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Craving the screen: Impact of digital food content on eating behaviours and body weight among young adults

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Abstract
This study explores the influence of digital food-related content on eating behaviors and body weight among young adults aged 25-45 in Trivandrum, Kerala. With the proliferation of food-related imagery on social media platforms, the research examines how digital engagement shapes eating habits, emotional responses to food, and body mass index (BMI). A sample of 350 participants was assessed using the Adult Eating Behavior Questionnaire (AEBQ) and a structured survey on digital food content engagement. Results reveal that 31.4% of participants reported increased appetite upon exposure to food stimuli, and 39.2% experienced heightened hunger in social dining settings. Emotional overeating was common, particularly in response to stress, with 40% of respondents acknowledging this tendency. The study also found a significant positive correlation between eating behavior and BMI ($r = 0.166$) and between eating behavior and engagement with online food content ($r = 0.156$). A notable portion of the sample (54.27%) was categorized as overweight or obese, underscoring the role of digital media in shaping dietary habits and possibly contributing to weight gain. These findings highlight the complex relationship between digital food exposure, emotional eating, and body weight, emphasizing the need for interventions that address both physical health and the digital environment's influence on eating behaviors. Given the rising popularity of food content on social media, this study provides insights into the potential impact of digital food culture on dietary choices, health outcomes, and weight management among young adults.

Keywords: Digital food content, eating behavior, BMI

Introduction
Food is deeply embedded in popular culture, influencing our visual and sensory experiences through various channels such as television, magazines, newspapers, specialized food blogs, and recipe-sharing websites. (Chamberlain 2004) [5] and recently, food is becoming an increasingly popular topic both in classical media, TV, and new digital media formats on the internet. (Spence *et al.*, 2016) [13]. The term "food porn" is being used more often to refer to the action of styling and photographing food on mobile devices, inviting people to gaze at and virtually Savor these images, as well as share them through digital platforms. Food imaging has long been, and still is, an important field of study for examining changing cultural norms and practices. Consumption involves sensory experiences, including visual, taste, oral-sensory, and retro nasal smell signals. These signals are processed in the brain to form a complex perception of food (Hollmann, 2013) [10]. An increasing array of "enhancing" technologies is entering the market, making it easy for anyone to enhance the visual appeal of their images. These emerging technologies lead consumers to encounter digital food images more frequently, often divorced from their natural consumption contexts, significantly influencing consumption behaviours. The extensive glamourization of food has also in turn induced many changes in dietary habits. The potential of visual media to empower any type of content and make it a part of itself has been achieved with food, too. Hence there is a need to find out the reasons why food is consumed so much more on the internet than on the plate.

Materials and Methods
The study was carried out in both rural and urban areas of Trivandrum district, the capital of

Kerala, India. It focused on a sample of 350 young adults, aged 25 to 45 years, comprising both men and women who were randomly selected from these regions. This age group is particularly active on digital platforms, demonstrates shifting dietary patterns, places importance on health awareness, and generally enjoys financial stability.

To assess appetitive traits, the study employed the Adult Eating Behaviour Questionnaire (AEBQ) developed by Hunot *et al.* (2016) [11]. Participants responded to questionnaire items using a Likert scale (ranging from 1 = Strongly Disagree to 5 = Strongly Agree), reflecting the degree to which each statement applied to their eating behaviour. Subscale scores were derived by averaging responses within each trait category. Higher scores on Food Approach subscales (such as Hunger and Food Enjoyment) indicated a stronger tendency toward overeating, while higher scores on Food Avoidance subscales (such as Satiety Responsiveness and Food Fussiness) suggested lower food intake or eating challenges. This method provided a nuanced view of individual differences in eating behaviour.

To examine the impact of digital food content on eating habits, the study analysed participants' digital activity. This analysis explored the frequency, timing, and situational context in which participants engaged with food-related content online. These insights helped assess how exposure to such content influenced food cravings, dietary choices, and overall eating patterns, particularly among digitally active individuals (Spence *et al.*, 2016) [13]. Digital engagement was measured through a structured questionnaire that combined multiple-choice questions and Likert-scale items, capturing the intensity and nature of participants' interactions with digital media. This approach is consistent with established methods in research on social media use and behavioural effects, such as those described by Alhabash and Ma ., 2017 [2], who emphasized the value of tracking screen time and content engagement to understand digital behaviour.

Anthropometric data, specifically height and weight, were collected to assess participants' nutritional status—an important indicator in identifying conditions like malnutrition or obesity (Gibson, 2005) [8]. Body Mass Index (BMI) was calculated using the standard formula: weight (kg) divided by height squared (m^2). Based on World Health Organization (WHO) guidelines, participants were categorized into nutritional groups such as underweight, normal weight, overweight, or obese.

