Unhealthy Eating patterns amongst Indian Adolescent Girls

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BACKGROUND
To see the influence of factors such as peer influence and social media on unhealthy eating patterns amongst upper-middle class Indian adolescent females aged 14-17.

ABSTRACT
There can be multiple factors which may influence unhealthy eating patterns amongst adolescents, such as peer influence or social media. In this study conducted on girls aged 14-17 (n=60) from one school, it was found through a self-reported questionnaire that majority of the participants show symptoms of unhealthy eating patterns, and while the hypothesised factors are not so influential, the paper suggests the correlations between different eating behaviours that may possibly lead to future developments of disordered eating. Additionally, the paper looks at the limitations that come along when a study like this is conducted, and how other factors such as culture can play a large role in the study of behaviour. Due to the self-reported nature of the data, the results are what the adolescent's perceive to be influential factors. The difference between eating disorders and unhealthy eating patterns is discussed, because the two are not the same, and have to be differentiated in order to understand this paper.
Keywords: Eating Habits, Unhealthy Eating Habits, Indian Adolescent Girls, Peer Influence, Social Media, Negative Food Attitudes In Adolescents.

INTRODUCTION
Unhealthy eating patterns can be described as eating behaviours that lead to poor health outcomes, including emotional eating, disordered eating such as binge-eating or dieting, negative attitudes towards food, etc. (Hart, 2014). Research has been found on these patterns being developed through one's childhood, and can stem from a number of factors.

By reviewing the available literature, it was able to show how unhealthy eating patterns have arisen amongst adolescents primarily in the last decade or so, with most research focusing on female adolescents. Majority of the research suggests that female adolescents are at risk for developing symptoms of disordered eating, and exhibit behaviours of eating unhealthy. These behaviours can be linked to a negative relationship with food, due to distorted perceptions of food such as believing that eating will result in weight-gaining, or believing that certain foods high in sugar or calories may cause rapid weight-gain. While the latter may be true, avoiding and restricting these foods entirely is what becomes an unhealthy pattern, because restriction in any form is not at all healthy, especially for adolescents. Girls at just 14 years of age want to lose weight and skip meals or count calories in

their food in order to do so, and this adds to creating an unhealthy eating pattern, which may develop into a serious disorder in the future.

There is a difference between eating unhealthy foods and unhealthy eating patterns. The former is specific to diets, such as eating junk foods and not having enough fruits, vegetables and fibre in your diet. The latter, however, is more about how one's approach to food is, and what their mindset is when it comes to eating. For example, unhealthy eating patterns can include restriction of foods, or skipping meals, in a desire of wanting to lose weight. These are all unhealthy eating patterns due to a disordered relationship between individuals and food, which can stem from numerous factors such as social media, peer influence, familial influences etc. This paper thus looks not at eating unhealthy foods, but rather at unhealthy eating patterns.

When looking at India specifically, culture comes into play because eating patterns differ across cultures. We can explain this by doing a comparative review between two pieces of research - one which was conducted on adolescents in Delhi by Chugh and Puri, 2001, and one on adolescents in Turkey by Soyer et. al, 2008. While both studies looked at concerns amongst skipping meals and food choices amongst the different groups, the actual reasons behind it were different. Amongst Turkish adolescents it was found that skipping meals was associated with the taste of the food, and its nutritional value. Amongst the Indian adolescents, it was more about the desire of wanting to lose weight and having low self-esteem due to dissatisfaction with their bodies. This shows how unhealthy eating may exist in multiple places, however the actual eating culture in different regions can influence the approach towards eating. In Turkey, it was not social media that drove unhealthy eating, but other social factors such as educational levels that impact eating behaviours and can lead to skipping meals. Indian-specific research on the eating behaviours of adolescent females has been conducted, which correlates with other findings on the desire to lose weight and be thin, along with unhappiness with their bodies. In a study conducted by Shroff and Thompson, 2004, on a sample of adolescent and adult females in Mumbai, India, it was found that past teasing correlated with body dissatisfaction and a desire for thinness. Their study in fact counters the argument of culture, because the findings were in accordance with samples in the UK, Australia and Swedish, which show how some risk-factors and similar
cross-culturally.
Social media can be defined as any social networking site that enables interactions between individuals, and allows for sharing of content (Ventola, 2014). Social media can impact eating behaviours in a number of ways. For starters, use of social media and entertainment media have been associated with consumption of unhealthy foods for snacking (Ventola, 2014). Additionally, the content on social media often features ideal lifestyles and people posting pictures of their bodies and lifestyles, which can often lead to viewers desiring the same. This is especially dangerous for teenagers, who make up for a large portion of social media users. This is one of the factors that this paper will study, as it studies whether or not seeing a body type on social media is perceived as an influence to an individual's eating
patterns.

