**Advances in Psychology** 心理学进展, 2023, 13(9), 3750-3757
Published Online September 2023 in Hans. https://www.hanspub.org/journal/ap
https://doi.org/10.12677/ap.2023.139468

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# 暴饮暴食症患者情绪性进食行为及干预方法

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收稿日期：2023年7月30日；录用日期：2023年9月5日；发布日期：2023年9月15日

## 摘　要

**暴饮暴食症患者的过度进食行为受到诸多因素的影响，包括生理因素、心理因素及人格特质等。其中情绪因素的影响正日益被研究者重视，通过总结发现暴饮暴食患者在负性情绪状态下导致个体暴饮暴食的几率更大，而抑制控制能力降低与成瘾被认为是背后的心理机制。此外，进一步探讨了暴饮暴食症患者在负性情绪下饮食行为的神经生理机制并提出了相应的干预措施。**

## 关键词

**暴饮暴食症，消极情绪，正念，微生物**

# Emotional Eating Behavior of Patients with Binge Eating Disorder and Intervention Methods

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Received: Jul. 30th, 2023; accepted: Sep. 5th, 2023; published: Sep. 15th, 2023

## Abstract

**The overeating behavior of patients with binge-eating disorder is influenced by many factors, including physiological factors, psychological factors and personality traits. Among them, the influence of emotional factors is increasingly being paid attention to by researchers. Through summary, it is found that patients with overeating are more likely to overeat under negative emotional states, and the reduction of inhibition and control ability and addiction are considered to be the psychological mechanism behind it. In addition, the neurophysiological mechanism of eating be-**

文章引用: 安扎尔·艾合买提(2023). 暴饮暴食症患者情绪性进食行为及干预方法. *心理学进展, 13(9),* 3750-3757.
DOI: 10.12677/ap.2023.139468

**havior in patients with binge eating disorder under negative emotions was further discussed and the corresponding intervention measures were proposed.**

## Keywords

**Binge Eating Disorder, Negative Emotion, Mindfulness, Microorganism**



## 1. 引言

美国精神学会(American Psychiatric Association, APA)对于暴饮暴食症(Binge Eating Disorder, BED)的定义是反复发作的暴食症状并伴随强烈的沮丧感，个体在进食时通常感觉失去控制，进食大量食物，但与神经性贪食症(bulimia nervosa)不同，暴饮暴食者不会采取不恰当补偿措施以防止体重增加，如呕吐、使用导泻剂、过度运动等(APA, 2013)。同时暴食症还有其他特点，如进食速度比平时快得多、一直吃到感觉不舒服为止、当生理上觉得不饿时也会进食大量食物、因为吃得多，觉得难堪而单独进食、暴食之后，会厌恶自己，表现出抑郁、内疚和明显的悲痛。根据《诊断与统计手册：精神障碍》第五版(DSM-V)的诊断标准，平均来说，暴食发作的频率为一周至少一次，且持续 3 个月。此外除了暴食发作的平均频率达不到一周一次或者持续时间少于 3 个月，而其他都符合暴食症的诊断标准，这种暴食行为被划分为其他特定的进食障碍(other specified feeding or eating disorder)。世界健康组织(World Health Organization)对 14 个国家的调查发现，暴饮暴食症在世界范围内的平均发生率为 1.4%左右，一般患病年龄在 23 岁居多(Kessler et al., 2013)。在我国，以 2000 多名青少年为样本的暴饮暴食调查研究发现，大约 0.7%的青少年已经符合暴饮暴食症诊断标准(Chen & Jackson, 2008)。而在欧美等西方国家，暴饮暴食症早已成为进食类障碍之首，正常人群的终身得病率接近 3%左右(Hudson et al., 2007)。然而，暴饮暴食症也同样存在年轻化趋势，多发生在年轻的成年女性、高校学生以及受过高等教育的人群之中(Kessler et al., 2013)。虽然男性和女性的暴食发作频率相似，但男性较少为之苦恼，因此达不到暴食症的诊断标准(Lewinsohn et al., 2002)。

情绪能够影响个体的饮食行为，而饮食也同样会影响人们的情绪(Czepczor-Bernat & Brytek-Matera, 2021)。根据情绪调节理论，消极情绪增加了饮食动机，而饮食反过来又减少了消极情绪(Macht & Simons, 2011)。因此，暴饮暴食症状患者过度的饮食行为可能是由于情绪调节失调所导致(Racine & Wildes, 2013)。而这种由情绪直接介导的不健康饮食行为往往会造成一系列健康问题甚至使个体患上疾病(Prefit et al., 2019)。同时，随着人们饮食习惯的变化(如咖啡、高脂、糖摄入量的增加)以及工作压力所导致的久坐等办公方式，会导致人体肠道微生物菌群紊乱，进而影响个体的情绪与认知(Konturek et al., 2004)。因此了解暴饮暴食患者饮食行为与情绪之间的关系以及针对饮食与情绪的不良循环提出干预手段显得十分必要。