Although self-reported measurements can introduce certain biases, this method aligns with those used in large-scale studies where direct assessments are impractical. The validity of self-reported anthropometric data in health research has been supported by previous studies, including Stommel and Schoenborn 2009 [14].

Results

The assessment of eating behaviour in this study was grounded in participants' responses to a series of behaviourally relevant statements that captured a range of appetitive and food-related tendencies. These included increased appetite when exposed to food stimuli, irritability in the absence of food, and a heightened desire to eat in social dining contexts. Emotional responses related to eating were also explored, such as tendencies toward emotional undereating and overeating. Additional behaviours examined included food wastage, feeling full easily, resistance to trying new foods, and forming judgments about food based on preconceived notions. Participants also reported on their enjoyment of diverse foods and the pace at which they typically ate during meals. These indicators provided a comprehensive overview of individual differences in eating patterns, setting the stage for a detailed analysis of how these behaviours varied across digital engagement levels, demographic factors, and nutritional status.

Table 1: The eating behavior of the respondents

Eating Behaviour (N=350)	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Increased appetite on exposure to food stimuli	37(10.6)	50(14.3)	72(20.6)	81(23.14)	110(31.4)
Irritation in the absence of food	49(13.9)	58(16.5)	83(23.6)	76(21.6)	84(23.9)
Increase in appetite on social dining	59(16.8)	66(18.8)	87(24.7)	83(23.6)	55(15.6)
Emotional undereating	56(16)	52(14.8)	70(19.9)	91(25.9)	85(24.28)
Emotional overeating	84(23.9)	71(20.2)	67(19.0)	70(19.2)	58(16.5)
Wasting food	115(32.7)	64(18.2)	56(15.9)	67(19.0)	48(13.6)
Easily feeling full	79(22.4)	69(19.6)	95(27.0)	61(17.3)	46(13.1)
Resistance to new food	94(26.7)	79(22.4)	69(19.6)	63(17.9)	45(12.8)
Prejudge foods based on preconceived notions.	88(25.0)	72(20.5)	79(22.4)	55(15.6)	56(15.9)
Enjoy a variety of foods	32(9.1)	50(14.2)	71(20.2)	83(23.6)	114(32.4)
Eating Pace During Meals	52(14.8)	111(31.5)	77(21.9)	61(17.3)	49(13.9)

The analysis of participants' eating behaviors reveals several noteworthy patterns. As shown in Table 1. substantial portion (31.4%) reported a marked increase in appetite when exposed to food stimuli, with an additional 23.1% agreeing to the same, highlighting a strong responsiveness to external food cues. This suggests a pronounced food approach trait among many respondents, likely influenced by the abundance of visual food content in both physical and digital spaces. Irritability in the absence of food was also commonly reported (23.9% strongly agreed and 21.6% agreed), indicating that hunger may impact mood regulation for a large segment of participants.

Emotional undereating emerged as a relatively frequent behavior: 16.5% strongly agreed and 19.2% agreed that they tended to eat more during emotional distress, while only 20.2% disagreed and 23.9% strongly disagreed. This pattern points to a noticeable subset of individuals using food as a coping mechanism, aligning with broader research linking stress and negative emotions to increased calorie intake. In contrast, emotional overeating was more evenly distributed—24.3% strongly agreed and 25.9% agreed, but a notable 30.8% either disagreed or strongly disagreed, suggesting diverse emotional responses to food, where some lose their appetite under emotional strain, while others do not.

Social context also played a nuanced role in eating patterns. While 39.2% reported increased hunger around others eating, a nearly equal proportion (35.6%) disagreed or strongly disagreed, highlighting a split in how social settings influence appetite. This variability may be shaped by individual differences in social behavior, self-consciousness, or cultural dining norms.

Overall, these results underscore the multifaceted nature of eating behavior, influenced by both internal emotional states and external environmental or social triggers. Recognizing this diversity is essential when developing tailored strategies for promoting healthy eating habits.

The responses related to food avoidance and mealtime behaviors revealed insightful trends about participants' attitudes and habits. A strong majority expressed aversion to food wastage, with many firmly opposing the idea of leaving food on their plates—an indication of ingrained cultural or personal values related to food respect and consumption norms. Prejudging food—forming opinions before tasting—was not a dominant trait, though a notable minority admitted to this behavior. This suggests that while food judgments based on appearance or preconceived notions exist, they are not widespread. Interestingly, responses regarding changes in eating pace during meals were highly variable.

