

Exposure to Health-Related Content on Social Media and Its Effect on Millennials' Perception and Consumption of Red Rice

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ABSTRACT

Rice is a staple in the Filipino diet, but its high consumption, particularly of white rice, has contributed to rising obesity rates and health concerns in the country. As a result, there is a growing interest in alternative rice varieties, such as red rice, which offer nutritional benefits, and a rising trend among young Filipino adults. This shift is primarily driven by social media, where young adults seek out health-related information about red rice. Thus, the research aims to determine how exposure to health-related content on social media affects Millennials' perceptions of the health benefits, taste, and affordability of red rice, as well as their consumption behavior. A mixed-method research design was used, combining quantitative surveys (n=106) among Millennials in Nueva Ecija and qualitative interviews with five (5) consumers and a restaurant owner offering red rice. Descriptive statistics and correlation analysis were employed to analyze the data. Results indicated that Millennials, especially those aged 31-40, are frequently exposed to health-related content on social media, which positively influences their perceptions of the health benefits and taste of red rice. However, in terms of affordability, it remains a significant barrier, as some respondents note that red rice is more expensive than white rice.

On the other hand, the study reveals a strong correlation

between social media exposure and Millennials' likelihood of consuming red rice. Promoting the health benefits and unique taste of red rice can encourage more frequent consumption despite its higher costs. As affordability remains a key factor limiting its widespread adoption, the study suggests that efforts to make red rice more affordable and accessible, combined with continued social media promotion, could enhance its consumption in the Philippines.

Keywords: Red rice, Health-related contents, Social media, Millennials, Perception, Consumption

INTRODUCTION

Rice is the staple food and a significant source of income for millions of farmers in our country. To achieve food security, particularly in rice, technology development efforts have consistently focused on increasing rice yields. Furthermore, the Philippines is primarily an agricultural country, although it has not been self-sufficient in rice. Our country is currently one of the world's major rice importers (IRRI, n.d.).

According to IRRI, the three main factors influencing rice imports are limited rice land, population growth, and inadequate infrastructure maintenance. Irrigation is not efficient, thus reducing the potential productivity, and transport infrastructure affects the transportation of rice, hindering the rice trade. Nevertheless, other opportunities for rice production continued in the country, especially in Central Luzon, the Philippines' rice granary. Consequently, rice is a central part of the Filipino diet and culture. Most Filipinos are primarily consumers rather than producers of rice. Recent data indicate that the Philippines consumed approximately 16 million metric tons of rice in the 2022/23 marketing year, reflecting a steady increase in consumption over the years (Balita, 2023). Additionally, projections for the 2023/24 marketing year estimate this figure to rise to 16.5 million metric tons, with the Philippines as a key driver in global rice consumption.

The increase in rice consumption among Filipinos, along with other dietary and lifestyle factors, has contributed to the rising rates of obesity in the country. Moreover, Filipinos consume rice in large quantities, often exceeding recommended serving sizes, and may eat it multiple times a day. Based on the latest World Health Organization (WHO) survey, approximately 27 million Filipinos are overweight or obese. The WHO projects that this number will continue to rise, with an estimated 167 million individuals in the Philippines facing health complications related to being overweight or obese by 2025.

Following this, an increasing number of Filipinos are seeking an alternative to white rice. A study conducted by PhilRice, as cited by Romero et al. (2017), found that unpolished pigmented rice varieties, including red rice, contain significantly higher levels of crude protein, fat, fiber, and essential phytochemicals compared to white rice. The research highlighted that the unique pigmentation in rice is attributed to the presence of antioxidants, such as anthocyanins, which are beneficial to health.

In parallel with this growing interest in healthier food options, research by Lim (2022) involving young adults has highlighted their active search for health information through social media platforms. Participants often come across health-related content while scrolling through their social media feeds, particularly on Facebook and YouTube. This demographic tends to trust information from relatable influencers and evaluates credibility based on personal judgment and cross-referencing multiple sources.

With the growing popularity of pigmented rice, including red rice, in the Philippines, driven by its nutritional superiority over white rice, its consumption remains relatively low. This study aims to bridge this knowledge gap by investigating the relationship between exposure to health-related content on social media about red rice and the consumption of Millennials. Previous research has demonstrated the nutritional advantages of red rice; however, there is a lack of understanding regarding effective communication strategies, particularly in the digital age. By exploring how social media content related to health influences consumers' perceptions and consumption of red rice, this study may help develop

campaigns that effectively promote red rice as a healthier dietary option on digital platforms. Most importantly, to increase the adoption of red rice among Filipinos.

