

**Simon Fraser University**

# **Dining Preferences Among SFU Students**

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**STAT 410 Final Report  
April 11, 2024**

## Abstract

This study explores the dining preferences and patterns among students at Simon Fraser University's Burnaby campus. It seeks to understand the factors that influence student choices in campus dining and examines how these preferences align with the services provided.

## Background

The quality of campus dining services significantly impacts student life, affecting not only nutrition and health but also academic performance and overall satisfaction with campus life. With the evolving dietary needs and preferences of a diverse student body, it is crucial to regularly assess and adapt dining services to meet these changing demands. The study addresses this need by identifying the current dining patterns, preferences, and satisfaction levels among students, providing actionable insights for campus dining service improvements.

## Introduction

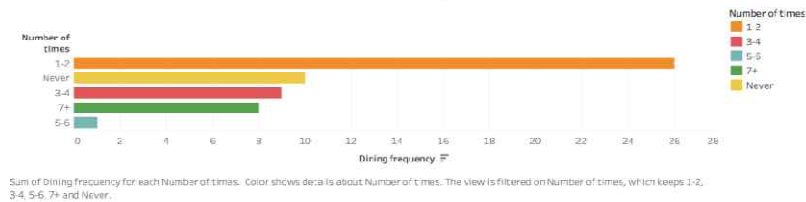
Our study, titled "Dining Preferences among SFU Students," aims to understand the dining habits and choices of students at the SFU Burnaby campus. The focal question we seek to answer is: What are the existing dining preferences and patterns among the student body, and how can campus dining services be enhanced to better meet their needs? This inquiry is pertinent as it aligns the dining services with student needs and preferences, potentially improving nutritional outcomes, satisfaction, and academic performance.

## Methods

- **Sample Design:** Our study utilized a convenience sampling method targeting students at the SFU Burnaby campus. This approach allowed us to quickly and economically collect a diverse range of opinions by ensuring the online survey was accessible to students.
- **Sample Frame:** The sample frame included all students enrolled at the SFU Burnaby campus. The survey was disseminated among these students, and responses were collected primarily from those with high online accessibility.
- **Observational Units:** The observational units in this research were individual students, each providing data on their dining preferences and patterns.
- **Data Collection Methods:** Data was collected through an online survey conducted among SFU students. This survey included questions about their satisfaction with dining options, the convenience of meal times, the dining environment, the quality of meals, preferred types of meals, and frequency of dining on campus.
- **Population Quantities:** We are interested in the mean satisfaction of the responses for each category within each survey question. This will be done using domain estimation.

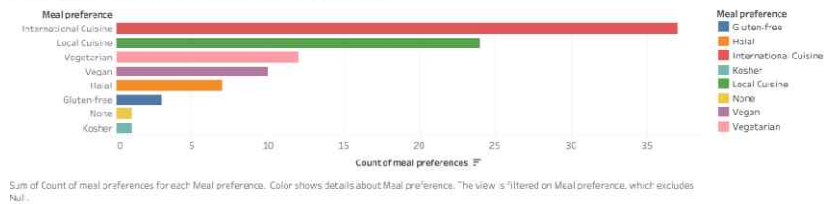
# Results

Overall Number of Times Students Dine on Campus Weekly

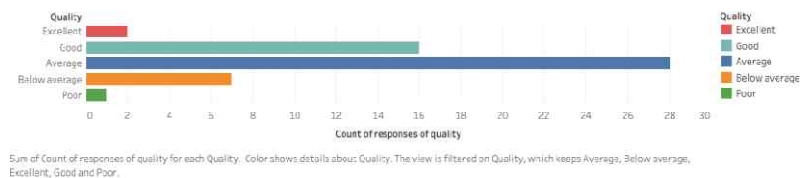


Question: How often do you dine on campus per week? Base: All respondents (n=54)

What types of meals students would like to see more

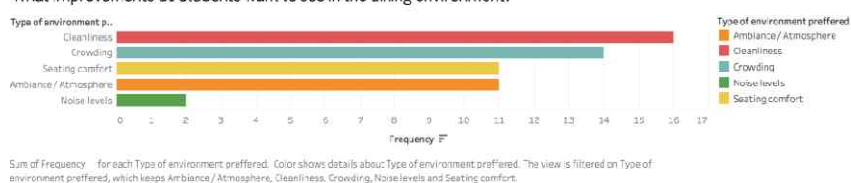


Question: Which types of meals would you like to see more in the campus dining services? Base: Number of selections made by respondents (n=94 selections from 54 respondents)



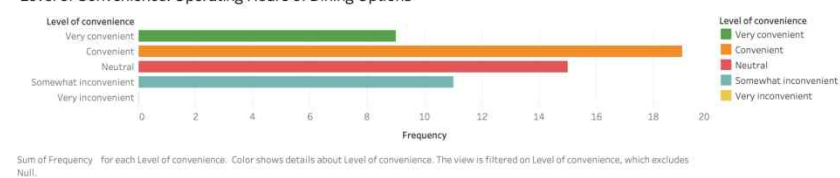
Question: How would you rate the overall quality of meals currently offered on campus? Base: All respondents (n=54)

What improvements do students want to see in the dining environment?