Another major factor being studied is peer influence. In a study conducted by Meyer et al. (2008), results found that peer influence has a strong positive correlation with unhealthy eating patterns and disordered eating symptoms. The paper will also analyse other factors of possible unhealthy eating, such as feelings of guilt after eating, skipping breakfast and following diets.

Adolescents have stated lack of time, lack of hunger and dieting to lose weight as common reasons for skipping breakfast (Shaw, 1998). In a study done by Adams and Leary (2007), it was suggested that negative thoughts about oneself after eating, such as guilt, plays a role in future failure to eat and future restriction. It is also important to look at the various other symptoms that are congruent with unhealthy eating. There can be correlations made between a desire to lose weight and skipping meals to do so. All of these come under unhealthy eating patterns, because they lower self-esteem and enforce a continuous cycle wherein restriction of food becomes repetitive. The purpose of this paper is to shed light onto some of the unhealthy eating patterns that are prevalent in the selected sample, which is upper-middle class Indian adolescent females, aged 14-17.

METHODOLOGY
The method used is a questionnaire and reviewing of existing literature. The sample was taken from one school, of 60 females aged 14-17 from upper-middle class Indian society, with mean age of 15.7 years old. Participants had to fill out a self-reported questionnaire, which included questions on symptoms of disordered eating and factors which influenced eating behaviours. Responses were measured on a three-point Likert scale of either 'yes', 'sometimes' or 'no'. This data was then analysed as primary research for the purpose of this paper.
RESULTS
Description of factors of eating patterns and behaviours.

Girls aged 14-17 *(n = 60)*

Eats a good breakfast (%)
Yes   33.33
Sometimes   43.33
No   23.33
Has cravings of specific foods during the
day (%)
Yes   66.66
Sometimes   26.66
No   5
Has feelings of hunger during the
day (%)
Yes   51.67
Sometimes   43.33
No   6.67
Feels guilty after eating (%)
Yes   25
Sometimes   38.33
No   36.67
Eating habits are influenced by
my peers (%)
  Yes   11.66
  Sometimes   25
  No   63.33
Eating habits are influenced by social media
(%)
Yes   13.33
Sometimes   25
No   61.66
Find themselves over-eating (%)
  Yes   23.33
  Sometimes   51.67
  No   25
Find themselves under-eating (%)
Yes   21.67
Sometimes   43.33
No   35
Count calories in their food (%)
Yes   23.33
Sometimes   16.67
No   60
Wanting to lose weight (%)
Yes   40
Sometimes   38.33
No   21.67
Skipping meals (%)
Yes   31.67
Sometimes   45
No   23.33
Feel pressured to not eat if their peers are also
not eating (%)
Yes   16.67
Sometimes   38.33
No   45
Want a body type as that of someone they saw on
social media (%)
  Yes   75

Sometimes	16.67
No	8.33

Results were taken based on the participant's responses to questions on unhealthy eating patterns and their possible influences. All responses were taken from the answers to the questionnaire itself. The highest response for the number of times eaten in a day was 3x, at 45%. 28.3% of participants eat only twice a day, and 25% eat 4-5 times a day.

