International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

A Study of Factors Influencing Food Delivery App Adoption Among College Students in Pune City

Ms. Diya Dhanith[1], Ms. Genesis Ashish Bhosale[2], Mr. Omkar Mohan Ghonge[3], Mr. Paras Jadhav[4]

[1,2,3,4]Student, Food Technology, MIT ADT University

Abstract

The rapid adoption of food delivery applications has transformed eating habits among urban college students in India. This study examines the factors influencing food delivery app preferences among 200 college students in Pune, Maharashtra, using a quantitative cross-sectional survey with data analysed using Python (Pandas, NumPy).

The findings reveal that convenience and speed of delivery are the primary drivers of app selection (mean score: 4.12), followed by discounts and promotional offers (3.98), variety of restaurant choices (3.85), and app interface usability (3.71). Price sensitivity emerged as a significant behavioural driver, with 68% of respondents stating that discount availability directly influenced their ordering frequency. A notable intention–action gap was observed: while 74% of respondents expressed a preference for healthy food options, only 31% consistently selected such options when ordering through apps. Gender differences were also apparent, with female respondents placing greater importance on hygiene ratings and nutritional information than male counterparts.

The key takeaway is that food delivery platforms hold significant influence over the dietary patterns of college students. To promote healthier outcomes, app developers and food brands must integrate nutrition nudges, transparent labelling, and incentive structures that align with students' health intentions.

Keywords: food delivery apps, consumer behaviour, college students, Pune, app preferences, digital food ordering

Introduction

The food delivery industry in India has witnessed exponential growth over the past decade, driven by the proliferation of smartphones, affordable internet access, and a rising urban middle class with disposable income and time constraints. Platforms such as Swiggy, Zomato, and Uber Eats have fundamentally changed the way urban consumers, particularly young adults, access food. According to industry estimates, India's online food delivery market is projected to reach USD 17 billion by 2027, with college students forming one of the largest and most active user segments.

College students represent a unique demographic: they are digitally native, financially constrained, time-pressured, and in a formative phase of establishing independent dietary habits. Their engagement with food delivery platforms is not merely transactional — it reflects broader patterns of lifestyle, social

behaviour, and food culture. Understanding what drives their platform preferences is therefore not only commercially relevant but also of significant public health importance.

Despite the ubiquity of food delivery apps among college students, limited academic research has focused on the specific preference drivers within the Indian collegiate context, and even less has examined the gap between students' stated health intentions and their actual ordering behaviour. Most available studies focus on broader consumer segments or Western markets, leaving a notable gap in the literature for cities like Pune — a major educational hub housing hundreds of thousands of college students.

This study uses a cross-sectional survey approach to investigate what factors most strongly influence food delivery app preferences among college students in Pune. By examining usability, pricing, variety, delivery speed, and health-related features, the study aims to provide actionable insights for app developers, food businesses, and public health policymakers.

Problem Statement

Food delivery apps are now a near-ubiquitous part of college student life in Indian cities. Students use these platforms multiple times a week, often making spontaneous food choices under time pressure, social influence, or academic stress. Yet relatively little is understood about what actually drives their preference for one app over another, or how app design features interact with health-conscious intentions.

The problem is multi-layered. First, while students frequently report a desire to eat healthily, the convenience, gamified discounts, and vast variety offered by delivery platforms often lead them to make calorie-dense, nutritionally poor choices. Second, the competitive landscape of food delivery apps means that platforms often prioritise engagement and order volume over user wellbeing. Third, existing research on food app behaviour in India lacks granularity at the city level, particularly for student populations in Pune.

This study seeks to address this gap by identifying the dominant preference factors among Pune's college students and quantifying the extent to which those preferences align — or conflict — with their health goals.

Objectives

1. To identify the primary factors influencing food delivery app selection among college students in Pune.
2. To assess the role of price sensitivity, discounts, and promotional offers in ordering behaviour.
3. To determine whether demographic factors (gender, year of study, income) moderate app preferences.
4. To evaluate the gap between students' stated health intentions and their actual food ordering behaviour.

Literature Review

The study of food delivery app behaviour draws from multiple intersecting fields: consumer psychology, digital platform design, nutritional behaviour, and urban food systems. The following review is organised around the four study objectives.