METHODS AND PROCEDURE

Research Design

This study used a mixed-methods research design, incorporating both quantitative and qualitative data collection and analysis. The quantitative component involves collecting numerical data for descriptive and correlational analysis. On the other hand, the qualitative component consists of in-depth interviews with the owners of fast-food chains offering red rice and consumers of red rice. This approach helped researchers delve deeper into millennials' perceptions and consumption of red rice, which numerical data cannot capture, thereby revealing the underlying reasons behind the correlations observed in the data.

Population and Locale of the Study

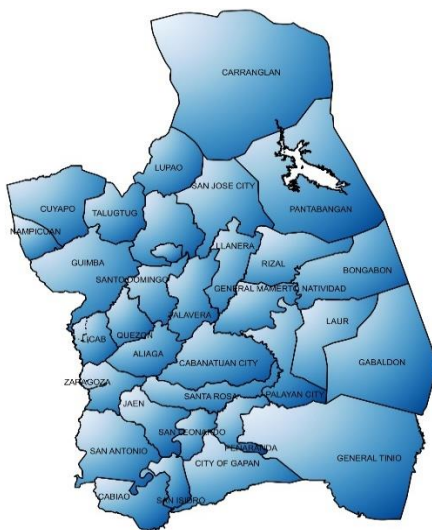


Figure 1. Map of Nueva Ecija

$$n = \frac{NZ^2p(1-p)}{Z^2p(1-p) + e^2(N-1)}$$

The study was conducted in Nueva Ecija, also known as the "Rice Granary of the Philippines," located in the Central Luzon region, with Palayan City serving as its capital. The province

$$n = \frac{NZ^2p(1-p)}{Z^2p(1-p) + e^2(N-1)} = \frac{183,612.20}{1224.53} = 150$$

comprises 27 municipalities, five cities, and 849 barangays. The province has a land area of 5,689.69 square kilometers and a population of 2,310,134, with an equivalent population density of 406 inhabitants per square kilometer, as per the 2020 Census.

Further, millennials are the target respondents of this study, typically defined as individuals aged 28 to 43. Based on the data from PSA in 2020 for the Nueva Ecija population by age group, the total number of millennials is 191,183. Thus, this will serve as the total population of the study.

To compute the sample size, Sample Size Estimation for proportion will be used with the formula:

Where n is the sample size, N is the population size, Z is the 95% confidence interval ($Z=1.96$), e is the margin of error ($e=0.08$), and p is the probability of 50%.

As a result of sample size estimation for proportion, the total number of respondents was 150. These respondents will be selected through purposive sampling. This is to select relevant individuals based on the study's objectives. The respondents were selected using the following criteria: (1) Millennials, born between 1981 and 1996; (2) have tried or consumed red rice; (3) social media users.

Data Collection Instrument

The structured instruments were developed and

administered to respondents. This includes the following parts to answer all the research questions of the study.

- Part 1. Socio-demographic Profile of the Respondents
- Part 2. Social Media Usage and Exposure of the Respondents
- Part 3. Perception towards Red Rice

Prior to the data collection phase, the instrument undergoes a face validity and reliability test to ensure the accuracy and consistency of the variables being measured.

Moreover, guide questions were developed to interview one (1) restaurant owner selling red rice and five (5) consumers of red rice. This aims to collect qualitative data and enhance the results obtained through survey questionnaires.

Data Collection Procedures

The Google Forms link to the instrument was made available online to facilitate data collection in months. The data obtained from respondents served as primary data for in-depth analysis.

Moreover, triangulation was also achieved through qualitative interviews with one restaurant owner selling red rice and five consumers of red rice. This allows the researchers to gather perspectives and experiences related to the perception and consumption of red rice. This aims to enrich the data collected from the Google Forms instrument and relevant literature, adding depth to the research findings.

Data Analysis

Upon completion of data collection, the data was analyzed through recommended statistical tools, such as correlation analysis, specifically Spearman Rank Correlation Coefficient, and Descriptive Statistics such as frequency, percentage, mean, and mode using Microsoft Excel and Statistical Package for Social Science (SPSS) Version 26 at Socio-Economic Research and Data Analytics Center of Central Luzon State University (CLSU)

Furthermore, the results were presented in a stepwise manner to ensure a logical presentation of the research findings.

