

# ***Binge Eating in Adolescence and Its Relationship to Negative Emotions: A Review***

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**Abstract.** Binge eating behaviour impacts individuals profoundly, and it usually happens without conscious awareness. It can cause vast burden to an individual's physical and mental health. This review focuses on the motivation of binge eating in the adolescent population, regarding negative emotions, especially anxiety, as the trigger for such behaviour and the tendency to behave in this way. This paper reviewed a variety of journals, including cross-sectional studies, longitudinal studies, literature reviews, concept analysis and clinical reports. Research findings indicates strong correlation between negative emotions and binge eating, and that adolescent is especially vulnerable and more likely to be exposed and affected negative emotions and thus develop binge eating behaviour. This review could be beneficial for adolescent individuals, by being aware of the association between negative emotions and binge eating, understanding how it could happen and possibly prevent it from happening. Future studies could look more specifically into a particular negative affect's relationship on binge eating through a continuous time period of different gender separately.

**Keywords:** Binge Eating, Negative emotions, Anxiety, Adolescence

## **1. Introduction**

Binge eating disorder was only clinically defined as recently as 2013, with a definition of “eating an amount of food that is larger than most people would eat in a discrete period of time, accompanied by a sense of lack of control” [1]. Previous research exploring binge eating behaviour in the past thirty years has come up with many theories explaining the origins of such behaviour. Negative emotions, in particular, anxiety, and their relationship with binge eating was an area repeatedly explored amongst the research. Initial research argued negative affect is the antecedent to binge eating and some argued it is the consequence, while more recently, it is believed that the relationship between negative emotions and binge eating is most likely to be bidirectional [2]. Research have also explored types of anxiety that have the strongest effect on binge eating behaviour [3]. In addition, the relationship between negative emotions motivated by several different reasons, and binge eating is also studied [4]. This review further narrowed down the focus to only investigate the relationship between negative emotions and binge eating within the adolescent population. Adolescence is a very sensitive period within human's life span that involves many behaviours and mental processes that differs vastly to younger ages and later adulthood. Therefore, it is important investigate negative emotions and binge eating in this period, considering its unique characteristics. This review built a bridge between a number of studies that looks into the effect of negative emotions on binge eating and as well as papers specifically about negative emotions that are more likely to present in

adolescence than any other period, together to approach the purpose of providing reference for adolescents, who are or would be affected by binge eating, on reasons that cause them to tend to behave in such way, both in general and specifically with traits that are only associated to adolescence. Anxiety also plays an important role in causing binge eating behaviour [5]. As it was believed that anxiety has the most contribution to binge eating compared to any other mental illnesses, for example depression and stress [4]. Furthermore, different anxieties and their different impact on binge eating behaviour were studied. With findings indicate that social appearance anxiety, among all the others, appears to be the one having the most effect, this is particular the case for adolescents [6]. Moreover, amongst the negative emotions, the pessimistic cognitive process and perception of one's body are also proved to be affecting binge eating tendencies. Nonetheless, there are arguments on whether the effect applies in the same way to both male and female adolescents.

## 2. Method

34 journals were used for this review. All of them are published after 2000, as the topic is considerable contemporary. The journals could all be accessed on PubMed. After reading a few general papers relating to this topic, "binge eating", "adolescence", "negative emotions", "anxiety" are the key words used for research to this review, due to their high relativeness to the purpose of this study. The key word 'adolescence', as mentioned above, was chosen to focus the study specifically on the adolescent group, due to their unparalleled features that could have significant effect on the correlation. The following criteria are used to select literatures: 1) the literature is related to the topic of binge eating and negative emotions; 2) the literature is addressing adolescents specifically; 3) English is the language used for that literature; 4) the literatures on genetic differences and binge eating are excluded. Overall, there were total 40 articles fall in this criterion, with 17 empirical studies, 8 literature reviews, 4 longitudinal studies, 3 concept analysis and 1 clinician reports involved; other 6 articles are looking at genetic aspect of binge eating, and thus were excluded. Though the methodologies of these studies all varied, they were not excluded for this reason. The result would be separately analysed according to these sections: a) anxiety and binge eating; b) cognitive process involved in binge eating; c) learning about binge eating.

## 3. Findings

Negative emotions are strongly correlated to binge eating, there are multiple ways which negative emotions are causing binge eating behaviour. Despite solely act as the trigger, as Chao explained in her concept analysis, the relationship between negative emotions and binge eating should be illustrated as bidirectional [2]. A loop could be built to describe their relationship. This review explains the relationship between negative emotions and binge eating from three perspectives: anxiety, negative urgency and maladaptive approach to the experience of negative emotions. Nonetheless, these three perspectives of negative emotion's relationship to binge eating are still inter-connected, and together contribute to the loop relationship of negative emotions and binge eating.