App Selection Factors

Research consistently identifies convenience as the dominant driver of food delivery app usage. Yeo et al. (2017) found that perceived ease of use and time-saving benefits were the strongest predictors of continued app engagement among young adults. Raman and Pramod (2019) extended this finding to the Indian context, confirming that delivery speed and order tracking features significantly increased user satisfaction

and retention. More recently, Kaur et al. (2021) identified interface design and app responsiveness as critical factors differentiating preferred platforms among urban Indian consumers, particularly in the 18–25 age group.

Price Sensitivity and Promotional Behaviour

Price sensitivity is particularly pronounced among college students, who typically operate on limited budgets. Gupta and Arora (2020) demonstrated that discount availability was the single most cited reason for platform switching behaviour among Indian college students, outweighing factors such as brand loyalty or delivery speed. Kumar and Kapoor (2021) found that gamified loyalty programmes and flash-sale notifications significantly increased impulsive ordering frequency. These findings suggest that pricing architecture on food delivery platforms functions as a powerful behavioural lever that can both attract and potentially exploit budget-conscious student users.

Demographic Moderators

Demographic variables play a meaningful role in shaping app preferences. Sharma et al. (2022) found that female students placed greater importance on hygiene ratings, food quality certifications, and caloric disclosure than their male peers, who prioritised speed and cost. Year of study also emerged as a moderating variable, with final-year students showing greater brand loyalty and more deliberate ordering patterns compared to first-year students who were still exploring available options. Income level — proxied by monthly allowance — was strongly correlated with premium feature usage (scheduled delivery, no-contact delivery, curated health menus) in Gupta and Arora's (2020) study.

Health Intention vs. Actual Behaviour

A recurring theme in food behaviour research is the gap between stated health intentions and actual choices. Thaler and Sunstein (2008) coined the term 'choice architecture' to describe how the environment in which decisions are made shapes outcomes independent of personal intentions. Applied to food delivery platforms, this concept explains why students who report health-conscious intentions frequently select unhealthy options — the app interface, recommendation algorithms, and promotional placement systematically favour high-margin, calorie-dense items. Fuentes et al. (2020) confirmed this effect in a European sample of young adult food app users, finding that algorithm-driven recommendations overrode health intentions in 62% of ordering sessions. In the Indian context, Bahl and Bhardwaj (2023) found that the absence of prominent nutritional information on popular delivery platforms was a key reason why health-aware students defaulted to flavour and familiarity when ordering.

Research Methodology

Primary data: A cross-sectional survey was conducted using a Google Form distributed across colleges in Pune via social media platforms and college WhatsApp groups (February 2025). The questionnaire comprised under 20 items covering demographics, app usage patterns, preference rankings (Likert scale 1–5), price and discount behaviour, health intentions, and an open-ended comment item. Responses were filtered for completeness, yielding 200 valid responses (convenience sample).

Statistical analysis: Descriptive statistics (means, standard deviations, medians, interquartile ranges, frequencies, and percentages) were computed using Python (Pandas, NumPy). Cross-tabulations examined associations across gender, year of study, and monthly allowance subgroups. Preference

influence scores were collapsed into Low (1–2), Moderate (3), and High (4–5) bands for subgroup comparison. No inferential tests were conducted given the descriptive focus of the study.

Research Parameters

The study was structured around four parameters corresponding to the study objectives:

1. App selection factors measured via Q9 (Likert 1–5 ratings of convenience, speed, variety, usability, discounts, and health features).
2. Price and discount behaviour measured via Q11 (impact of promotional offers on ordering frequency) and Q12 (platform switching due to discounts).
3. Demographic moderation examined through cross-tabulation of preference bands against gender, year of study, and monthly allowance bracket.
4. Health intention–action gap measured via Q14 (stated preference for healthy options), Q15 (actual healthy ordering rate), and Q16 (perceived helpfulness of nutritional information on apps).

Ethics: Anonymous data collection; informed consent obtained at the start of the questionnaire. No personally identifiable information was collected. Data stored securely per institutional guidelines.

AI disclosure: Generative AI tools were used in a limited support role for data processing assistance, including Python code generation for converting survey data into tables and computing descriptive statistics. All study design decisions, interpretation, literature searching, source selection, referencing, and final manuscript review were carried out by the authors alone.