## 2. 情绪与暴饮暴食行为研究现状

首先，在众多情绪与饮食有关的实验当中，首先诱导被试相应情绪之后通过让被试观看高热量、高糖食物图片或将被试置于真实的饮食环境中让被试进行选择，之后以个体的摄入量、注意偏向等作为反应指标来进行记录(Aguiar-Bloemer & Diez-Garcia, 2018)。

从进化角度来说，消极情绪会传递某种警惕、谨慎处理的进化信号(Clore et al., 2001)。这是因为消极情绪意味着所处的环境是有问题的，这会促使个体更为仔细且理性的思考(Holland et al., 2012)。相反，在饮食行为中，消极情绪更多地使个体不假思索的过度饮食甚至暴饮暴食(Williams-Kerver & Crowther, 2020)。Sproesser 等(Sproesser et al., 2014)将被试分配到社会排斥、中性和社会包容的场景中，之后对所有被试进行了虚假口味测试，最后测量被试摄入冰淇淋的量。研究结果显示，比起另外两组，在社会排斥组的被试体验到了更多的消极情绪，因此其冰淇淋的摄入量大于其他两组。另一个社会心理学研究表明，生活事件带来的负性情绪让个体对在场的巧克力和葡萄的摄入量大大增加(Aguiar-Bloemer & Diez-Garcia, 2018)。在一项对正、负性情绪影响下饮食行为的元分析也同样发现消极情绪与食物摄入量的增加存在因果关系(Cardi et al., 2015)。实际上，这都预示着暴饮暴食患者的情绪性进食行为(Spoor et al., 2007)。

## 3. 情绪与暴饮暴食行为的关系及作用机制

作为临床疾病的饮食障碍，暴饮暴食症(Binge Eating Disorder)与情绪存在着一定的联系(Williams-Kerver & Crowther, 2020)。有研究者认为，暴饮暴食症患者之所以产生不合理的饮食行为是为了调节当下自身的消极情绪(Brockmeyer et al., 2014)。然而，过量饮食等消极适应性情绪调节策略会引发其他系统性的饮食紊乱(Racine & Wildes, 2013)。

对于美味，不同的人群有不同的喜好。其中，油炸类食物作为几乎全世界公认的美味，往往能够引起个体想要得到它们的欲望和冲动，但是这种冲动往往会被强大的自我抑制控制能力所缓解(Guerrieri et al., 2009)。因此，不合理的饮食行为也可能是因为个体抑制控制能力受损所导致(Danner et al., 2014; Evers et al., 2018)。自我控制理论认为处于负性情绪的个体经常暴饮暴食很可能是因为负性情绪会破坏个体长远的自我监控及积极目标(如为了保持身材、为了健康长寿等)，而使得个体倾向于即时满足并服从了短期的享乐型目的(Seidel et al., 2018)。跨诊断理论认为消极情绪削弱了个体限制食物摄入的能力，而暴饮暴食正是通过减轻消极情绪状态来维持(Fairburn et al., 2003)。一项采用了与食物相关的反眼跳任务(anti-saccade task)来测量暴食症患者的抑制控制、冲突处理以及自我监控的能力的研究表明(食物会随机出现在被试两侧并要求被试不要注视刺激呈现的一侧)，暴饮暴食症患者在第一次眼跳任务中的表现远远差于其对照组被试；比起非食物，在负性情绪下的暴饮暴食症患者对食物存在更强的注意偏向。因此，负性情绪很可能是暴饮暴食症患者抑制控制能力受损的主要原因(Leehr et al., 2018)。除了暴饮暴食症患者外，神经性贪食症患者也同样被认为抑制控制能力受情绪的直接影响，如一项采用了事件相关电位技术(event-related potential, ERP)的研究测量了持有负性情绪与对照组(中性情绪)的神经性贪食症患者对高、低热量食物照片的注意，并进行了对眼下食物的愉悦感受以及食欲的测量。结果表明，与正常的健康被试相比，神经性贪食症患者在负性情绪状态下表现出了更加激烈的进食愿望，与此同时，在负性情绪状态下观看高热量食物时 P300 波幅呈现减弱，表明负性情绪减少了神经性贪食症患者认知资源的可利用性，因而进一步增加了进食意愿(Lutz et al., 2021)。但也有研究者提出过度的克制可能会加剧对食物线索的和其他刺激(包括压力等消极情绪)的反应(Wallis & Hetherington, 2004)。高度的认知克制十分常见，甚至在儿童肥胖因素中，认知克制都发挥着重要作用(Oliver et al., 2000; Wallis & Hetherington, 2004)。