### 3.1. Anxiety

Anxieties are often comorbid with binge eating disorders. It is strongly correlated to binge eating behaviour, and it is more salient than any other psychiatric illnesses, like stress and depression [4,5]. Brosf found that 70% of binge eaters have been diagnosed with anxiety disorders [4]. Amongst all types of anxieties, the ones that's related with an individual's social appearances are the most common trigger to binge eating [7]. Indeed, recent studies provided more support towards this statement. Social appearance anxiety, trait anxiety and social anxiety are strongly correlated with individual's tendency in being involved in binge eating behaviours [8,9,4]. Adolescents are

experiencing more of the above anxieties, as they begin to have decreased self-esteem and increased negative body image as they enter this specific time period, which directly leads to body dissatisfaction which predicts binge eating. Statistics showed that body dissatisfaction contribute to 25% of binge eating behaviour in adolescent population [6]. Jung also concluded that appetite is positively correlated with level of anxiety [10], indicating more likelihood of engaging in binge eating behaviour when experiencing high degree of anxiety. Furthermore, anxiety, especially anxiety considering body image, will also lead to decreased level of self-protection and cause detachment from body, which will then trigger a series of behaviours that lead to binge eating, this will be discussed in more detail in other sections of this review. Overall, anxiety is strongly related to binge eating behaviours, particularly with the anxieties that emerge from concerns of body image profoundly predicts binge eating behaviour.

### 3.2. Negative Urgency

Negative urgencies, to act rashly under high level stress and when experience negative affect, is also causing binge eating behaviours. Mason et al. explored the relationship between impulsivity and binge eating, with results indicating the causal relationship between them [11]. Negative urgencies cause individuals to be less resistible to palatable food cues, which tend to cause binge eating in the end. This could be further strengthened if the individual is experiencing strong negative affect. Not only will negative urgency cause non planned impulsivity for consuming an excess amount of food, but it also discovered that binge eaters are more likely to be affected by negative urgencies. As individual binge eats due to their impulsive action, they become less capable of supressing unwanted responses and will have an increased tendency to act beyond planning. To conclude, negative urgency and impulsivity will cause binge eating, by driving individual to consume excess of food than they would need to.

### 3.3. Maladaptive Approach to Negative Emotions

Dingemans, Danner and Parks suggested that binge eating is associated stronger with the lack of adaptive way for dealing with negative emotions, than the experience of negativity [9]. The lack of adaptive method would lead individuals to use extreme behaviours, for example dietary restraint and binge eating, as the way to reduce the negative emotions. Although binge eating could be effective with relieving short term negative emotions, it would build up more negativity and especially anxiety towards one's body weight and shape after conducting such behaviour [4]. Dietary restraint also would result in increased level of impulsivity and the appearance of negative urgencies, which causes binge eating, as it was discussed previously [11]. In addition, multiple other researchers suggested the learning association formed with binge eating as the negative reinforcer for the removal of stress and other negative effects [1,4,12]. Boggiano et al. investigated the motivation for eating tasty food that associated to binge eating and concluded that 'Coping' is the strongest motivation behind binge eating, which refers to the usage of food to forget worries, soothe nervousness and depression, and cheer up bad mood [12]. Lee-Winn et al. also explained the positive correlation of escape-avoidance and binge eating in adolescents [13]. Moreover, a learning process which involves eating as the negative reinforcer for negative emotion relief could be built after repeatedly taking this approach when encountering negative emotions. Therefore, every time when an individual experiences negative emotion, they would use the over consumption of food as the relief. However, such behaviour will later provoking more negative emotions, including the shame and guilt for having behaved in such way, so by using binge eating as the relief the negative emotions will exacerbate the tendency for future binge eating as well as amplify negative emotions considering body images.

Consequently, the maladaptive approaches for solving negative emotions have a strong impact on forming the habit of binge eating.

#### 4. Conclusion

This review explored the relationship between negative emotions and binge eating behaviour. The results indicate strong correlation between them. To conclude, negative emotion is strongly correlated with binge eating disorder, and they share a bidirectional relationship. Anxiety, particularly those concerning appearances and body traits, is positively correlated to binge eating behaviour. It also causes later maladaptive approaches for helping with negative emotions, which again would result in binge eating. Negative urgency itself could be the cause for binge eating, and it could be the mediator between anxiety and maladaptive strategies to binge eating as well. As individuals treat their body with less protection, the result would be binge eating, which is the opposite of what they had expected. Adolescents are more vulnerable to develop binge eating behaviours, as the characteristic of this specific period makes them more likely to behave or experience things that correlate to binge eating. They are more likely to have anxiety due to the increased negative image of their body and decreased self-esteem, they act impulsively more often, and they generally tend to use less adaptive approaches when facing negative emotions compared to adults. Nevertheless, there are some disagreements occurred in the research process, including the difference in the strength of correlation for male and female groups and the effect of dietary restraint on binge eating. The first argument includes some stating there's seldom difference in male and female population, while others claimed the female population would be more affected as they concerned about their body more. suggesting the Thus, future studies could make comparisons of binge eating tendency amongst different gender and sex. The second argument involves argument from one side that states excess control over diet would contribute to the development of binge eating behaviour, and the other side arguing having less dietary restraint will evoke binge eating due to the loss of control. Although both sides implied the argument that not being able to have an appropriate attitude towards diet is correlated to eating disorders, the specific role of dietary restraint in binge eating could be explored in future studies. There is limitation on this review as only 34 journals were taken into concern, which is a small number of papers, leaving potential inaccuracy in the analysis. The keywords chosen for research are very spread out, making this review more suitable for a general knowledge on negative emotions and binge eating with a variety of factors (anxiety, negative urgencies...) included in the analysis, future studies could investigate one of the many negative emotions and explore their role in causing binge eating behaviour specifically. As this review focus on adolescent population, it could be useful for readers within that population who currently have binge eating tendencies to better understand the situation and possibly generate their approach in limiting binge eating behaviour.

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