23.3% of participants answered 'no' to eating a good breakfast, and 43.3% of participants answered 'sometimes' to the same. Only 33.3% of participants answered 'yes' to eating a good breakfast every day. 66.7% of participants answered 'yes' to experiencing cravings of food during the day, and 51.6% of participants answered 'yes' to experiencing feelings of hunger during the day. When asked about feelings of guilt after eating, it was found that 25% answered 'yes', and 38.3% said 'sometimes'. Eating habits being influenced by peers was not significant, with only 11.7% answering 'yes', and 25% answering 'sometimes'. Similar results were seen for eating habits being influenced by social media, with 13.3% answering 'yes' and 25% answering 'sometimes'.
Questions on under-eating and overeating showed that 51.6% of participants answered 'sometimes' to over-eating, and 43.3% answered 'sometimes' to under-eating.

Only 40% of participants answered 'yes' and 'sometimes' for counting calories in their food, so the data is not significant.

40% of participants said 'yes' and 38.3% of participants said 'sometimes' for wanting to lose weight. When asked if they skipped meals, 45% said 'sometimes' and 31.7% said 'yes'
definitively.

48.3% of participants answered 'yes' to avoiding certain food groups. When asked about which foods or food groups they avoided, 82% of those who answered 'yes' mentioned carbs, fatty foods and foods high in caloric values. Other responses included fruits and vegetables or oily foods.

Results for peer influence on eating behaviour were insignificant, with 38.3% answering 'sometimes' if they felt pressured to not eat if their peers were also not eating. Only 16.7% answered 'yes'. When asked if they ever wanted a body type as that of someone they saw on social media, 75% of participants answered 'yes' definitively. 66.7% of participants said 'no' when asked if they have ever followed a diet to lose weight.

The BMI (Body Mass Index) of participants was also asked, to find a possible correlation in one's BMI with unhealthy or healthy eating behaviours. It was found that those participants who eat an ideal number of times a day, which is 3 times, fell in the ideal weight category in their BMI's. It was found that the majority of the participants who said 'yes' or 'sometimes' to unhealthy eating behaviours such as skipping meals, had either a low or high BMI, making them underweight or overweight. 61.67% of the participants fell under the 'ideal weight' category, 28.33% under the 'under-weight' category and 1% came under the 'overweight' category of the different body mass indexes.

Skipping breakfast was also correlated with cravings and feelings of hunger during the day. This was also found in the primary research, where 92.9% of participants who answered 'no' to eating a good breakfast also answered 'yes' or 'sometimes' to feeling hunger and cravings during the day. There was a correlation between wanting to lose weight and skipping meals as well, with 58.33% of participants who answered 'yes' to wanting to lose weight also answering 'yes' to skipping meals.

DISCUSSION

There are a number of factors influencing eating behaviours and unhealthy eating patterns. The factors that were hypothesised actually did not turn out to be severely impactful factors when looking at female adolescents in a class of Indian society. In fact, the paper helps us to better understand the high prevalence of unhealthy eating behaviours of adolescent females, rather than what all are the factors that influence it. Unsatisfactory meal profiles were observed in 14% of adolescents, and daily consumption of breakfast, lunch and dinner were at 47%, 78%, and 52% of adolescents, respectively (Rodrigues et. al, 2017). This coincides with data taken in this paper as well, as the consumption of a good breakfast was only at 33.33% in the participants.

Eating disorders are predominantly affected females aged 12-15 (Martin et. al, 1999). Anomalous eating behaviours was detected in 46.3% of participants (Martin et. al, 1999).

This shows the prevalence of eating disorders in the world, where an increase of eating disorders has been observed. Eating disorders are different from disordered eating and unhealthy eating patterns, however symptoms do coincide between the two. Disordered eating includes negative body image, low self-esteem and while these are also present in those with eating disorders, the latter is a mental disorder which seriously affects the cognition and mental state of those who have it, and of course, it needs to be diagnosed clinically. It is important to differentiate between eating disorders and unhealthy eating behaviours, because they are different terms which cannot be used interchangeably, and therefore the difference needs to be understood in order to understand this paper as well, since it looks at unhealthy eating patterns and behaviours.