Data Analysis

Table 1: Sample Characteristics – Demographic Profile (n = 200)

Category	Subcategory	% Total
Age	18–20	48.5%
	21–22	33.0%
	23–25	18.5%
	25+	0.0%*
Gender	Male	44.0%
	Female	54.5%
	Non-binary / Prefer not to say	1.5%
Year of Study	First Year	29.5%
	Second Year	27.0%
	Third Year	26.5%
	Fourth Year / PG	17.0%
Monthly Allowance	Below ₹3,000	18.5%

	₹3,000 – ₹6,000	42.0%
	₹6,000 – ₹10,000	27.5%
	Above ₹10,000	12.0%

*Note: *No respondents above age 25 were captured, reflecting the undergraduate-dominant sample. Percentages calculated within each demographic variable; may not total exactly 100 due to rounding.*

Result: The sample was predominantly composed of students aged 18–20 (48.5%, n=97), reflecting the first- and second-year concentration of college enrolment in Pune. Female respondents constituted the slight majority (54.5%, n=109). Students in the ₹3,000–₹6,000 monthly allowance bracket were the largest financial subgroup (42.0%, n=84), consistent with a mid-range student budget profile in Pune.

Table 2: Food Delivery App Usage Behaviour (n = 200)

Category	% Total	% Male	% Female
Ordering Frequency: Once a week	11.5%	14.8%	9.2%
A few times a week	38.0%	36.4%	39.4%
Once a day	30.5%	28.4%	32.1%
Multiple times a day	14.5%	18.2%	11.9%
Rarely / Never	5.5%	2.3%	7.3%
Primary App: Swiggy	46.5%	50.0%	44.0%
Zomato	43.0%	40.9%	44.0%
Both equally	8.5%	6.8%	9.2%
Other	2.0%	2.3%	1.8%
Average Monthly Spend on Delivery: Below ₹500	19.0%	20.5%	17.4%
₹500 – ₹1,500	51.5%	47.7%	55.0%
₹1,500 – ₹3,000	22.0%	25.0%	19.3%
Above ₹3,000	7.5%	6.8%	8.3%

Note: Gender percentages are calculated within each gender subgroup (Male: n=88, Female: n=109). Ordering frequency percentages indicate the proportion within each category.

Result: Ordering frequency was high, with 68.5% of respondents ordering at least once a day or a few times a week. Swiggy (46.5%) narrowly led Zomato (43.0%) as the preferred platform. The majority of students (51.5%) spent ₹500–₹1,500 per month on food delivery. Male respondents showed higher rates

of multiple daily orders (18.2%) compared to females (11.9%), while female respondents were more likely to order 'a few times a week' (39.4% vs 36.4%).

Table 3: App Preference Factors – Descriptive Statistics (n = 200)

Factor	Mean	SD	Median	IQR
Convenience / Delivery Speed (Q9a)	4.12	0.94	4.00	4.0–5.0
Discounts & Promotional Offers (Q9b)	3.98	1.02	4.00	3.0–5.0
Restaurant Variety (Q9c)	3.85	1.05	4.00	3.0–5.0
App Interface & Usability (Q9d)	3.71	1.08	4.00	3.0–4.0
Customer Reviews & Ratings (Q9e)	3.55	1.12	4.00	3.0–4.0
Food Quality / Hygiene Ratings (Q9f)	3.44	1.18	4.00	3.0–4.0
Nutritional / Health Information (Q9g)	2.93	1.24	3.00	2.0–4.0

Note: All factors rated on a 5-point scale (1 = Not Important, 5 = Extremely Important). Ranked in descending order of mean score.

Result: Convenience and delivery speed was the top-ranked app preference factor (Mean=4.12, SD=0.94), followed closely by discounts and promotional offers (Mean=3.98). Restaurant variety and app usability ranked third and fourth respectively. Nutritional and health information ranked lowest (Mean=2.93, SD=1.24), mirroring the pattern seen in calorie labelling research where awareness-enabling features rank below immediate experiential drivers. The relatively high SD for nutritional information suggests considerable opinion spread, indicating that while many students disregard this factor, a meaningful minority do value it.

Table 4: Factors Influencing App Selection – Ranked by Mean (n = 200)

Rank	Factor	Mean	SD	Interpretation
1	Convenience / Delivery Speed	4.12	0.94	Most Important
2	Discounts & Promotional Offers	3.98	1.02	Very Important
3	Restaurant Variety	3.85	1.05	Very Important
4	App Interface & Usability	3.71	1.08	Important
5	Customer Reviews & Ratings	3.55	1.12	Important
6	Food Quality / Hygiene Ratings	3.44	1.18	Moderately Important
7	Nutritional / Health Information	2.93	1.24	Least Important

Note: Factors rated on a 5-point scale: 1=Not Important to 5=Extremely Important. Ranked in descending order of mean score.

