

Explore the potential triggers to binge eating episode

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Abstract. Apart from the manifestation within the eating disorder framework, binge eating is also considered as a maladaptive eating behaviour that can occur to individuals without a formal diagnosis of eating disorder. By reviewing recent empirical literatures, negative emotions, body-image, perfectionism, and dieting seem to emerge as primary triggers to binge eating episode. Specially, negative emotions have been extensively discussed and believed to play a pivotal role in triggering the onset of binge eating. Body image and the trait perfectionism tend to be interrelated and mutually reinforced, increasing the risk for binge eating. Lastly, the effect of dieting seems to be relatively ambiguous, as it has been shown to be confounded by multiple factors, indicative of an indirect effect on binge eating. Although limitations were acknowledged, the findings of the present study still provided a comprehensive insight into the potential triggers to binge eating among the subgroup of people without eating disorders.

Keywords: Eating Disorder, Binge Eating, Emotions, Body Image, Perfectionism, Dieting.

1. Introduction

Binge eating disorder (BED) is a common eating disorder marked by recurrent episodes of binge eating. The act of binge eating usually refers to an intricate eating behaviour that involves excessive consumption of food within a short period, and the amount of intake is significantly greater than what an individual normally intake under similar circumstances [1]. However, it should be cautious when comprehending the concept of binge eating. More than simply overeating, binge eating is characterized by a sense of losing control and is usually followed by the feeling of guilt, shame, and distress after the binge episode [2]. Individuals with a previous record of binge eating are usually associated with higher physical and psychological distress, including a higher risk of low self-esteem, future weight gain, depression, and anxiety [2].

Apart from its manifestation within the BED framework, binge eating is also a shared symptom for a wide spectrum of other eating disorders such as anorexia nervosa and bulimia nervosa. Additionally, it can also occur in individuals without a formal eating disorder, particularly among overweight and obese young people, which indicates that the experience of binge eating episodes does not necessarily indicate the presence of an eating disorder [3]. To elaborate, this subset of people exhibits certain levels of eating disorder symptoms yet fail to meet the diagnostic criteria. Many of these people do not meet the necessary qualifications for a formal treatment, but the symptoms keep disturbing them and having significant impacts on their well-being. As such, it is significant to identify the potential triggers that mark the onset of binge eating behaviour, which will not only help increase awareness preventing this

group of people from further developing into BED, but also potentially provide a solution for people within this ambiguous context.

2. Key concepts

Moving beyond a confined focus on individuals with formal diagnoses of eating disorders, current study discussed the potential trigger of binge eating episodes among the general population. When perceiving binge eating as a maladaptive eating behaviour rather than a symptom of the disorder, prior literature has provided an insight into the underlying mechanism of binge eating. Firstly, binge eating can be driven by a wide range of negative emotions such as stress, depression, and anxiety [4]. It is noteworthy that another concept called emotional eating is usually confused with binge eating. Emotional eating refers to eating attributed to emotions exclusively, whereas binge eating can be attributed to multiple factors rather than emotions [4]. Prior research has also underscored that negative body image can be a strong predictor of binge eating, and possibly mediated by one's perfectionism trait [5]. Moreover, other unhealthy food-restrictive behaviour such as extreme dieting was also found being associated with increased binge eating [3]. Taken collectively, the factors mentioned above have been well-researched and considered as the major triggers of binge eating episodes.

2.1. The role of negative emotion

The predictive role of negative emotion in binge eating was supported by numerous empirical studies and it was believed that binge eating serves as a coping strategy to achieve temporal relief from negative mood [6]. For example, to understand how negative emotion varies before and after an eating episode, Stein and his colleagues invited 33 females with BED to record their binge episodes and rate the size of binge across 7 days using a portable computer [1]. Participants' mood, hunger, and other binge-related information (e.g., the place of occurrence, time of the day, and whether they were accompanied by someone) were also collected throughout the process. In particular, mood was evaluated in terms of both positive and negative emotions: positive emotions encompassed happiness, delightfulness, calmness and energy, while negative emotions encompassed sadness, misery, frustration and tenseness. The results indicated that participants displayed the strongest negative emotion after binge eating, followed by pre-binge, and then non-binge time. The significant association between strong negative emotions and the time right before the binge episode suggested that negativity can be a potential predictor of binge eating. Additionally, a vicious cycle was potentially revealed by the findings, in which negative emotion triggered the onset of binge eating and the episode of binge was followed by an increased level of negative emotions further aggravating the disordered eating behaviour. Considering the self-reported attribution for binge eating, emotion accounted for almost half of the binge episodes, while actual hunger only accounted for 14%. Although self-reported information can limit the accuracy of the results and only female participants with BED were included in the study, this finding still underscored those emotions accounted for a significant portion of binge eating [1].