An examination of how participants interact with food-related content on social media highlights clear variations in engagement behavior. Out of the 350 respondents, 28.57% (n = 100) were identified as silent followers, meaning they consumed food content passively without liking, commenting, or sharing. This passive behavior may reflect a general interest in food-related content without a strong desire for social interaction or contribution. The largest proportion of respondents (42.57%, n = 149) were partially engaged, indicating moderate interaction, such as occasional likes or shares, which suggests a more selective or situational form of digital engagement. Meanwhile, actively engaged users comprised 28.28% (n = 99) of the sample, frequently interacting with or creating food-related content. This group likely has a higher level of interest in food trends, culinary practices, or digital food communities. These findings illustrate that while a significant portion of young adults are exposed to food content online, only a smaller segment consistently engages with it at a high level, which could have implications for how digital food media influences eating behavior, food choices, and dietary habits.

Table 2: Distribution of the participants based on their Body Mass Index variable

BMI	Frequency
Underweight (Less than 18.5)	8(2.28)
Normal (Between 18.5 and 23.5)	153(43.71)
Overweight (Between 23.5and 25)	96(27.42)
Obese (Greater than 25)	94(26.85)

The distribution of participants according to Body Mass Index (BMI) reveals a health profile that reflects both positive trends and areas of concern. Nearly half of the respondents (43.71%) fall within the normal BMI range, suggesting a generally healthy weight status among a significant portion of the sample. However, the remaining data points to a notable prevalence of weight-related health risks. Over half of the participants fall outside the normal range, with 27.42% categorized as overweight and 26.85% as obese. This high combined percentage (over 54%) indicates a considerable burden of excess weight, which may be influenced by lifestyle factors such as dietary habits, digital food exposure, and physical activity levels. The underweight category, comprising only 2.28% of participants, represents a small minority, suggesting that undernutrition is not a major issue in this population. Overall, the findings point toward the need for targeted interventions focusing on weight management and healthier eating behaviors, especially given the high rates of overweight and obesity among a digitally active and economically stable demographic.

The correlation analysis reveals significant but modest positive associations between adult eating behavior and two key variables: Body Mass Index (BMI) and the level of engagement with food-related content on social media. A correlation coefficient of 0.166 (p<0.01) was observed between eating behavior and BMI, suggesting that individuals exhibiting stronger appetitive traits tend to have slightly higher BMI values. This implies a possible link between eating patterns and weight status, aligning with existing evidence that eating behaviors can influence body composition over time. Additionally, a correlation of 0.156 (p<0.01) was found between eating behavior and engagement with online food content, indicating that individuals who are more engaged with food-related content on social media also tend to exhibit stronger eating behavior traits. This may reflect the influence of digital food exposure on appetite, cravings, and consumption patterns. Although both correlations are relatively weak, their statistical significance suggests meaningful trends that warrant further investigation. These findings imply that both physical health indicators and digital exposure may play influential roles in shaping how adults approach food, highlighting the interconnectedness of online behavior and dietary habits

Discussion

The widespread display of visually appealing food content, often referred to as "food porn," has become a dominant feature of the digital food landscape. The term "food porn," which originated in academic discussions during the 1970s, has transformed into a pervasive digital trend, especially on social media platforms such as Instagram (Krogager & Leer, 2024) [12]. The purpose of the study was to shed light on the complex interplay between eating behaviours, digital engagement, and body weight among young adults. Platforms such as Instagram, Facebook, YouTube, Twitter, and Snapchat are filled with eye-catching images, videos, and posts highlighting tempting food creations, popular diets, and food experiences from across the world (Canet *et al.*, 2021) [15] and this digital revolution has profoundly influenced food consumption behaviours. The study highlighted how the increased exposure to food-related content online will shape the eating behaviour of the participants within the age of 25-45. The analysis of participants' eating behaviours reveals several noteworthy patterns. A substantial proportion of respondents reported a heightened appetite when exposed to food cues, indicating a strong reactivity to external visual food stimuli—a characteristic commonly associated with increased food approach tendencies in both digital and real-world scenarios. Individuals can become interested in food solely through visually appealing images on social media, without needing to taste, smell, or touch it (Hartman., 2012) [9]. However,

social settings appeared to produce mixed effects: while some participants reported increased hunger in the presence of others eating, the lack of consensus suggests variability in social influence on appetite, possibly shaped by personality traits or social habits.

