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STUDY ON HOW FOOD DELIVERY APPS USE DARK NUDGES TO CREATE FAKE HUNGER WITH SPECIAL REFERENCE TO COIMBATORE CITY

Mrs. SRI KEERTHANA J, M. Com (CS), (Ph.D)

Assistant Professor
Department of Corporate Secretaryship PSG College of Arts & Science
Coimbatore - 641 014
E mail id: srikeerthanaj09@gmail.com

CO-AUTHORS

**DIKSHIN SV, GOWTHAM B JANANI S, MOHAMMED ABUTHAHIR J SARAVANAKUMAR A and
SHALINI S**
III B COM (CS)

Department of Corporate Secretaryship PSG College of Arts and Science Coimbatore

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ABSTRACT

The rapid growth of food delivery applications in urban India has significantly transformed eating habits, shifting food consumption from a need-based activity to a convenience-driven behaviour. This study explores the psychological impact of food delivery apps, particularly focusing on the concept of “fake hunger” — a condition where users feel the urge to eat without actual physical need. The research highlights how app features such as attractive visuals, push notifications, discounts and reward systems stimulate cravings by triggering dopamine responses, thereby influencing user decisions. This study is conducted in Coimbatore city, targeting frequent users of food delivery platforms, especially youth and young adults. Using a descriptive research design and convenience sampling method, primary data were collected from 105 respondents through a structured questionnaire. The analysis is performed using simple percentage techniques to understand patterns in user behaviour, emotional triggers and app interaction. The findings aim to identify dark nudge techniques used by food delivery apps, examine psychological factors like stress and boredom that contribute to fake hunger, and evaluate the extent to which app-driven stimuli affect ordering habits. The study also emphasises the lack of awareness among users regarding such manipulative design strategies.

Overall, this research underscores the importance of mindful consumption and user awareness, as excessive reliance on food delivery apps can lead to health issues, financial strain and reduced self-



control. The study provides insights that can benefit users, researchers and policymakers in promoting healthier digital consumption practices.

KEYWORDS: Dark Nudges, Food Delivery Apps, Fake Hunger, Consumer Behavior, Digital Consumption Patterns

1. INTRODUCTION

Food delivery applications have transformed the way people access and consume food in urban India, shifting habits from home-cooked meals to quick and convenient online ordering. Busy lifestyles, rising incomes and the demand for instant service have made these platforms an essential part of daily life. As a result, it is important to understand not only their economic benefits but also their psychological impact on users. In recent years, the sector has grown rapidly, with major platforms like Swiggy and Zomato expanding across cities. This trend is clearly visible in Coimbatore, where students, IT professionals and young families widely use these apps, supported by smartphone access, digital payments and attractive offers. An important concept in this study is the difference between physical and psychological hunger. Physical hunger is the body's natural need for food, developing gradually and satisfied by any nutritious meal. In contrast, psychological hunger is triggered by emotions such as stress, boredom or external cues like food images and notifications. In the digital era, users often feel cravings even when they are not physically hungry, creating what is termed "fake hunger."

Food delivery apps contribute to this behaviour through engaging designs, colourful visuals, discounts and reward systems that capture user attention. These features stimulate dopamine in the brain, creating pleasure and anticipation similar to social media usage. Notifications and limited-time offer encourage users to open apps frequently and make impulsive decisions. Therefore, these platforms not only provide food but also influence user behaviour and cravings, often independent of real hunger. Understanding this influence is essential for promoting awareness and helping users make healthier and more mindful food choices.

OBJECTIVES

- It aims to identify the dark nudge techniques used by food delivery apps, such as urgency countdowns, default recommendations and promotional notifications
- It seeks to analyse the psychological triggers behind fake hunger, including stress, boredom and habit formation.
- It intends to create awareness and propose strategies for mindful food decisions so that users can better resist manipulative design and control impulsive ordering.

RESEARCH METHODOLOGY TYPE OF RESEARCH

This study adopts a descriptive research design. It is descriptive because it seeks to systematically document current behaviours and perceptions of food delivery app users in Coimbatore.

SOURCES OF DATA

This research collects data through one method that is via Primary data.

PRIMARY DATA

“Primary data are the data collected by the researcher from the respondents through methods such as surveys, questionnaires, interviews and observations, etc., for the specific purpose of the research.”

AREA OF STUDY

A study is regard with the most regard to Coimbatore City in Tamilnadu. It is one of the fastest growing cities and is mainly called as “Manchester of South India””. A study on how food delivery apps use dark nudges to create fake hunger was made in Coimbatore city.

SAMPLE SIZE

The sample size of the study is to be 105 respondents.

TOOLS USED FOR ANALYSIS

- Percentage Analysis

FINDINGS

TABLE .1: GENDER-WISE DISTRIBUTION OF RESPONDENTS

S.No	Title of Question	No. of Responses	Percentage (%)
1	Male	74	70.5%
2	Female	31	29.5%
	Total	105	100%

INTERPRETATION

The data shows that a majority of respondents are male, accounting for 70.5% of the total sample, while female respondents make up 29.5%. This indicates that the study is more influenced by male perspectives, which may impact the overall findings regarding the use of dark nudges in food delivery

apps.

TABLE .2: AGE-WISE DISTRIBUTION OF RESPONDENTS

S.No	Title of Questions	No. of Responses	Percentage
1	10 – 18 years	6	5.7%
2	18 – 25 years	68	64.8%
3	25 – 35 years	24	22.9%
4	More than 35 years	7	6.6%
	Total	105	100%

INTERPRETATION

The data indicates that the majority of respondents belong to the 18–25 years age group, accounting for 64.8% of the total sample. This is followed by respondents in the 25–35 years category with 22.9%. A smaller proportion of respondents fall under the age groups of 10–18 years (5.7%) and above 35 years (6.6%).