此外，对于暴饮暴食症患者不合理的进食行为可以用成瘾相关理论来解释，由于不合理进食与成瘾存在相似的调节机制，如将美味食物线索看作成一种高奖励价值的机制(Loxton & Tipman, 2017)。有证据表明美味的食物与滥用药物一样具有依赖性。滥用药物以相当直接的药理学方式激活奖赏通路，而美味食物则通过快速的感觉输入和缓慢的摄食后过程(如血糖升高)以及肠道信号的反馈来发挥作用

(Spoor et al., 2007)。美味食物可以激活大脑的奖赏系统，包括释放阿片类物质、多巴胺以及大脑边缘系统的神经信号，从而产生强大的获取美味食物的强化(Kelley et al., 2000)。其中阿片类物质释放是机体对抗压力、负性情绪等有害影响的强大防御机制的一部分(Drolet et al., 2001)。阿片类物质的释放促进美味食物的摄入，而美味食物维持阿片类物质的释放(Spoor et al., 2007)。因此，饮食摄入就像一种对负性情绪有效的应对方式，形成神经生物学方面的适应性上瘾(Volkow & Wise, 2005)。以动物作为被试的神经科学研究发现，动物感受到的非积极情绪体验会强化奖励机制对物理刺激的敏感性(Kelley et al., 2000)。如痛苦会抑制前额叶对行为的控制，随之产生的是对威胁刺激和奖赏系统的敏感(Arnsten et al., 2015)。负性情绪(如社交失败) 会影响糖皮质激素的释放，而糖皮质激素反过来又会使大脑的奖励系统对食物和药物敏感，增加了食欲刺激反应(Adam & Epel, 2007)。

## 4. 干预方法

正念(mindfulness)是个体有意识地把注意维持在当前内在或外部体验之上，持开放、接受以及非批判态度的一种自我调节方法(Bishop et al., 2004)。越来越多的研究表明，正念在进食性障碍中发挥着重要作用(Sagui-Henson et al., 2021)。一项关于正念与饮食障碍的元分析得到正念与饮食障碍呈负相关的结果(Sala et al., 2020)。正念冥想训练(Mindfulness Meditation Training; MMT)通过注意调节、情绪调节(包括重评价、暴露、消退和再巩固)和增强执行功能(如抑制控制)对一系列结果产生有益影响(Gallant, 2016)。采用正念训练治疗情绪性暴饮暴食患者已获显著成效(Barnhart et al., 2021; Juarascio et al., 2013; Ruffault et al., 2016)。这是因为正念与情绪调节密切相关，许多饮食障碍患者缺乏适应性情绪调节技能(Oldershaw et al., 2015)。研究证据表明，回避体验在消极情绪和情绪性进食之间起中介作用(Litwin et al., 2017)。而正念疗法可以通过降低情绪相关回避来增强情绪调节能力(Sala et al., 2020)。

正念训练可以改善与饮食障碍相关联的重复的消极思维及情绪(Sala et al., 2019)，这种重复消极思维包括对当前、过去以及对未来的过度关注(Ehring & Watkins, 2008)。具体来说，正念训练鼓励个体将注意力持续在当前的经历上，达到防止个体过度专注于自身想法的目的(Sala et al., 2019)。正念干预训练会引导个体根据正常的饥饿或饱腹信号来进食，这样减少了个体对外部线索(如情绪线索)的反应(Sala et al., 2020)。正念训练最突出的一个优点在于，干预训练结束之后的相当一部分时间内能保持干预效果(Kristeller et al., 2014)。例如，在一个结合了正念与认知行为疗法的项目中，参与者在干预 3 个月后暴饮暴食症状显著降低(Woolhouse et al., 2012)。

肠道是人体主要的消化器官，各种营养物质的消化吸收主要在肠道进行。肠胃消化道与大脑认知、情绪之间的联系是通过肠脑轴(Brain Gut Axis)——一个双向系统来进行的(Trisha et al., 2016)。抑郁症是一种情感障碍性疾病，核心症状是消极情绪为主导、兴趣和愉快感缺乏及意志行为减退(Timothy et al., 2019)。代表着消极情绪的抑郁症与肠道微生物失调有关(Timothy et al., 2019)。如一项研究发现由于饮食中缺镁元素导致的肠道微生物群改变可能是抑郁行为的影响因素(Trisha et al., 2016)。动物和临床试验也表明，焦虑与共生微生物有关，病原菌感染可引起焦虑(Messaoudi et al., 2011)。Chinna Meyyappan (Chinna Meyyappan et al., 2020)对 28 项基于精神障碍的临床研究调查发现，当健康的微生物群被移植到精神障碍患者身体时，抑郁和焦虑症状减少；当从精神障碍患者身上的微生物群被转移到健康受试者会导致抑郁和焦虑症状的传播。个体遭受到的应激，会改变宿主的正常菌群，引起宿主炎症反应，影响营养物质吸收，改变神经递质代谢，从而引起神经系统功能紊乱，个体出现抑郁症状(Desbonnet et al., 2008; Logan & Katzman, 2005)。在封闭式环境的月宫一号中，对三名中国宇航员进行了为期 105 天的肠道微生物和情绪变化关系的案例研究表明，个别微生物菌种分别对积极和消极情绪产生影响(Li et al., 2016)。