The data was analyzed using the following:

Table 1. Research questions and data analysis conducted

Research Question	Data Analysis
What is the socio-demographic profile of the respondents?	Descriptive statistics (frequency, percentage, and mean)
What is the extent of exposure of Millennials to health-related content about red rice on social media?	<ul style="list-style-type: none"> • Descriptive statistics (frequency, percentage, mean, and mode) • Likert Scale
What is the perception of Millennials towards red rice?	<ul style="list-style-type: none"> • Descriptive statistics (frequency, percentage, mode) • Likert Scale
How does the extent of exposure to health-related content on social media affect Millennials' perceptions of red rice?	Correlation analysis, specifically Spearman rank correlation
How does the extent of exposure to health-related content on social media affect Millennials' consumption of red rice?	Correlation analysis, specifically Spearman rank correlation

RESULTS AND DISCUSSION

This summarizes the socio-demographic profile of the millennial respondents aged 26-41 years old in Nueva Ecija. Out of 150 questionnaires distributed, 106 were completed and returned, with a response rate of 70.67%.

This response rate is higher and acceptable, as shown in the study by Wu et al. (2022), which reported an average online survey response rate of 44.1% across 1,071 published educational research studies.

Consequently, five (5) consumers who consume red rice and one (1) restaurant owner serving red rice were interviewed to gather qualitative data. The interview results helped triangulate the

survey findings, providing a more in-depth understanding of the data gathered.

Socio-demographic profile

Sex

There are 106 millennial respondents to this survey, comprising 65 females and 41 males.

Age

On average, Millennial respondents in Nueva Ecija were 33.38 years old. Of the 106 respondents, 59.43% were aged 31-40 years old, followed by those aged 30 years old and above, accounting for 33.96%, and lastly, 6.60% were aged 40 years old and above.

Table 1. Sex and age of the respondents.

Profile	Frequency (n=106)	Percent (%)
<i>Sex</i>		
Male	41	38.68
Female	65	61.32
<i>Age</i>		
30 years old and below	36	33.96
31-40 years old	63	59.43
40 years old and above	7	6.60
<i>Mean Age</i>	33.38	

Educational attainment

In terms of the educational attainment of millennial respondents, a high proportion (83.96%) held a Bachelor's degree or higher. There were equal percentages for high school graduates and college undergraduates, at 5.66% each, followed by respondents who had attained postgraduate degrees, at 4.72%.

Table 2. Educational attainment of the respondents.

Highest Educational Attainment	Frequency (n=106)	Percent (%)
High School Graduate	6	5.66
College Undergraduate	6	5.66
College Graduate	89	83.96
Post Graduate	5	4.72

The monthly income of the respondents

Table 3 shows the monthly income distribution of the respondents, with an average income of 30,673. Moreover, 33.96% of the respondents' incomes range from \$30,001 to \$40,000, and 31.13% earn between \$20,001 and \$30,000. A smaller percentage of respondents earn between \$10,001 and \$20,000 (21.70%), while just 5.66% earn \$10,000 or less. Only a few respondents earn between 40,000 and 50,000 per month, which is equivalent to 0.94%. Meanwhile, 6.60% earn 50,001 or more. Thus, the results suggest that most respondents earn in the middle-income range.

Table 3. Monthly income of the respondents.

Monthly Income	Frequency (n=106)	Percent (%)
10,000 and below	6	5.66
10,001 -20,000	23	21.70
20,001-30,000	33	31.13
30,001-40,000	36	33.96
40,001-50,000	1	0.94
50,001 and above	7	6.60
Mean	30,673	

Consumption of Red Rice

Red rice is a type of whole-grain rice characterized by its reddish-brown color, which is attributed to the presence of anthocyanins, antioxidants found in the bran layer of the rice. It is

often considered a healthier alternative to white rice because it retains more of its natural nutrients, including fiber, vitamins, and minerals. Despite these benefits, the consumption of red rice remains low and can vary significantly depending on regional preferences, dietary habits, and availability (Hopio & Delos Reyes, 2019).

Among daily consumers, the majority (13 respondents, 12.26%) consume 1 cup of red rice, followed by nine respondents (8.49%) who consume 3 cups, and six respondents (5.66%) who consume 2 cups. Only one respondent (0.94%) consumes 4 cups of red rice daily. For monthly consumers, the majority also prefer 1 cup (8 respondents, 7.55%), followed by five respondents (4.72%) who consume 2 cups. Just one respondent (0.94%) consumes 3 cups, and no respondent consumes 4 cups or more. Among those who rarely consume red rice, most respondents (47, 44.34%) consume 1 cup, followed by 11 respondents (10.38%) who consume 2 cups, and just one respondent (0.94%) consumes 3 cups. The weekly consumption group is the smallest, with only four respondents (3.77%) consuming 1 cup and no respondents consuming 2 cups or more.