SOCIAL MEDIA

Social media showed some unhealthy mindsets, such as wanting an ideal body which they saw on social media, such as that of social media influencers. Negative self-esteem and body image issues may arise from social media, however most of the research shows social media's influence on eating unhealthily, but not social media's influence on disordered eating patterns. Social media may influence poor eating habits and maladaptive eating behaviours (Chung et al., 2021).

PEER INFLUENCE

Adolescents' eating behaviours are known to be strongly influenced by their social environments, which include family, friends and peer networks (Pearson, 2012, p. 932). Previous research has indicated that the eating behaviours and patterns maintained by friends and peers can influence adolescents' eating behaviours (Pearson, 2012, p. 937). The study conducted by Pearson et al. showed how eating behaviours in adolescent girls was congruent with the eating behaviours of their peers. There is very little research on peer influence on eating behaviours of adolescents, which is why it is hard to make proper correlations between the two, without ignoring the limitations that come with analysing this data. As stated before, the responses are what the participant's perceive to be an influence on their eating behaviours. The same way, if participants are unaware of an influence on their eating through either peers or social media, then this may be a confounding variable for the study because that data may not have been reported in the questionnaire. There could be participants whose eating behaviours are unconsciously mirroring or being influenced by their peers, but since they are not aware of this and aren't perceiving it consciously, they do not report this.

UNHEALTHY EATING BEHAVIOURS

When looking at unhealthy eating patterns observed in the primary data, it corresponds with the prevalent literature which is available. The paper found more symptoms rather than influential factors when looking at unhealthy eating behaviours and patterns. Unhealthy eating patterns include skipping breakfast, skipping meals, overeating or under-eating, counting calories in food, etc., all of which were mentioned in the questionnaire as part of primary research, and had significant responses for 'yes' or even 'sometimes' out of the sample of girls. Many of these symptoms have been linked with unhealthy or disordered eating.

Data suggested that there is a correlation between not eating breakfast and feeling hunger and cravings during the day, which was also supported by the primary data. This shows how skipping breakfast, or not having a nutrient-sufficient breakfast can lead to hunger-pangs during the day, as this is the body's way of making up for the lost nutrition. In adolescents, skipping meals leads to these cravings during the day, and can even lead to snacking on junk foods due to it being readily available and convenient to consume.

Furthermore, there is a correlation between skipping meals and a desire to lose weight. In a study conducted by Brown et al, 2016, it was found that there were motivating factors that drove the desire to lose weight, and adolescents were more likely to be skipping meals in order to lose weight. Meal skipping is also associated with other unhealthy eating habits, such as eating non-nutritious food like junk and not eating fruits and vegetables, which are the nutritious food that adolescents ideally should be consuming.

What the primary and secondary research both show us is that adolescents can be susceptible to developing unhealthy eating patterns, and especially in adolescent females, where even the research conducted is much higher than that of adolescent males.

OTHER INFLUENTIAL FACTORS

There are other possible influential factors to unhealthy eating that this paper did not look at. For example, the effects of stress on eating, which is relevant not just due to its increased commonality amongst individuals, but also because in adolescents, stress from school and personal lives can lead to things like emotional eating. Emotional eating can be defined as eating in order to regulate one's emotions. For example, they could be a distractor to negative emotions (Tice & Bratslavsky, 2000). Often emotional eating can be accompanied by feelings of guilt afterwards. If we look at the primary data, 25% of the participants felt guilty after eating, and 38.33% of the participants said they feel guilty sometimes. This shows the prevalence of guilt in adolescents, however there is no clear way of determining whether this guilt can be associated with disordered eating as the nature and intensity of the guilty feelings are undefined.

Another major factor that has a lot of literature to back it up, is the maternal influence on unhealthy eating. Familial influences on unhealthy eating habits exist, however when looking specifically at disordered eating patterns, there is a much higher influence of mothers on their daughters. Pearson, 2012, conducted a study on peer and maternal influences on skipping breakfast, and it was found that adolescent girls were more likely to skip breakfast if their mother's also did. There have also been findings that suggest that adolescents mirror the eating patterns of their family members, such as children of coffee-drinkers will also start to have coffee at a younger age in comparison to other children.