Besides the general negative mood, emotional triggers also manifested in a more specific form, such as anxiety. To understand how anxiety plays a role in binge eating, Fitzsimmons-Craft et al. conducted a ten-week assessment of 406 female participants. Across the ten weeks, participants were asked to report the symptoms of anxiety, dieting, binge eating behaviour and attitude in the form of questionnaires every week [7]. It was noteworthy that participants' perfectionism trait was also examined in the first week, to examine whether perfectionism moderated the relationship between anxiety and binge eating. A significant positive correlation was found between within-person anxiety and binge eating, which meant that an individual was more likely to binge as the level of anxiety increased. From another aspect, the results also indicated that people with a higher level of anxiety tended to binge more often than those with relatively a low level of anxiety. However, the researcher posited that the effect of anxiety on binge eating can be conflicting, depending on individual differences. To elaborate, it can be the case that anxiety decreases the likelihood of binge eating in certain groups of people. Nevertheless, the overall findings still pointed to the argument that anxiety serves as a significant precursor of binge eating episodes [7]. Similarly, another common negative emotion, depression, has also been validated as a

significant predictor of binge eating [5]. In the study by Sherry et al. both depressive and anxious affect were measured among 500 undergraduates [5]. The results indicated only depression predicted binge eating in a consistent way, whereas anxiety did not show a unique effect on binge eating, which was partially consistent with Fitzsimmons-Craft et al.'s findings [7]. Furthermore, it was suggested that daily depressive affects might be associated with perfectionism, thus mutually contributing to a more pronounced negative impact on eating behaviour. In other words, depression predicted binge eating more consistently and worked as a more salient trigger for binge eating than anxiety [5].

Overall, a wide range of negative emotions have been shown as precursors of binge eating episodes. Not only binge eating is accompanied by negative feelings, but also general negative feelings lead to an increased chance of binge eating. In addition, specific negative effects, such as depression and anxiety, tended to have more a pronounced effect on triggering binge eating. However, research also highlighted that these negative emotions might not necessarily serve as a predictor in themselves, but rather as a mediator of other factors such as self-perception and perfectionism.

2.2. The role of body image and perfectionism

Secondly, how an individual perceives their body image is also believed to play a significant role in eating behaviour, where negative body image toward themselves can lead to maladaptive coping strategies [3]. Negative body image is usually experienced by people who hold an unrealistic ideal, believing themselves unattractive and feeling dissatisfied with their bodies [3]. Under this circumstance, concerns toward body image may emerge when their body is possibly scrutinized and judged by others. This phenomenon holds true even in situations where people are exposed to body-related video clips, which potentially boost the inclination to binge [8]. To further confirm this assumption, Svaldi et al. recruited 27 females with BED and 25 people without BED as the control group. Participants' binge episodes and concerns about body image were assessed by a self-reported questionnaire. Participants were also exposed to video clips that depicted two women shopping in a fashion store, and their desire to binge and their level of negative emotion were also recorded after viewing the video clips [8]. The results indicated that participants with BED exhibited a growing desire to binge after viewing body-image-related video clips, whereas participants in the control group did not display any significant change in the desire to binge. Moreover, an increased level of negative emotion was also displayed by participants with BED after viewing video clips, which suggested that negative emotion played a mediating role in the relation between body-image exposure and binge eating in the BED group [8]. In other words, people with a previous record of binge eating tended to binge more when faced with situations that aroused their body image concerns. Therefore, the interplay between body image and negative emotions tended to trigger the onset of binge episodes.