The total consumption indicates that the majority of respondents (72, or 67.92%) consume 1 cup of red rice, followed by 22 respondents (20.75%) who consume 2 cups, 11 respondents (10.38%) who consume 3 cups, and only one respondent (0.94%) who consumes 4 cups.

This consumption trend correlates with respondents' concerns about affordability and dietary habits, as revealed in interviews with consumers. Participants noted that the higher cost of red rice, combined with their regular consumption of white rice, influenced their consumption patterns.

Participant 1 mentioned consuming red rice "*isa o dalawang araw sa isang buwan*" (once or twice a month). Additionally, Participants 4 and 5 mentioned that they rarely consumed red rice due to its higher price and their preference for white rice.

Participant 4: "*Nasubukan kong kumain ng red rice. Dahil may kamahalan, madalang kaming kumain ng red rice*" (I tried red rice, but since it is expensive, we

rarely consume it).

Participant 5: *“Madalang sa isang buwan dahil sanay sa pagkonsumo ng white rice” (It’s rare in a month because I’m used to consuming white rice).*

Participants 2 and 3 noted eating red rice once a week, citing its health benefits as the primary reason.

Table 4. Cross tabulation for the consumption of rice and the amount consumed per meal by the respondents

Particulars	Consumption of red rice				
	Daily	Monthly	Rarely	Weekly	Total
1 cup	13(12.26)	8(7.55)	47(44.34)	4(3.77)	72 (67.92)
2 cups	6(5.66)	5(4.72)	11(10.38)	0(0.00)	22(20.75)
3 cups	9(8.49)	1(0.94)	1(0.94)	0(0.00)	11(10.38)
4 cups and up	1(0.94)	0(0.00)	0(0.00)	0(0.00)	1(0.94)

Table 5 shows the preparation methods used by respondents when consuming red rice. The most common method is boiling, amounting to 71.70% of respondents. On the other hand, 32.08% of respondents prefer to steam their red rice, while 20.75% opt for fried rice. This suggests that boiling is the preferred method of preparation, as it is common among most Filipinos.

This also mirrors the consumer's preparation practices, as revealed in the interview, where respondents generally used traditional cooking methods for red rice, with some exploring alternative preparations.

Participant 1: *“Sinasaing ito o inihahanda ito na katulad ng normal na bigas” (It is cooked like regular rice).*

Participant 5: *“Normal na pagsasaing. Masarap din itong isangag dahil mabuhaghag.” (It is cooked normally and is also suitable for frying because it is fluffy).*

Participant 4 mentioned using red rice to make "champurrado" (a type of rice porridge).

Table 5. Preparation used by respondents when consuming red rice.

Particulars	Frequency (n=106)	Percent (%)
Boiled	76	71.70
Steamed	34	32.08
Fried	22	20.75

Social Media Usage

Table 6 presents the different methods used by respondents to access the Internet. Most respondents (55.66%) used prepaid wi-fi to access the Internet. Mobile data follows closely, with 22.64% of respondents, while postpaid wi-fi has 18.90%. Additionally, a smaller portion, 2.82%, uses other methods, such as LAN, Line Fiber, or a monthly subscription. This data indicates that prepaid wi-fi is the most widely used method of internet access among the respondents, while mobile data also plays a significant role for many.

Table 6. Access to the Internet.

Access to the Internet	Frequency (n=106)	Percent (%)
Prepaid wi-fi	59	55.66
Postpaid wi-fi	20	18.90
Mobile data	24	22.64
Others	3	2.82

Note: Others such as Lan, Line-Fiber, and monthly subscription

Table 7 presents the gadgets used by respondents to access social media. Almost all respondents, at 98.11%, mainly used Android or iOS phones to access social media. Laptops are the second most commonly used gadget, with 49.06% of respondents. Desktop computers and tablets are used by fewer respondents, with 19.81% and 18.87%, respectively.

The result strongly suggests that smartphone ownership has

grown rapidly as digital devices around the globe have become increasingly affordable.

Table 7. Gadgets used

Gadgets used	Frequency (n=106)	Percent (%)
Android phone/IOS	104	98.11
Laptop	52	49.06
Desktop Computer	21	19.81
Tablet	20	18.87

Note: Multiple response

Table 8 revealed the social media platforms used by respondents. The most common platform among the respondents is Facebook, with 97.17%. This was followed by Instagram, with 62.26% of respondents using it, while YouTube and TikTok are both used by 60.38% of respondents. Twitter is used by 43.40%, making it the fifth most popular platform. On the other hand, a small percentage of respondents, 3.77%, use other platforms such as Threads, Reddit, and Pinterest. This data highlights the dominance of Facebook among the respondents, followed by a strong presence of Instagram, YouTube, and TikTok.