Interestingly, emotional overeating was relatively prevalent, with a considerable number of participants reporting a tendency to eat more in response to emotional states. This reflects a coping mechanism where food serves as a source of comfort during stress or emotional distress. Emotional eating is considered a contributing factor to obesity. It indicates that emotional eaters tend to consume more calorie-dense foods when experiencing negative emotions compared to those who do not eat emotionally. Similarly, Ozier *et al.* (2008) [16] identified a positive association between emotional eating and individuals who are overweight or obese

A strong majority expressed aversion to food wastage, with many firmly opposing the idea of leaving food on their plates—an indication of ingrained cultural or personal values related to food respect and consumption norms. Similarly, most participants did not report feeling full easily during meals, suggesting either larger portion tolerances or delayed satiety signals, which could potentially contribute to overeating tendencies in some individuals. Collectively, these behaviours reflect a population that is generally open-minded and food-positive, yet potentially vulnerable to patterns associated with overeating due to satiety and pacing dynamics.

The analysis of digital engagement with food-related content reveals distinct patterns in how participants interact with online food media. A significant portion of the sample was identified as *partially engaged* users—individuals who occasionally interact with food content through likes, shares, or comments, without consistent or in-depth involvement. This group, making up the largest segment, reflects a moderate level of interest, suggesting that food content plays a recurring, though not central, role in their digital lives. The *actively engaged* group made up 28.3% of the sample, representing those who frequently interact with and possibly create food-related content online. This group is likely more susceptible to digital influence in their eating behaviours and may also contribute to shaping online food culture .The findings are supported by data from Global Statistics 2021, which highlighted the growing prevalence of social media use in India. According to the report, approximately 448 million Indians were active social media users, with the average individual spending around 2 hours and 25 minutes per day on these platforms (Dixit *et al.*, 2020) [7].

The BMI distribution among participants reveals a concerning trend, with more than half of the sample (54.27%) falling into the overweight or obese categories, despite nearly 44% maintaining a normal weight. This suggests that weight-related health risks are prominent within this digitally active demographic. Numerous studies have also identified a positive association between increased screen time or social media use and elevated BMI, poor sleep quality, and higher obesity rates in young adults, further reinforcing the potential impact of digital behaviours on health outcomes (Ali *et al.*, 2021) [1].

The low incidence of underweight individuals (2.28%) indicates that undernutrition is not a significant issue; however, the prevalence of excess weight points to lifestyle influences such as poor dietary choices, reduced physical activity, and frequent exposure to food-related digital content. Given the participants' high engagement with social media and digital platforms, where food content is both pervasive and influential, these factors likely contribute to overeating tendencies and disrupted satiety signals. Similarly, young adults' health and lifestyle patterns may shift, as evidenced by unhealthy food choices and increasing BMI levels. The results of this study align with previous research on youth populations, highlighting potential transformations in dietary behaviours and overall health practices (Spence *et al.*, 2016) [13].

The findings demonstrate a statistically significant positive relationship between adult eating behaviour, Body Mass Index (BMI), and engagement with online food content. Higher BMI levels were found to be associated with greater food responsiveness and emotional overeating consistently across all measured time points. In contrast, higher BMI was linked to a reduced ability to feel full or satisfied after eating.

The correlation between adult eating behaviour and digital engagement was found to be $r = 0.156$, also significant at the 0.01 level, implying that increased interaction with online food-related content, such as viewing, liking, or sharing food posts, is associated with heightened eating behaviours. Viewing images of food can produce similar reactions to seeing real food, with a few images increasing appetite, while viewing many can lead to a sense of fullness. These effects are influenced by how vividly a person imagines eating the food, which in turn can be affected by the way the images are presented (Andersen *et al.*, 2021) [3]. Given that over 54% of participants were categorized as overweight or obese, and that 70.85% were at least partially engaged with digital food content, these correlations underline the potential influence of digital environments on dietary habits. This emphasizes the need for public health interventions that not only address physical lifestyle changes but also consider the impact of digital exposure on eating behaviour and weight management.

Conclusion

In conclusion, the study highlights the intricate interplay between digital media exposure, eating behavior, and body weight among young adults in the Trivandrum district. With a significant portion of participants exhibiting heightened responsiveness to food stimuli and emotional eating tendencies, coupled with high rates of overweight and obesity, the findings suggest that digital food content, especially on social media, plays a meaningful role in shaping modern dietary habits. The statistically significant yet modest correlations between adult eating behavior, BMI, and online engagement emphasize the cumulative impact of digital consumption on physical health. These insights point to the urgent need for integrated public health strategies that address not only nutritional education and physical activity but also digital literacy and mindful media consumption, ensuring that the growing influence of food-related digital content does not compromise long-term health outcomes.

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