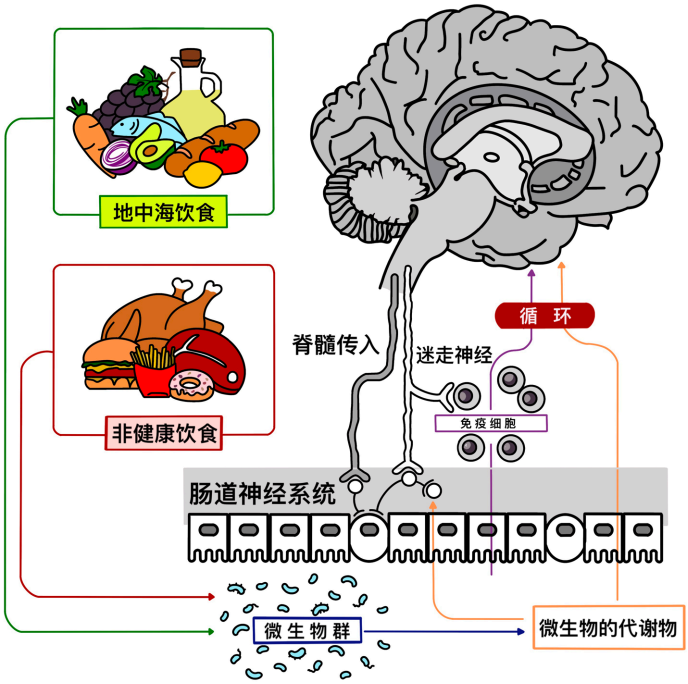


**Figure 1.** Shows the routes of communication between gut microbes and the brain
**图 1.** 大脑与肠道联系途径

见图 1，这说明基于微生物群的饮食干预可以帮助治疗精神障碍类疾病，如暴饮暴食症(Burokas et al., 2017)。通过调理微生物菌群的平衡进而通过脑肠轴降低个体的负面情绪也同样可以得到实现(Burokas et al., 2017; Chao et al., 2020)。来自澳大利亚的一项随机对照研究通过改善饮食质量来治疗重度抑郁症。结果发现，与对照组相比，饮食干预组(地中海式健康饮食)在 12 周之内的抑郁得分显著降低(Timothy et al., 2019)。在一项较早期的跨国调查研究中发现全球鱼类消费与抑郁症患病率呈负相关(Hibbeln, 1998)。而另一项研究表明这可能是因为鱼油中的不饱和脂肪酸能够通过增加肠胃中的双歧杆菌的数量，进而通过脑肠轴影响中枢神经来降低抑郁发病率(Costantini et al., 2017)。在一项持续 2 个月的随机双盲安慰剂对照组研究中，随机选取 39 名慢性疲劳综合征患者，每天接受干酪乳杆菌(*Lactobacillus casei*)或安慰剂。在干预前和干预后，根据粪便样本检测分析病人的肠道菌群，并且使用贝克抑郁量表和贝克焦虑量表来评估病人的抑郁和焦虑状态。实验结果表明，与安慰剂组相比，服用干酪乳杆菌组焦虑症状显著减轻(Rao et al., 2009)。Benton 等(Benton et al., 2006)提出服用含有益生菌发酵酸奶，可以改善情绪低落被试的情绪。目前在欧洲等地治疗重度抑郁症的药物疗法包括单胺能系统，其中包括五羟色胺(血清素) (Sharma et al., 2015)。长双歧杆菌作为肠道微生物群的一种有益菌，已经被证明可以增加血浆色氨酸水平，从而影响五羟色胺的合成(Desbonnet et al., 2008)。上述证据都表明，通过健康饮食或益生菌等方式进行干预有助于减少个体的焦虑、抑郁等消极情绪。

## 5. 结论

对于暴饮暴食症患者来说，情绪与饮食是一个双向影响的循环系统，因此通过对食物进行干预或正念训练有助于个体保持健康的生理与心理状态。具体来说，地中海式健康饮食通过生理健康来减轻过度进食倾向并促进心理健康；控制不良情绪或拥有积极情绪意味着心理健康促进个体的生理健康。希望之后的研究者可以提出更详细的食物干预方法以及更系统且全面的正念训练范式来进一步完善关于暴饮暴食症与情绪方面的研究。

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