This was also cited by Vicencio et al. (2024), who noted that Facebook and YouTube have been the top social media platforms for staying in touch with family and friends, entertainment, and seeking information on health and well-being.

Table 8. Social Media Platforms Used

Social Media Platforms	Frequency (n=106)	Percent (%)
Facebook	103	97.17
Twitter	46	43.40
Instagram	66	62.26
Youtube	64	60.38
Tiktok	64	60.38
Others	4	3.77

Note: Others include Threads, Reddit, and Pinterest.

Table 9 presents the amount of time respondents spend on various social media platforms daily, ranging from Never to Always. As seen in the table, Facebook (FB) has the highest frequency of usage with 43.40% of respondents and a Mode of 5, indicating that they use it "Always." On the other hand, Twitter is the mode 'Never,' suggesting it is the least used platform. Instagram and YouTube both have the "Rarely" mode, meaning most respondents use these platforms infrequently. The mode for TikTok is "Often," showing that it is used regularly but not as frequently as Facebook. Additionally, for Others, it includes social media platforms such as Threads, Reddit, and Pinterest.

Table 9. Amount of time respondents spend daily on various social media platforms.

Social Media Sites	Never 1 n=106 (%)	Rarely 2 n=106(%)	Someti mes 3 n=106(%)	Often 4 n=106 (%)	Alway s 5 n=106 (%)	Mo de	Rema rks
Faceb ook	4(3.77)	12(11. 32)	21(19.8 1)	23(21. 70)	46(43. 40)	5	Alwa ys
Twitte r	36(33. 96)	25(23. 58)	10(9.43)	24(22. 64)	11(10. 38)	1	Never
Instagr am	21(19. 81)	28(26. 42)	21(19.8 1)	23(21. 70)	13(12. 26)	3	Rarel y
YouT ube	12(11. 32)	36(33. 96)	19(17.9 2)	28(26. 42)	11(10. 38)	3	Rarel y
TikTo k	21(19. 81)	22(20. 75)	18(16.9 8)	27(25. 47)	18(16. 98)	4	Often

Exposure to health-related content on social media

Table 10 shows the respondents' exposure to health-related content about red rice on social media. The majority of respondents Strongly Agree (Mode = 5) on Statements 1, 2, 6, 7, and 8, indicating that they frequently come across content related to the health benefits of red rice on their social media platforms. This includes frequent exposure to videos or posts on social media that

highlight the health benefits of red rice, discussions about red rice in health and wellness groups on social media, frequently recommended content about the nutritional benefits of red rice, and posts comparing red rice to other types of rice in terms of health benefits. They also agree (Mode=4) on Statements 3, 4, 5, 9, and 10, indicating moderate exposure and engagement. This includes seeing sponsored ads, posts from influencers, and shares by friends, as well as instances where respondents actively seek or engage with red rice content.

These results indicate that respondents are consistently exposed to health-related content about red rice on social media, with a significant portion of this exposure coming from organic sources such as posts by friends and influencers. Thus, the results indicated that social media serves as a platform for disseminating health-related information about red rice, which can shape perceptions and awareness among users.

On the other hand, based on interviews with consumers, they noted varying exposure to health-related content about red rice, particularly from institutions such as CLSU and social media platforms.

Participants 3 and 4 mentioned that CLSU actively promotes red rice:

Participant 3: *"CLSU, pin promote nila ang red rice" (CLSU promotes red rice).*

Participant 4: *"Pinopromote ng CLSU ang red rice sa pamamagitan ng Techno Village Development Program" (CLSU promotes red rice through the Techno Village Development Program).*

Moreover, Participants 1, 3, and 5 noted that social media exposure increased their awareness of health-related products, including red rice:

"Mas higit na tumataas ang aking kamalayan sa mga produktong may kinalaman sa kalusugan" (It increases my awareness of health-related products).

Table 10. Exposure to health-related content on social media.

