 respondents for the 4th year. Among second-year students, ignoring tops the list with 21 times exposed, followed by gossiping with 15 times exposed, followed by eye rolling and jealousy with 13 times exposed, then by intimacy, name-calling, disdainful facial expression, and direct anger towards others with 9 times exposed, then by social exclusion with 7 times exposed, exclusivity with 5 times exposed, direct anger towards themselves with 4 times exposed, rumor spreading with 3 times exposed, and engaging in physical fighting with 2 times exposed. Among third-year students, eye rolling tops the list with 9 times exposed, followed by ignoring, gossiping, and jealousy with 7 times exposed, followed by name-calling and threatening to disclose personal information with 5 times exposed, then by mean-spirited teasing and direct anger towards others with 4 times exposed, then by rumor spreading and direct anger towards themselves with 3 times

exposed, intimacy, exclusivity, and character defamation with 2 times exposed, and lastly, social exclusion, threatening to end valuable friendship, disdainful facial expression, and carrying of deadly weapons with one time individually.

Among fourth-year students, ignoring tops the list with a total of 15 times exposed, followed by eye rolling with 12 times exposed, followed by name-calling with 8 times exposed, then social exclusion with 6 times exposed, gossiping, exclusivity, and direct anger towards others with 5 times exposed, then jealousy and direct anger towards themselves with 3 times exposed, engaging in physical fighting, rumor spreading, character defamation, and mean-spirited teasing with 2 times exposed, and disdainful facial expression, intimacy, threatening to end valuable friendship, and carrying of deadly weapons with 1 time exposed individually. As a total, ignoring tops the list with a total of 43 times exposed, seconded by eye rolling with a total of 32 times exposed, then by gossiping with a total of 27 times exposed, followed by jealousy with a total of 23 times, name-calling with a total of 22 times exposed, direct anger towards others with a total of 18 times exposed, social exclusion with a total of 14 times exposed, exclusivity with a total of 12 times exposed, intimacy with a total of 12 times exposed, disdainful facial expression with a total of 11 times exposed, direct anger towards themselves with a total of 10 times exposed, rumor spreading with a total of 8 times exposed, mean spirited teasing with a total of 6 times exposed, threatening to disclose personal information with a total of 5 times exposed, character-defamation with a total of 4 times exposed, engage in physical fighting with a total of 3 times exposed, carrying of deadly weapons with a total of 2 exposed and lastly, threatening to end valuable friendship with a 1 times exposed.

All of the exposed aggressive behaviors are for 5 days. The manifestations of aggressive behavior exhibit varying shapes, from direct or physical aggression to indirect or subtle relational aggression. The top five specific behaviors—ignoring, eye rolling, gossiping, jealousy, and name-calling, as shown in Tables 9–12—are less harmful but capable of resulting in emotional and mental distress as well as social issues. The aggressive behavior exposed above was explained by Meichenbaum [12], where the variation of aggressive behavior between males and females, laying down its purpose in the social context, explained that males and females participate in relational aggression, but it is the females who are more likely to utilize indirect, social, and verbal forms of aggression, specifically character defamation, collusion, gossiping, mean-spirited teasing, name-calling, ostracism, rumor spreading, social exclusion, threatening to disclose personal information, and threatening to end valuable friendships. The manifestation of relational aggression revolves around machination or influencing the view of other people towards you, and it is common regardless of sex. Teenage girls tend to be more verbally aggressive than adults.

The relationship between highly aggressive girls includes exclusive closeness and protectiveness, while boys act on impulse as aggressive behavior. Indirect aggression, such as disdainful facial expressions, ignoring, and eye rolling, is more likely to occur among girls than boys, while boys are more likely to be involved in brawling, which includes carrying deadly weapons and especially participating in violent acts, than girls. Ignoring came out on top of the different types of indirect or relational aggression because it is the easiest way to exclude someone by avoiding them in the social circle, and it causes distress to the person receiving it [17]. The customs and morals are influential factors in shaping the occurrence of aggressive behavior. Most of the society frowns upon direct confrontation; as a result, people devise ways to adjust and adapt to subtle types of aggression [18], and it is commonly through indirect, subtle, relational aggression such as behaviors as ignoring, eye rolling, and gossiping, which is less consequential than violence and discrimination but permits the transgressor to mcollove around the social rank [19]. Another factor in the manifestation of these aggressive behaviors is socialization, where young individuals learn it through interaction with people in society, and eventually, it becomes part of their behavior or mechanism towards a certain

situation. Crick and Grotpeter [24] explain that children learn the aforementioned indirect, subtle, relational aggression as a mechanism to achieve what they want and to triumph in difficult social situations. Even the media normalize this kind of action, which strengthens the belief of children, particularly older individuals, that it is an effective and acceptable means to achieve a goal [25]. In the difference between sexes, Archer [26] explains that gossiping and jealousy are the most common manifestations of aggressive behavior among females, while males are more inclined to engage in physical aggression. This is attributed to the learned behavior and reinforced practices in society among males and females as a form of accepted expression of aggression [27].