Question: What aspect of the dining environment would you most like to see improved? Base: All respondents (n=54)

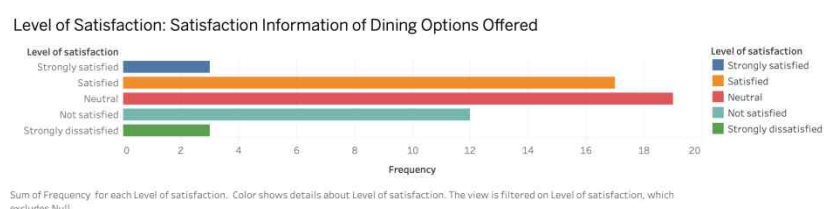
Level of Convenience: Operating Hours of Dining Options



Question: How convenient do you find the operating hours of the campus dining services? Base: All respondents (n=54)



Question: How important is it for you to have detailed dietary information available for each meal? Base: All respondents (n=54)



Question: At what extent are you satisfied with dining options at SFU Burnaby campus? Base: All respondents (n=54)

Our survey received 54 responses, However, we realized the question of what types of meals they would like to see more, which we renamed as “preferences”, had 94 responses. This was because respondents were allowed to give more than one answer to the prompt. As an example, if a respondent answered “A participant answers "International Cuisine" and "Local Cuisine", it will appear in the dataset as "Local Cuisine; International Cuisine". After separating the answers, it will create a new row as if it is a new entry, creating two rows with all the same answers, except 1 row has "International Cuisine" and the other as "Local Cuisine". This meant we had to create a separate dataset to analyze preferences (See Appendix: Results A).

For the analysis, we first quantified our satisfaction responses as follows: 1 = "Strongly dissatisfied", 2 = "Not satisfied", 3 = "Neutral", 4 = "Satisfied", 5 = "Strongly satisfied". Using the survey package in R, we calculated the satisfaction score means and created 95% confidence intervals for each domain from each survey question (See Appendix: Results B - K). The domains are the different responses to the survey question. We used 30000 as the population size in the analysis because the SFU website states that there are currently more than 37000 students attending all three campuses. We guessed that 30000 students attend the Burnaby campus, which we used as the population size.

Two survey questions that had the most variability in mean satisfaction score were dining frequency and quality of food. The mean scores on the frequency of dining (See Appendix: Results F) show that students who dine 1-2 times per week are more satisfied than those who dine 3-4 times per week. However, those who dine 7+ times per week have the highest satisfaction while those who never dine have the least satisfaction. This may indicate that a small proportion of students who are satisfied with the dining options dine more often.

The responses about the quality of food contained the most variability in mean satisfaction (See Appendix: Results G). The mean satisfaction in each domain closely reflects the quality of food, which indicates that the quality of food is the most important factor in overall satisfaction of dining options on campus.

The mean scores and confidence intervals of the other questions did not provide as much insight into overall satisfaction, and therefore not as relevant to our conclusions.

## Conclusion and Discussion

This study provides valuable insights into the dining preferences and patterns among students at Simon Fraser University's Burnaby campus. Key findings include:

- **Frequency of Dining:** There is a clear trend showing higher satisfaction among students who dine more frequently on campus, with the highest satisfaction reported by those dining 7+ times per week.
- **Quality of Food:** The quality of meals offered on campus is the most influential factor affecting overall satisfaction. The data reveals considerable variability in satisfaction levels, highlighting the critical nature of meal quality in student dining experiences.
- **Preferences and Improvements:** While the data on other aspects such as dining environment, meal times, and dietary information did not yield significant insights, they still form an integral part of the overall dining experience and should be considered in service improvements.
- **Potential Study Errors:** As the survey assumed online accessibility for all students, there was a risk of coverage error, where some students might not have access to the survey. Additionally, nonresponse bias could affect the results, given the variability in student participation.