STATEMENTS	Mode	Remarks
1. I frequently come across health-related content about red rice while scrolling through my social media newsfeed.	5	Strongly Agree
2. I am frequently exposed to videos or posts on social media that highlight the health benefits of red rice	5	Strongly Agree
3. I have seen sponsored ads on social media promoting the health benefits of red rice.	4	Agree
4. I have seen social media influencers post about the health benefits of red rice.	4	Agree
5. I see friends and acquaintances sharing health-related content about red rice on social media.	4	Agree
6. I frequently encounter discussions about red rice in health and wellness groups on social media.	5	Strongly Agree
7. Social media platforms frequently recommend content about the nutritional benefits of red rice.	5	Strongly Agree
8. My social media feed often includes posts comparing red rice to other types of rice in terms of health benefits.	5	Strongly Agree
9. I actively seek out information about the health benefits of red rice on social media.	4	Agree
10. I have engaged with content related to red rice on social media by liking, sharing, or commenting on it.	4	Agree

Perceptions of Red Rice (health-related benefits, taste, and affordability)

Table 11 presents the respondents' perceptions of red rice, focusing on its health-related benefits, taste, and affordability.

Health-Related Benefits

In terms of health-related benefits, the majority of respondents strongly agree (Mode = 5) with statements on the health advantages of red rice. They perceive red rice as a good source of antioxidants, which can help regulate blood sugar levels and aid in weight management. Additionally, respondents strongly believe that red rice offers significant health benefits compared to white rice, and many consider it a healthier choice due to its nutrient content.

This is supported by the restaurant owner, who notes that customers value red rice primarily for its healthier properties, such as its lower sugar content and higher fiber content. This aligns with the health-conscious trends observed among survey respondents, further confirming that the health benefits of red rice are a significant factor influencing consumption.

Restaurant Owner: *“The fact that it is healthier because it has less sugar and it has more fiber, considering it is half milled.”*

Similarly, consumer interview participants confirmed that health reasons were a significant motivator for choosing red rice over white rice. Participants 1, 2, 3, 4, and 5 consistently highlighted its low sugar content and benefits for health-conscious individuals:

Participant 1: *“Ang red rice ay tincturing na mababa ang glyceemic index” (Red rice is considered to have a low glyceemic index).*

Participants 2, 3, 4, and 5 noted that it is suitable for those monitoring sugar intake, saying red rice is “mababa ang sugar” (low in sugar).

Taste

In terms of taste, respondents consistently expressed a strong preference for red rice, with a Mode of 5 across all statements. They enjoy the unique taste and texture of red rice over white rice. Moreover, the respondents believe red rice complements various dishes well, which indicates a positive perception of its flavor.

The restaurant owner's feedback indicates that customers

appreciate both the texture and taste of red rice and that they also incorporate it into various dishes, such as congee (lugaw), sticky rice balls in coconut milk (ginataang bilo-bilo), and champurrado. This suggests that red rice is valued not only for its health benefits but also for its versatility and culinary appeal to consumers. This also cross-checks the survey responses regarding satisfaction with the texture and taste of red rice among the respondents.

The consumer interviews also provided insights into how red rice compares to white rice in terms of taste and texture. Participants 1, 2, 4, and 5 described red rice as being heavier in the stomach and making them feel full easily. While Participant 3 mentioned that it has a bland taste.

Participant 1: *“Ang red rice ay maalagkit at mabango. Mas makakaramdam ka na mas mabigat ito sa tiyan, ibig sabihin mas madali ka mabusog dito, at mas matagal ka makakaramdam ng gutom” (Red rice is sticky and aromatic. You feel that it’s heavier on the stomach, meaning you get full faster and stay full longer).*

Affordability

On the issue of affordability, respondents exhibit a more varied response. While they remain neutral (Mode = 3) about the affordability of red rice within their grocery budgets, the majority agree (Mode = 5) that red rice is reasonably priced compared to other rice varieties. Furthermore, many respondents are also willing to pay a higher price for red rice due to its health benefits, with several indicating that, despite its high cost, they still consider it a good value for money because of its nutritional advantages.

Moreover, the restaurant owner mentions that the higher price of red rice compared to white rice is a challenge, which supports the survey data that cost is a factor influencing their purchasing decisions. The restaurant owner noted that factors influencing pricing, such as production costs and delivery fees, provide context to the survey's findings regarding consumer price sensitivity.

Restaurant Owner: *“People are appreciating its value more and more over time. So even if it is higher in price compared to white rice, they buy it.”*

These findings suggest that respondents recognize red rice as a valuable choice, both nutritionally and in terms of taste. However, the price aspect remains a consideration, though it does not significantly affect those who value its health benefits.