Table 13
Relationship between aggressive behavior and food intake

		Aggressive Behavior	Average Food Intake	Interpretation
Aggressive Behavior	Pearson Correlation	1	0.11	Not Significant
	Sig. (2-tailed)		0.960	
	N	23	23	
Average Food Intake	Pearson Correlation	0.11	1	Not Significant
	Sig. (2-tailed)	0.960		
	N	23	23	

The above table represents the correlation between aggressive behavior and average food intake (Pearson R correlation), in which the data show that there is no significant difference between food intake and aggressive behavior.

Table 14
Relationship between food intake and aggressive behavior

		Aggressive Behavior	Average Food Intake	Interpretation
Aggressive Behavior	Pearson Correlation	1	0.164	Not Significant
	Sig. (2-tailed)		0.455	
	N	23	23	
Average Food Intake	Pearson Correlation	0.164	1	Not Significant
	Sig. (2-tailed)	0.455		
	N	23	23	

The above table represents the correlation between aggressive behavior and average food intake (Pearson R correlation), in which the data show that there is no significant difference between food intake and aggressive behavior. When food intakes are satisfied, new needs emerge, and so on. This is what we mean by saying that the basic human needs are organized into a hierarchy of relative prepotency [3]. In relation to this study, the theory of motivation of Abraham Maslow reiterates that the initial doorway to a person's other needs is the fulfillment or sufficiency of the basic need or the physiological needs of the person, specifically the satisfaction of their consummatory behavior. If the consummatory behavior of the person is satisfactorily achieved, the other doors or higher levels of the person's needs will open and become impossible to fulfill. As a result, the person will not exhibit aggressive behavior, which will be a defense mechanism of the body's physiological structure, and that person's behavior will not be driven anymore by their hunger and thirst for edible substances because food intake is normal, which substantiates the proper needs of the body. But as a result of the different results, the respondents fulfill the normal daily calorie intake of individuals, which ranges from 1800 to 2400 kcal daily [2,20] but it is also evident that such aggression is manifest, showing a low relationship between food intake and aggressive behavior, as shown in Tables 13–14. It only shows that the result of the study does not support the claim of Maslow about food intake

and aggressive behavior. There is a possible explanation for the low relationship: such aggressive behavior is not only influenced by food intake but also by my genes and social environment, and it can be interpreted that the impact of food intake on aggression is not huge enough to dominate other factors. It can also be interpreted as the need to recalibrate the accuracy of food intake measurement and aggressive behavior documentation, as the self-reported food intake is possibly affected by their lack of focus on the kind of food they ate or an influence of social desirability bias [28]. The same possible problem might occur in self-reported aggressive behavior, with its own limitations and biases, a possible threat to the measurement [29]. Individualism can also be at play, particularly the variation of their physiological health, emotional and mental strength, and capability to exhibit aggression, which is a possible mediator between food intake and aggressive behavior predisposition, with the presumption that people with emotional and mental strength will be less likely to be affected by the effects of food intake and aggressive behavior, or people who are emotionally and mentally weak will be more likely to be affected by the effects of food intake and aggressive behaviour [30]. Another possible factor is their respective environment, specifically the kind of family they belong to, friends, and other social institutions that are crucial in learning the science of food intake and the consequences of aggression [31]. Lastly, there is nourishment, where reports are not the same when the studies are replicated [7].

4. Conclusion

In view of the findings of this investigation, the following conclusions were drawn: The nutrition and dietetics students' daily and average food intake were "normal." This suggests that nutrition and dietetic students recognized the importance of proper eating, regardless of their age, religion, sex, socio-economic status, and year level. They could have the same knowledge and insights from this food intake but be aggressive in the thought that they have already encountered it before or studied it in one of their subjects. They may have enjoyed eating rice, which is the most common food eaten, and habitually ignored it, which is the most common aggressive behavior exposed. They performed similarly with the same food intake and proper daily calorie intake through the orientation, expectation, and coverage of the academic program, and they performed similarly with the same aggressive behavior exposed despite the fact that food intake and daily calorie intake were normal. Rice and ignoring have always been among the foods eaten and aggressive behaviors exposed. If it is well managed, it provides a wholesome personality, attracts future clientele, incurs trust and improved personality and behavior, and establishes and promotes mutual understanding that would result in a harmonious relationship between the people involved. Lastly, all results in this study are only applicable to this group of nutrition and dietetics students and, thus, cannot be generalized to all. In view of the aforementioned findings and conclusions, the following recommendations are advanced: (1) The various universities, through the administration, can achieve an increased level of awareness between the various colleges and departments in terms of achieving aims and objectives of personality development and providing food programs and activities. Ensuring the existence of personality development and food programs and activities will promote skills within the organization and implement an effective assessment/review system in terms of improving the quality of the university's personality development and food-related programs and activities. (2) Lastly, it is highly recommended for future researchers to research the hierarchy of levels of food intake and calorie intake, which consists of below normal, normal, and above normal, which might give a clear picture of the relationship between food intake and aggressive behavior.

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