## Methodological Considerations

- **Coverage Error:** The reliance on online accessibility for survey distribution might have excluded a segment of the student population, potentially skewing the results. Future studies should incorporate diverse data collection methods to mitigate this error.
- **Non-response Bias:** The variability in student participation could have introduced non-response bias. Engaging a larger and more representative sample would enhance the validity of the findings.

## **Recommendations for Campus Dining Services**

- **Enhancing Meal Quality:** Prioritizing the improvement of meal quality could significantly boost overall satisfaction. This involves regularly updating menus and ensuring high standards in food preparation and presentation.
- **Focusing on Frequent Diners:** Developing tailored services or incentives for students who dine frequently on campus could foster greater satisfaction and loyalty.
- **Broadening Survey Reach:** Future assessments should aim for a more inclusive approach to capture a wider range of student perspectives.

## **Limitations and Future Research**

This study is limited by its sample size and the method of data collection. Further research could explore longitudinal trends in dining preferences and include qualitative methods, such as focus groups or interviews, to gain deeper insights into student needs and preferences.

## References

*SFU Facts & Figures*. Communicators Toolkit - Simon Fraser University. (n.d.).  
<https://www.sfu.ca/communicators-toolkit/brand/facts-figures.html#:~:text=With%20campuses%20in%20British%20Columbia's,to%20more%20than%2037%2C000%20students.>

## Appendix

Results A: Separating the multiple responses for preferences into a new dataset.

```
Pref_data <- separate_rows(data, Preferences, sep = ";")
Pref_data$Preferences <- as.factor(Pref_data$Preferences)
nrow(Pref_data)
```

```
## [1] 95
```

Results B: Set up survey design.

```
n <- nrow(data) ; N <- 30000
incl_probs <- n/N
data$incl_prob <- rep(incl_probs, times = n)
data$weight <- 1/data$incl_prob
data$popsize <- rep(N, times = n)
svy_design <- svydesign(ids=~1, variables=~sat_score+Gender+StudentType+Residence+
  Frequency+Quality+Environment+Convenience+DietInfo,
  weights = ~weight, fpc=~popsize, data=data)

# Another survey design because Preference data must be handled
# differently due to multiple responses
n <- nrow(Pref_data) ; N <- 30000
incl_probs <- n/N
Pref_data$incl_prob <- rep(incl_probs, times = n)
Pref_data$weight <- 1/Pref_data$incl_prob
Pref_data$popsize <- rep(N, times = n)
Pref_design <- svydesign(ids=~1, variables=~sat_score+Preferences,
  weights = ~weight, fpc=~popsize, data=Pref_data)
```

Results C: Mean satisfaction score and 95% confidence interval of Gender.

```
dmeans <- svyby(~sat_score, by=~Gender, design=svy_design, FUN=svymean)
dmeans
```

```
##      Gender sat_score      se
## Female Female  2.846154 0.1875683
## Male   Male   3.384615 0.1906284
## Other  Other  2.500000 0.3565519
```

```
confint(dmeans)
```

```
##      2.5 %  97.5 %
## Female 2.478527 3.213781
## Male   3.010991 3.758240
## Other  1.801171 3.198829
```

## Results D: Mean satisfaction score and 95% confidence interval of StudentType.

```
dmeans <- svyby(~sat_score,by=~StudentType,design=svy_design,FUN=svymean)
dmeans
```

```
##                StudentType sat_score      se
## Domestic student      Domestic student  2.916667 0.1553416
## International student International student  3.444444 0.2406179
```

```
confint(dmeans)
```

```
##                2.5 %   97.5 %
## Domestic student  2.612203 3.221131
## International student 2.972842 3.916047
```

## Results E: Mean satisfaction score and 95% confidence interval of Residence.

```
dmeans <- svyby(~sat_score,by=~Residence,design=svy_design,FUN=svymean)
dmeans
```

```
##      Residence sat_score      se
## No          No  2.952381 0.1398134
## Yes         Yes  3.583333 0.3245805
```

```
confint(dmeans)
```

```
##          2.5 %   97.5 %
## No  2.678352 3.226410
## Yes 2.947167 4.219499
```

## Results F: Mean satisfaction score and 95% confidence interval of Frequency.

```
dmeans <- svyby(~sat_score,by=~Frequency,design=svy_design,FUN=svymean)
dmeans
```

```
##      Frequency sat_score      se
## 1-2          1-2  3.153846 0.1617249
## 3-4          3-4  2.666667 0.3169350
## 5-6          5-6  4.000000 0.0000000
## 7+           7+  4.000000 0.3087830
## Never        Never 2.500000 0.2940202
```

```
confint(dmeans)
```

```
##          2.5 %   97.5 %
## 1-2  2.836871 3.470821
## 3-4  2.045485 3.287848
## 5-6  4.000000 4.000000
## 7+   3.394796 4.605204
## Never 1.923731 3.076269
```