All respondents agreed that red rice is more expensive than white rice, which limits its consumption:

Participant 5: *"Mahal ang red rice kaya hindi mandalas kumakain nito" (Red rice is expensive, so I do not consume it often).*

Table 11. Perception of Red Rice

STATEMENTS	Mode	Remarks
Health-Related Benefits		
1. Red rice is a good source of antioxidants.	5	Strongly Agree
2. Red rice can help in controlling blood sugar levels.	5	Strongly Agree
3. Consuming red rice can aid in weight management.	5	Strongly Agree
4. I believe that red rice has significant health benefits compared to white rice.	5	Strongly Agree
5. Red rice is a healthier choice due to its nutrient content.	5	Strongly Agree
Taste		
1. Red rice has a unique taste that I enjoy.	5	Strongly Agree
2. The texture of red rice is satisfying.	5	Strongly Agree
3. I prefer the taste of red rice to that of white rice.	5	Strongly Agree
4. Red rice complements a wide range of dishes well.	5	Strongly Agree

- | | | |
|--|---|----------------|
| 5. I prefer the taste of red rice to that of white rice. | 5 | Strongly Agree |
|--|---|----------------|

Affordability

- | | | |
|---|---|----------------|
| 1. I find red rice to be affordable within my grocery budget. | 3 | Neutral |
| 2. Red rice is reasonably priced compared to other rice varieties. | 5 | Strongly Agree |
| 3. I am willing to pay a higher price for red rice due to its health benefits. | 4 | Agree |
| 4. Red rice, despite being pricey, offers good value for money compared to other grains I buy | 5 | Strongly Agree |
| 5. I preferred to spend more on red rice because I value its nutritional advantages | 5 | Strongly Agree |
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Relationship between Exposure to Health-related Content on Social Media and Millennials' Perceptions of Red Rice

Table 12 shows the relationship between exposure to health-related content on social media and Millennials' perceptions of red rice. Health-related benefits, taste, and affordability were correlated with exposure to health-related content on social media.

According to the restaurant owner, promotion plays a key role in increasing the popularity of red rice, primarily through social media platforms. The owner emphasized the importance of consistently promoting red rice to reach a wider audience, for it has an impact on shaping consumer awareness and preferences.

Restaurant Owner: *"It is important to consistently promote [red rice] on social media, reaching more people, especially the young ones who are brainwashed into believing white rice is the best rice."*

The role of social media in shaping consumer perceptions was also discussed in the interviews with consumers. Consumers noted that social media exposure significantly influenced their understanding of the nutritional benefits of red rice.

Participants 2 and 4 stated that social media made it easier to learn about red rice:

“Mas mabilis malaman ang nutritional benefits, kaya nakakaengganyo subukan kahit may kamahalan” (It is easier to learn about the nutritional benefits, which encourages me to try it despite the cost).

Participant 1: *“Dahil sa mga nakikita ko sa social media, mas higit na tumataas ang aking kamalayan sa mga product (red rice) na may kinalaman sa kalusugan” (Because of my exposure to social media, my awareness of health-related products, like red rice, increases).*

Table 12. Relationship between the exposure to health-related content on social media and Millennials' perceptions of red rice.

Perception of Red Rice	Correlation Coefficient	P-value
Health-Related Benefits	0.239*	0.014
Taste	0.360*	0.000
Affordability	0.377*	0.000

* significance at a 5% level of significance

Relationship between exposure to health-related content on social media and Millennials' consumption of red rice

Table 13 shows the relationship between exposure to health-related content on social media and Millennials' consumption of red rice. It revealed a strong positive correlation between exposure to health-related content on social media and rice consumption, with a p-value of 0.000 at a 5% level of significance. This suggests that as Millennials are more frequently exposed to health-related content on social media, they are more likely to consume red rice.

In support of this finding, the restaurant owner noted that there has been an increasing appreciation for red rice over time

despite its higher cost compared to white rice. The owner emphasized that this shift in consumer behavior can be attributed to the growing awareness of red rice's health benefits, including its high fiber content and lower sugar levels. The owner also pointed to the role of social media promotion in driving this awareness, stating:

Restaurant Owner: *“People are appreciating its value more and more over time. So even if it is higher in price compared to white rice, they buy it because of the promotion on social media and other platforms being made by producers like me and the availability in the market.”*

Participants 1, 3, and 5 acknowledged that social media exposure made them more likely to try red rice:

“Mas higit na tumataas ang aking kamalayan sa mga produktong may kinalaman sa kalusugan” (It increases my awareness of health-related products).