LIMITATIONS

One of the largest limitations of the study was that the majority of the data was correlational. This means that there is no definitive direction as to which variable is influencing the other, which is a problem in psychological research known as bi-directional ambiguity. While there is a correlation in the data, it is unclear whether we can say that skipping meals is motivated by a desire to lose weight or that skipping breakfast subsequently leads to feelings of hunger and cravings throughout the day.

Moreover, the correlation between the Body Mass Index (BMI) poses the same problem, because BMI's can be influenced by numerous factors such as metabolism rate, genetics and level of movement in an individual, all of which were not taken into account for this particular study. This means that a person can consume unhealthy foods and have unhealthy eating patterns and still be under the 'ideal weight' category for their BMI's. Due to this, taking an individual's BMI may not be the most ideal factor when looking at eating behaviours.

When looking at the data, it is self-reported, therefore what we take from it is what the adolescents perceive. To break this down, this means that someone could perceive that there is an influence from their peers or from social media, even if there isn't. The same way, if some adolescents do not consciously observe their eating behaviours in relation to that of their peers, then it is not possible to get that data from them because they do not perceive their peers as influential factors on their own eating behaviours. This becomes a limitation not just due to data inaccuracy, but also because there cannot be a definitive correlation between the factors influencing eating patterns as the data is self-reported.

Another limitation which was present in the data-taking of the questionnaire was the limitations of the 3-point Likert scale. 'Yes' and 'No' are definitive and precise responses which help to analyse data with more clarity. However with the option of 'sometimes' it makes it harder to both analyse and interpret responses. That being said, it is also not possible to ignore this as a response option, because participants may feel like they are in between yes and no, especially in hard-hitting questions such as whether or not they experience guilt after they eat, or if they find themselves skipping meals. This was the reason that the 'sometimes' option was given, because most of the time there may not be a definitive yes or no response. Additionally, the 'sometimes' response suggests that there is some probability to what the researcher is trying to investigate, allowing for an in-between response to just yes or no. If this option were not given, then results may have been inaccurate for those who could not decide between a yes or a no affirmatively. Giving any other point Likert scale would introduce a lot more options, and this would have made it difficult to narrow down the responses and assess the correlation between variables, which is why it was important to use a three-point Likert scale in this particular research
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When looking at any research of behaviours, it is necessary to take into account the cultural approach. With this study specifically, the sample size is limited in terms of socio-economic status, gender and region. Cultural factors are important to factor in, especially when looking at disordered or abnormal behaviours. Eating behaviours in Indian culture can vary across the multiple religions and subcultures that exist in India. Similarly, eating behaviours may not be the same in rural places as it is in higher classes of India. The education about eating behaviours is also something that is not readily available, even in upper-middle classes of India. Many people do not understand the concept of eating disorders, and may not even know that they possess certain symptoms of disordered eating. Culture becomes a limitation in this way, not just for this paper, but for any research conducted on mental disorders because influences, risk-factors and protective-factors will be different for different culture groups. In fact, majority of the literature that was reviewed for this paper was not about Indian adolescent females,

which makes the generalisability questionable, however it is the only resource material available and therefore research such as these allows for more insight and opens up avenues for further research into the topic.

CONCLUSION

The holistic picture to look at with this particular paper and its findings is that there is a prevalence of unhealthy eating patterns in adolescent females from upper-middle class India. Both the primary data and secondary research reach a consensus that says that certain eating behaviours in adolescents is extremely unhealthy, and some of the higher statistics for the frequency of 'yes' and 'sometimes' responses that were received in the questionnaire actually show how multiple females across the ages of 14-17 demonstrate patterns in their eating that are concerning. It is not just their eating patterns but also their approach to food, such as restriction and guilt that point to signs of disordered eating behaviour, and this paper shows how factors including social media, peer influence and parental influences are all possible contributors towards adolescent females developing these behaviours. It also shows the different patterns that have been largely expressed, which contribute towards unhealthy eating behaviours.

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