TABLE.3: FREQUENCY OF RECEIVING FOOD DELIVERY APP NOTIFICATIONS

S. No	Title of Questions	No. of Responses	Percentage
1	0–2 times	12	11.4%
2	3–5 times	10	9.5%
3	6–10 times	44	41.9%
4	More than 10 times	39	37.1%
Total	—	105	100%

INTERPRETATION

The data reveals that a majority of respondents receive notifications frequently, with 41.9% receiving 6–10 notifications per day and 37.1% receiving more than 10 notifications daily. A smaller proportion of respondents receive fewer notifications, with 11.4% receiving 0–2 notifications and 9.5% receiving 3–5 notifications.

TABLE.4: REASON FOR OPENING FOOD DELIVERY APP AFTER RECEIVING NOTIFICATION

S.No	Title of questions	No. Of responses	Percentage
1	Curiosity about offers	79	75.2%
2	Feeling hungry	7	6.7%
3	Boredom / time pass	10	9.5%
4	Just checking the app	9	8.6%
Total	—	105	100%

INTERPRETATION

The data shows that the majority of respondents (75.2%) open food delivery apps out of curiosity about offers rather than actual hunger. A smaller percentage open the app due to boredom (9.5%) or just to check the app (8.6%), while only 6.7% open it because they feel hungry.

TABLE .5: TIME OF DAY MOST NOTIFICATIONS ARE RECEIVED

S.No	Title of Questions	No. of Responses	Percentage
1	Evening/Dinner	86	81.9%
2	Lunch hours	8	7.6%
3	Breakfast/Morning	6	5.7%
4	Random unpredictable time	5	4.8%
	Total	105	100%

INTERPRETATION

The statistical analysis reveals a heavy concentration of app activity during late-day hours, with 81.9% of respondents identifying Evening/Dinner as the peak period for receiving notifications. In contrast, daytime segments show significantly lower engagement, with 7.6% during Lunch hours, 5.7% in the Morning, and only 4.8% occurring at Random unpredictable times.

TABLE.6: EFFECT OF BROWSING FOOD DELIVERY APPS ON HUNGER LEVELS

S.No	Title of Questions	No. of Responses	%
1	I feel hungry even if I was not hungry before	71	67.6%
2	I feel slightly tempted to eat	27	25.7%
3	No major effect, but slightly influential	4	3.8%
4	I rarely feel hungry because of apps	3	2.9%
	Total	105	100%

INTERPRETATION

The data shows that a significant majority of respondents experience an immediate change in their physiological state when using food delivery apps, with 67.6% admitting they feel hungry even if they were not hungry before. Additionally, 25.7% of respondents feel slightly tempted to eat, while only a very small fraction (2.9%) remains unaffected by the app’s interface.

TABLE.7: TIME TAKEN TO PLACE AN ORDER AFTER APP Engagement

S.No	Title of Questions	No. of Responses	Percentage
1	Immediately	68	64.8%
2	After browsing for some time	26	24.8%
3	After thinking carefully	8	7.6%
4	Within a few minutes	3	2.8%
	Total	105	100%

INTERPRETATION

The statistical data highlights a rapid conversion rate following app engagement, with 64.8% of respondents placing an order immediately after opening the app through a notification or offer. A further 24.8% order after browsing, while only a small minority of 7.6% take the time to think carefully before making a purchase.

TABLE.8: EFFECT OF VISUAL MEDIA (IMAGES/VIDEOS) ON USER CRAVINGS

S. No	Title of questions	No of responses	Percentage
1	Strongly increase cravings	82	78.1%
2	Slightly increase cravings	16	15.2%
3	Slightly tempting	5	4.8%
4	Reduce interest in ordering	2	1.9%
	Total	105	100%

INTERPRETATION

The data demonstrates the powerful impact of visual stimuli on consumer psychology, with 78.1% of respondents stating that food images or videos strongly increase their cravings. An additional 15.2% reported a slight increase in cravings, while a negligible 1.9% found that such media reduced their interest in ordering.

SUGGESTIONS

- It is recommended that platforms adopt balanced and transparent strategies, reducing excessive psychological pressure while maintaining user engagement.
- Apps may focus on responsible design practices, ensuring that user well-being is considered along with business growth.
- Notification systems can be optimized to provide useful and relevant information, rather than continuous persuasive triggers.
- Users should practice mindful consumption habits, such as ordering based on actual need rather than emotional triggers.
- It is suggested that users follow self-control techniques, like delaying decisions, limiting app usage, and setting spending boundaries.
- Awareness should be increased among users about how digital platforms influence behaviour, helping them make more rational decisions.
- Platforms and users together can create a healthy digital environment, where convenience does not lead to overconsumption.

CONCLUSION

The study clearly proves that food delivery apps have a powerful influence on user behaviour through



the use of advanced psychological techniques. The findings strongly indicate that most users are driven not by actual hunger, but by external triggers such as offers, notifications, visuals, and urgency-based strategies. These techniques effectively create artificial cravings, leading to impulsive ordering, increased spending, and unhealthy eating patterns. Even though users are aware of these strategies, they continue to be influenced, highlighting the strong impact of digital behavioural manipulation. At the same time, the study also emphasizes the importance of user responsibility. While platforms use persuasive techniques as part of their business strategy, users must develop awareness and self-control to make better decisions. Overall, the study concludes that food delivery apps play a major role in shaping modern consumption behaviour by creating artificial demand and influencing decision-making, making it important to maintain a balance between convenience, business practices, and user well-being.

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