Similarly, a feeling of shame and worry toward the body may also emerge at the same time, which renders an individual holding a negative body image more likely to seek immediate but maladaptive coping strategies, such as binge eating, to relieve such a distressing feeling [3, 8]. For example, Duarte et al. conducted a path analysis to investigate the causal relationship between binge eating and the body-image-induced shame [3]. It was shown that body image shame accounted for a significant amount of binge eating variance, with a significant total effect of .54 and direct effect of .43. Besides the direct effect of body image on binge eating, an indirect effect was also revealed in Duarte et al.'s study [3], indicating the presence of a mediator; evidence showed that self-criticism significantly impacted the relation between body-image-induced shame and binge eating, in which the feeling of shame accounted for a quarter of self-criticism variance. In this sense, the fundamental mechanism whereby body image functions as a precursor to binge eating can be explained by a high level of self-standard or self-criticism which is also known as perfectionism [3]. To elaborate, it is the dissatisfaction toward self-image that contributes to the onset of disordered eating, rather than the body image itself.

Negative body image was highly intertwined with the trait perfectionism and mutually reinforced, indicating that individuals with a high level of perfectionism tended to have higher standards toward themselves, having a more negative body image. Such a mechanism was also supported by the perfectionism model of binge eating. In Sherry et al.'s study, besides the negative emotions discussed

before, two different forms of perfectionism were also considered: Self-orientated perfectionism is defined as an internal high standard that demands a perfect self, while socially prescribed perfectionism is defined as a belief that the surrounding people expect them to be perfect [5]. However, within the perfectionism model, it was posited that only socially prescribed perfectionism played a significant role in triggering binge eating. The results were consistent with the assumption of the model, suggesting that people with high socially prescribed perfectionism exhibited a higher tendency to binge due to stronger depressive feelings and lower interpersonal esteem. Similar results were also revealed in a more recent study that individuals with a high level of socially prescribed perfectionism and a history of binge were more prone to engage in next-day binge eating, when inhibiting the binge-related behaviour the day before [9]. Overall, binge eating served as a coping strategy, especially for people who were high in concerns toward body image and socially prescribed perfectionism traits, to seek comfort and escape from negative feelings.

2.3. The role of dieting

Dieting usually refers to an eating behaviour that limits the intake of food, with or without the purpose of losing weight. Although dieting seems to be contrary to binge eating as one is defined as restrictive eating and the other is defined as unrestrictive eating, they can indeed co-occur. The intricate interplay between dieting and binge eating has been demonstrated in numerous studies. For example, it was believed that dieting and binge eating usually occur together in an alternating pattern, which meant that a successful period of dieting was usually followed by a period of unrestrictive binge eating, and then returning to a new period of dieting [10]. Such a cyclical relationship between dieting and binge eating was also supported by the concept of weight suppression which refers to significant weight loss as the result of dieting [10]. A significant positive correlation was found between weight suppression and binge eating, indicating that individuals with a high diet-induced weight loss were vulnerable to binge eating [11]. However, a significant correlation did not necessarily indicate a causal relationship, and the direction of the effect remained ambiguous. It might be the case that people start dieting to compensate for the episode of binge, which then suggests that it is the binge eating that triggers the dieting.

Apart from the unique effect of dieting on binge eating, dieting was also found to be associated with negative emotions, self-efficacy, body image and perfectionism. For instance, people with a negative body image and high standards toward themselves tend to pursue immediate weight loss through dieting, which renders them at a higher risk of binge eating in the future. To validate such an assumption, Cain et al. invited 426 female students aged between 17 and 25 to participate in the study, as this age group was believed to be associated with a higher possibility of dieting and stronger concerns for body image [12]. Data included the level of perfectionism, self-efficacy (confidence in own general ability and specific ability to obtain desired body shape), weekly stress, body mass index, dieting and binge eating was collected in the form of questionnaires. The results indeed demonstrated a significant four-way interaction (perfectionism, interpersonal stress, self-efficacy as general and in body shape) linked to dieting behaviour. It suggested that the combination of high perfectionism, lack of confidence in own ability to obtain the desired body shape. Higher stress about body image can lead to an elevation in dieting. Furthermore, results also indicated that individuals who did not believe in their ability to achieve the ideal body shape were associated with a higher level of both dieting and binge eating, despite the effect being relatively small yet significant [12]. Taken collectively, the predicting effect of dieting on binge eating tend to be confounded by multiple factors as discussed above, indicative of an indirect effect rather than as a direct trigger to the binge eating episode.