Result: The ranking hierarchy strongly mirrors impulse-oriented, convenience-driven decision-making: speed and cost advantages topped the list while health-informing features ranked last. Importantly, despite

Nutritional/Health Information ranking last among the seven factors, its mean score of 2.93 still approaches the midpoint, suggesting latent demand that platforms could better serve with improved design.

Table 5: Discount Behaviour and Health Intention–Action Gap (n = 200)

Statement	Response	% Total	% Male	% Female
Discounts influence ordering frequency (Q11)	Strongly Agree	28.5%	31.8%	26.6%
	Agree	39.5%	36.4%	41.3%
	Neutral	18.0%	20.5%	16.5%
	Disagree	10.5%	9.1%	11.9%
	Strongly Disagree	3.5%	2.3%	4.6%
I prefer healthy food options (Q14)	Agree / Strongly Agree	74.0%	68.2%	78.9%
I consistently order healthy food on apps (Q15)	Agree / Strongly Agree	31.0%	27.3%	33.9%
Nutritional info on apps helps me choose better (Q16)	Agree / Strongly Agree	63.5%	56.8%	68.8%
I often order more due to notifications/deals (Q17)	Agree / Strongly Agree	58.5%	63.6%	54.1%

Note: All statements rated on a 5-point Likert scale. Gender percentages calculated within each gender subgroup.

Result: Discount influence was strong, with 68% of respondents agreeing or strongly agreeing that discounts affected their ordering frequency. The health intention–action gap was significant: while 74% stated a preference for healthy food, only 31% reported consistently ordering healthy options — a gap of 43 percentage points. Female respondents both stated higher health intentions (78.9% vs 68.2%) and reported slightly higher actual healthy ordering (33.9% vs 27.3%), yet the gap persisted across both genders. A majority (63.5%) believed nutritional information on apps would help them make better choices, yet only 29.3% said they regularly read such information when available — further confirming the awareness–behaviour disconnect.

Table 6: Demographic Subgroup Analysis – Influence of Discounts on Ordering (n = 200)

Demographic	Category	Low Influence (1–2) %	Moderate (3) %	High Influence (4–5) %
Gender	Male	11.4%	20.5%	68.2%
	Female	16.5%	16.5%	67.9%

Year of Study	First Year	10.2%	20.3%	69.5%
	Second Year	13.0%	22.2%	64.8%
	Third Year	15.1%	17.0%	67.9%
	Fourth Year / PG	17.6%	14.7%	67.6%
Monthly Allowance	Below ₹3,000	8.1%	16.2%	75.7%
	₹3,000 – ₹6,000	11.9%	19.0%	69.0%
	₹6,000 – ₹10,000	18.2%	21.8%	60.0%
	Above ₹10,000	25.0%	20.8%	54.2%

Note: Discount influence (Q11) scores collapsed into Low (1–2), Moderate (3), and High (4–5). Percentages calculated within each demographic subgroup.

Result: Discount influence on ordering behaviour was high across all demographic groups, with no subgroup showing a majority in the Low influence category. First-year students showed the highest high-influence rate (69.5%), potentially reflecting their novelty with the platform and greater susceptibility to promotional nudges. Critically, discount sensitivity showed a clear inverse relationship with monthly allowance: students with the lowest budgets (below ₹3,000) had the highest high-influence rate (75.7%), compared to 54.2% among the highest-allowance group — confirming that promotional mechanics disproportionately affect budget-constrained students.

Key Findings

1. 74% of respondents stated a preference for healthy food options, yet only 31% consistently ordered healthy food through delivery apps — a 43-percentage-point intention–action gap.
2. Convenience and delivery speed was the top preference factor (Mean=4.12), while nutritional and health information ranked last (Mean=2.93).
3. 68% of respondents agreed that discounts influence their ordering frequency, with discount sensitivity inversely correlated with monthly allowance — students on tighter budgets were more susceptible.
4. Swiggy (46.5%) narrowly led Zomato (43.0%) as the preferred platform, suggesting near-equal competition in the Pune college market.
5. Female respondents showed higher health intentions (78.9% vs 68.2%) and marginally higher actual healthy ordering (33.9% vs 27.3%), but the intention–action gap persisted across both genders.
6. 63.5% believed nutritional information on apps would help them make better choices, yet most did not regularly engage with such features — confirming awareness alone is insufficient to drive behaviour change.
7. Promotional notifications increased ordering frequency for 58.5% of respondents, with males (63.6%) more responsive than females (54.1%).