## Results G: Mean satisfaction score and 95% confidence interval of Quality.

```
dmeans <- svyby(~sat_score,by=~Quality,design=svy_design,FUN=svymean)
dmeans
```

```
##               Quality sat_score      se
## Excellent      Excellent  5.000000 0.00000000
## Good           Good      3.812500 0.09840566
## Average        Average   2.892857 0.14709202
## Below average  Below average 2.000000 0.28813743
## Poor          Poor      1.000000 0.00000000
```

```
confint(dmeans)
```

```
##           2.5 %  97.5 %
## Excellent    5.000000 5.000000
## Good         3.619628 4.005372
## Average      2.604562 3.181152
## Below average 1.435261 2.564739
## Poor         1.000000 1.000000
```

## Results H: Mean satisfaction score and 95% confidence interval of Environment.

```
dmeans <- svyby(~sat_score,by=~Environment,design=svy_design,FUN=svymean)
dmeans
```

```
##               Environment sat_score      se
## Ambiance / Atmosphere Ambiance / Atmosphere 3.181818 0.3850167
## Cleanliness           Cleanliness 3.312500 0.2476488
## Crowding              Crowding 3.071429 0.2152438
## Noise levels          Noise levels 3.500000 0.3565519
## Seating comfort       Seating comfort 2.636364 0.2345551
```

```
confint(dmeans)
```

```
##           2.5 %  97.5 %
## Ambiance / Atmosphere 2.427199 3.936437
## Cleanliness           2.827117 3.797883
## Crowding              2.649558 3.493299
## Noise levels          2.801171 4.198829
## Seating comfort       2.176644 3.096083
```

## Results I: Mean satisfaction score and 95% confidence interval of Convenience.

```
dmeans <- svyby(~sat_score,by=~Convenience,design=svy_design,FUN=svymean)
dmeans
```

```
##               Convenience sat_score      se
## Convenient           Convenient 3.263158 0.1651757
## Neutral              Neutral 3.000000 0.1901610
## Somewhat inconvenient Somewhat inconvenient 2.363636 0.3729189
## Very convenient      Very convenient 3.777778 0.3080055
```

```
confint(dmeans)
```

```
##           2.5 %  97.5 %
## Convenient    2.939419 3.586896
## Neutral       2.627291 3.372709
## Somewhat inconvenient 1.632729 3.094544
## Very convenient 3.174098 4.381457
```

## Results J: Mean satisfaction score and 95% confidence interval of DietInfo.

```
dmeans <- svyby(~sat_score,by=~DietInfo,design=svy_design,FUN=svymean)
dmeans
```

```
##              DietInfo sat_score      se
## Not important at all Not important at all 3.000000 0.2593105
## Slightly important   Slightly important 3.300000 0.2490764
## Moderately important Moderately important 2.777778 0.4125569
## Important           Important 3.230769 0.2721527
## Very important      Very important 3.090909 0.3028094
```

```
confint(dmeans)
```

```
##              2.5 %   97.5 %
## Not important at all 2.491761 3.508239
## Slightly important   2.811819 3.788181
## Moderately important 1.969181 3.586374
## Important           2.697360 3.764179
## Very important      2.497414 3.684405
```

## Results K: Mean satisfaction score and 95% confidence interval of Preferences.

```
dmeans <- svyby(~sat_score,by=~Preferences,design=Pref_design,FUN=svymean)
dmeans
```

```
##              Preferences sat_score      se
## Gluten-free           Gluten-free 3.333333 0.5463517
## Halal                 Halal 2.714286 0.5254435
## International Cuisine International Cuisine 3.027027 0.1604256
## Kosher                Kosher 3.000000 0.0000000
## Local Cuisine         Local Cuisine 3.125000 0.1804871
## None                  None 3.000000 0.0000000
## Vegan                 Vegan 3.100000 0.3313770
## Vegetarian            Vegetarian 2.916667 0.3440213
```

```
confint(dmeans)
```

```
##              2.5 %   97.5 %
## Gluten-free           2.262504 4.404163
## Halal                 1.684435 3.744136
## International Cuisine 2.712599 3.341455
## Kosher                3.000000 3.000000
## Local Cuisine         2.771252 3.478748
## None                  3.000000 3.000000
## Vegan                 2.450513 3.749487
## Vegetarian            2.242397 3.590936
```