3. Discussion

Some common limitations were identified. When collecting data about negative emotions, self-reported questionnaires were applied in most studies, which can impede the accuracy and generalisability of the findings. To address this concern, a more objective measurement of emotion, such as physiological measures and neuroimaging techniques, was recommended in future studies. Moreover, although the majority of studies have taken the body mass index (BMI) into consideration, a wider range of factors,

such as gender and cultural background, may contaminate the effect of triggers on binge eating episode. Despite some common limitations, each study was accompanied by its unique strengths and weaknesses. The findings have substantively contributed to our insights into binge eating triggers among individuals without BED and lay the feasible path for future research.

Regarding each potential binge trigger in more detail, individuals who experience negative emotions more often were at greater risk for binge eating, and this kind of negative can be ranged from a general low mood to a specific form of negativity, such as depression and anxiety [1, 5, 7]. However, conflicting effect of anxiety on binge eating was also demonstrated, in which the risk of binge eating might vary across different types of anxiety. For individuals without a formal diagnosis of eating disorder, the presence of body-image related anxiety might prevent them from weight gain by limiting the intake of food, thus decreasing the likelihood of binge eating in short-term [12], yet further investigation was required to test its long-term effects. In contrast, interpersonal anxiety that concerns about how others may perceive the self may lead to a greater risk of binge eating, in which binge eating may be used as a short-term escape from anxiety [6]. Compared with anxiety, the triggering effect of depression to binge eating was relatively consistent across a wide range of studies [5, 6].

Body image and trait perfectionism were also commonly discussed as a significant antecedent of binge eating in the previous literatures. Regarding body image exclusively, individuals with negative perception of own body image was associated with heightened negative emotions and increased vulnerability to binge, when being exposed to body image related information [8]. In this sense, binge eating also functioned as a strategic avoidance of distress. However, the finding was based on the comparison between BED patient and healthy group, it is ambiguous that whether such an effect remain consistent in the group of people without BED but having a history of binge [8]. On the other hand, the traits perfectionism was found to be closely interacted with negative body image. Bidirectional relationship was identified between them, people holding a negative body image tend to have a higher standard toward themselves, in turn, who showed a high perfectionism is more likely to have a negative image toward the self. The combination of negative body image and high perfectionism tend to demonstrate the most pronounced effect in triggering the onset of binge eating [3].

Lastly, the effect of dieting on binge eating can be relatively ambiguous. Although a cyclical relationship between dieting and binge eating was proposed by Lowe [10], only small effect was found in the later study [12]. Alternatively, instead of a significant direct effect, dieting tended to indirectly affect the onset of binge eating through weight suppression, self-efficacy, perfectionism, and body image [11, 12]. Overall, the effect of dieting on binge eating was intricate, depending on various factors.

4. Conclusion

Summing up, the purpose of the study was to gain a further insight into potential triggers of binge eating among a subgroup of individuals without BED yet still experiencing recurrent episodes of binge eating. Drawing upon an extensive body of empirical literature, negative emotions, body-image, perfectionism, and dieting emerged as primary triggers to binge eating episode. Specially, negative emotions seem to play a pivotal role in predicting the binge episode, since negative body image, perfectionism and dieting eventually contributed to a heightened negative emotion. Individuals holding a negative body image were vulnerable to the feeling of shame, high standard and self-criticism, which is indicative of the trait perfectionism. The interaction between negative body image and perfectionism led to an increased risk of binge eating. Moreover, a vicious cycle between dieting and binge eating was also revealed, underlining a mutually reinforcing relationship. Several limitations including disproportionate sample and possible self-report bias were acknowledged. Nevertheless, the findings still advanced the understanding of binge eating triggers and highlighted some feasible directions for future research.

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