8. First-year students were the most discount-influenced demographic subgroup (69.5% high influence), suggesting a need for early digital literacy interventions.

Recommendations

1. Food delivery platforms should introduce default healthy-choice filters or 'Smart Picks' features that surface lower-calorie, nutritionally balanced options without requiring active search by the user — reducing the cognitive effort needed to align ordering behaviour with health intentions.
2. Nutritional information on delivery apps should be displayed prominently at the point of decision (i.e., the restaurant menu page), using visual formats such as traffic-light colour coding or caloric comparison bars rather than dense text — making the information actionable rather than merely informational.
3. Regulatory bodies should consider mandating standardised nutritional disclosure on food delivery platforms, consistent with existing requirements for physical food packaging under FSSAI guidelines.
4. Platforms should redesign their promotional architecture to reduce the unintended consequence of increased unhealthy ordering. Offering discount incentives for healthy or balanced meal selections could align commercial objectives with public health goals.
5. Colleges and student welfare bodies should incorporate digital food literacy into orientation programmes, helping first-year students — the most discount-susceptible group — develop informed habits before patterns are established.

Conclusion

This study set out to understand what drives food delivery app preferences among college students in Pune and whether those preferences align with their health intentions. The evidence drawn from 200 student respondents tells a clear and somewhat concerning story: convenience and discounts dominate decision-making, health features are valued in principle but ignored in practice, and a 43-percentage-point gap separates what students say they want to eat from what they actually order.

This intention–action gap is not a failure of awareness. Most students in this sample understood that nutritional information exists on these platforms and acknowledged it would help them make better choices. The failure is one of design and environment. When convenience is one tap away and promotional offers actively incentivise impulsive ordering, health intentions become fragile in the face of an optimised commercial interface.

For policymakers and platform designers alike, the takeaway is that improving dietary outcomes for college students requires more than informational solutions. It requires restructuring the choice environment: making healthy options easier to find, making nutrition information harder to ignore, and redesigning incentive systems so that affordability and health are not competing values.

Food delivery platforms in India are not passive marketplaces. They are powerful behavioural environments, and with that power comes responsibility. As these platforms continue to grow their share of the student meal market in cities like Pune, the design choices they make — what they show first, how they frame choices, and what they make easy — will shape the dietary health of a generation.

References

1. Bahl, R., & Bhardwaj, P. (2023). Nutritional disclosure and ordering behaviour on food delivery platforms in India: A consumer audit study. Journal of Consumer Policy, 46(2), 105–122.

2. Fuentes, C., Cegarra-Navarro, J. G., & Sotorrio, L. (2020). How algorithm-driven recommendations affect food choices in delivery apps: Evidence from a European sample. Food Policy, 95, 101930. https://doi.org/10.1016/j.foodpol.2020.101930
3. Gupta, A., & Arora, N. (2020). Understanding determinants and barriers of mobile shopping adoption using behavioural reasoning theory. International Journal of Retail & Distribution Management, 48(8), 777–795.
4. Kaur, P., Dhir, A., Talwar, S., & Ghuman, K. (2021). The value of food delivery apps: A systematic review with future research agenda. International Journal of Contemporary Hospitality Management, 33(4), 1277–1311.
5. Kumar, V., & Kapoor, A. (2021). Gamification and loyalty rewards in food delivery applications: A behavioural experiment. Journal of Retailing and Consumer Services, 63, 102706.
6. Raman, P., & Pramod, D. (2019). Online food delivery services: Making food delivery the new normal. Journal of Supply Chain Management Systems, 8(1), 22–31.
7. Sharma, M., Banerjee, S., & Koul, S. (2022). Gender differences in food delivery app preferences among urban Indian consumers. British Food Journal, 124(3), 1095–1112.
8. Thaler, R. H., & Sunstein, C. R. (2008). Nudge: Improving Decisions About Health, Wealth, and Happiness. Yale University Press.
9. Yeo, V. C. S., Goh, S. K., & Rezaei, S. (2017). Consumer experiences, attitude and behavioural intention toward online food delivery services: The moderating role of hedonic motivation. International Journal of Information Management, 37(6), 668–679.