Moreover, consumers suggested ways restaurants and markets can improve their strategies for selling red rice and increase the consumption of red rice among consumers. One participant suggested that including red rice as a regular menu item could encourage more consumers to try it:

Participant 1: *“Kung magiging bahagi ito ng menu na handa silang ipagkaloob sa kanyang mga kliyente.” (If it becomes part of the menu that they are willing to offer to their customers).*

Thus, this suggests that the increased exposure to health-related content on platforms like social media is influencing Millennials to choose and consume red rice, even if it means paying a higher amount for it. Additionally, offering red rice regularly in restaurants and markets can increase its consumption.

Table 13. Relationship between the exposure to health-related content on social media and Millennials' consumption of red rice.

Particulars	Correlation Coefficient	P-value
Exposure to health-related content on social media	0.545*	0.000

* *significance at a 5% level of significance*

Relationship between the perception of red rice and Millennials' consumption of red rice

Table 14 illustrates the relationship between Millennials' perception of red rice and their consumption of red rice. It shows that affordability is the only perception significantly correlated to the Millennials' consumption of red rice. This suggests that promoting the affordability of red rice may be a more effective way to increase its consumption.

On the other hand, the restaurant owner emphasized the challenges of red rice's higher cost as a barrier to widespread adoption. While many customers appreciate the health benefits and taste of red rice, the price remains a significant factor in their purchasing decisions and consumption. The owner explained:

Restaurant Owner: *"The cost and limited supply are the main barriers. I sell red rice at ₱100 per kilo, which is significantly higher than white rice. However, despite this, people are still buying it because they know it is healthier and more nutritious."*

The positive perceptions of red rice, notably its health benefits and taste, have significantly influenced its consumption. The consumers also mentioned this during the interview, where Participants 1, 3, and 5 emphasized its filling nature, *"Mabilis makabusog" (Filling)*.

Additionally, Participants 3 and 4 associated red rice with its suitability for dieting and health-conscious individuals:

Participant 3: *"Maganda sa mga taong health conscious at nagda-diet" (Good for health-conscious people and those on a diet)*.

Table 14. Relationship between the perception of red rice and Millennials' consumption of red rice.

Particulars	Correlation Coefficient	P-value
Health-Related	0.010	0.920

Benefits		
Taste	0.097	0.322
Affordability	0.221*	0.023

* *significance at a 5% level of significance*

CONCLUSIONS

The study reveals that exposure to health-related content on social media has a significant influence on Millennials' perceptions and consumption of red rice. The majority of respondents viewed red rice positively due to its health benefits, taste, and nutritional value, which aligns with the growing awareness through social media. Health-conscious Millennials, particularly those exposed to frequent health-related content, are more likely to consume red rice despite its higher cost.

The study also highlights the importance of social media as a platform for increasing consumer knowledge, with both respondents and restaurant owners emphasizing the role of online content in shaping consumer preferences.

Additionally, based on the result, promoting red rice as a cost-effective option on social media may resonate well with Millennials, who are often budget-conscious while also seeking healthier food alternatives. Therefore, marketing efforts should focus on highlighting the economic benefits of red rice, alongside its nutritional advantages, to effectively increase its appeal and consumption rates within this age group.

The findings suggest that producers, restaurants, marketers, and others can enhance red rice consumption by further utilizing social media to promote its health benefits and by incorporating it into regular menus to increase accessibility.

RECOMMENDATIONS

Based on the results of the study, the following are the recommendations of the researchers:

1. The results revealed a need to enhance the consumption of red rice among Millennials. Thus, stakeholders (producers, sellers, restaurants, etc.) should focus on promoting their health benefits on social media, primarily through influencers and health-related groups.
2. Interviewed respondents also recommended that restaurants and other *carinderias* consider making red rice a regular menu item, as the results show a positive perception in terms of taste and health benefits. Thus, offering red rice in different dishes could encourage trial and could lead to regular consumption.
3. As affordability is one of the barriers to red rice consumption, price reductions through bulk buying, offering discounts for regular purchases, or educating consumers on the long-term health benefits that justify the higher price could make it affordable to consumers.
4. Enhance collaboration with local farmers and producers to reduce supply chain costs and increase the accessibility of red rice to a broader audience, thereby promoting wider adoption.
5. Expand the availability of red rice in grocery stores and fast-food outlets to increase its accessibility to consumers.
6. While social media exposure was a key factor in shaping perceptions and consumption of red rice, other factors, such as family, peers, and traditional media (including TV and radio), could also be explored to gain a deeper understanding of the broader context of decision-making in red rice consumption.
7. Future studies could expand beyond Nueva Ecija to other provinces or urban areas in the Philippines to examine regional differences in Millennials' perceptions and consumption of red rice.

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