

自我损耗研究方法述评

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摘要 个体在自我控制的同时,要为每次控制付出代价,产生自我损耗,导致随后控制失败。本文回顾了双任务范式中诱发、测量、克服自我损耗的方法,认为未来研究应探索任务的有效性,多采用三任务范式,同时关注短期克服损耗和提高整体控制能力的方法。

关键词 自我控制 自我损耗 双任务范式 克服

1 引言

自我控制指个体克制冲动、欲望和习惯性反应的能力(Baumeister & Heatherton, 1996),即当短期目标和长期目标冲突,个体克制自己追求长期结果的能力。自我控制是成功的重要因素,但个体在自我控制的同时,要为每次控制付出代价,产生自我损耗,导致随后控制失败。自我损耗与无节制饮食(Vohs & Heatherton, 2000)、助人行为减少(DeWall, Baumeister, Gailliot, & Maner, 2008)和攻击行为增加(Laird, Marks, & Marrero, 2011)等行为问题有关。Baumeister用能量有限理论解释自我损耗:(1)自我控制消耗能量,导致随后的损耗发生;(2)成功的自我控制依赖可利用的资源;(3)所有形式的自我控制需要同一资源(Baumeister, Bratslavsky, Muraven, & Tice, 1998)。

工欲善其事,必先利其器。本文从损耗的发生、测量和克服三方面展开评述。

2 损耗发生方法

自我损耗多采用双任务范式:将被试分成损耗组和控制组,完成连续进行的任务1(损耗任务)和任务2(因变量任务),损耗组在任务1中发生损耗,控制组不发生损耗,测量两组在任务2上的表现。损耗组在任务1上消耗自我资源,在任务2中资源不足,表现下降。

损耗任务需要自我资源因为:它们是高难度、高努力度且不愉快的,需要施加自我控制以克服放弃的冲动;需要认知系统中执行功能的参与,可能共享一些特性(Hagger, Wood, Stiff, & Charzisarantis,

2010)。常用任务有抗拒诱惑、情绪控制、思维抑制和注意控制。

抗拒诱惑即抵制美食(Muraven, Gagne, & Rosman, 2008)。被试进入充满巧克力香味的室内,面前有两种食物:巧克力和萝卜。损耗组要求抵制巧克力诱惑,只吃萝卜;控制组可随意品尝。5分钟后进行第2任务。相比控制组,损耗组需要更多的努力抵制诱惑并忍受饥饿状态。该任务有助于我们理解节食、戒烟和戒酒等行为的失败,提醒我们即使是一次微小的节食行为,也可能导致广泛的控制失败。

情绪控制包括情绪抑制、夸大或自然流露(Hofman, Rauch, & Gawronski, 2007)。被试观看情绪影片,告知其会摄像。损耗组需要克制或夸大情绪反应;控制组自然流露即可。控制情绪要求个体克服当前的情绪状态,付出努力。保持良好的人际交往,需要我们克制消极情绪,该任务有助于我们理解人际沟通中的控制失败。

思维抑制要求被试在记录意识流的过程中,损耗组不去想白熊,控制组未提及白熊。思维抑制是困难的和需要付出努力的,思维表达更容易些(Wegner, Schneider, Carter, & White, 1987)。日常经验里,越是告诫自己“千万别出错”,越容易出错。该任务有助于我们理解重要场合中个体抑制不好的念头时,可能出现的控制失败。

注意控制要求被试观看一名女性接受采访的无声视频,右下角每10秒出现一个单词。损耗组要集中注意女性脸部而忽略单词,控制组无要求(Baumeister et al., 1998)。注意容易自动化朝向环境中的新异刺激(Shiffrin & Schneider, 1977),需要自我控制克服优势反应。日常工作要求我们忽略无

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关刺激,集中注意手头工作。该任务有助于我们理解个体长时间保持注意后,可能出现的控制失败。

3 损耗测量方法

因变量任务需要自我控制,还要有敏感性。常用任务有生理耐力任务、问题解决任务、注意和警戒任务等。

生理耐力任务有握力任务(Bray, Ginis, Hicks & Woodgate, 2008)、冷刺激任务(Schmeichel & Vohs, 2009)和憋气(Vohs, Baumeister, & Ciarocco, 2003)。在握力器握柄间放张纸,要求被试用力握住,保持纸张不下落。因变量是开始握力到纸张落下的坚持时间。表面看是测量肌肉力量,但肌肉短时内疲劳,个体产生放弃的冲动,克服疲劳和冲动需要自我控制,因此能测量自我损耗,其好处是目的隐蔽,不被怀疑(Alberts, Martijn, Greb, Merckelbach, & de Vries, 2007)。要求被试将手放入冰水里尽量坚持,手浸在冰水里很难受,本能反应是迅速离开,需要自我控制克服抽手冲动。虽然Vohs证明损耗组憋气时间更短,但很难判断被试是否真憋气,故憋气未广泛采用。生理耐力任务的现实意义:体力劳动者有时遭遇身体不适,但仍需自我控制坚持作业。

问题解决任务有组词和几何图形描摹难题。组词分两种:一是给被试一组字母,限定时间内完成的组词数为成绩(Baumeister et al., 1998);二是给被试一组字母组词(不可解,被试不知情),坚持时间为成绩(Muraven, Tice & Baumeister, 1998)。该任务需要技巧和努力,在拆分组合过程中需要自我控制。几何图形描摹难题要求被试不能折回的追踪几何图形(不可解,被试不知情),尝试次数和坚持时间是因变量(Baumeister et al., 1998)。因变量任务不可解,可以测量面对失败时个体的坚持性。当个体不断遭受挫折和沮丧时,需要自我控制克服放弃冲动,保持尝试任务的状态。问题解决任务的现实意义:成功不是一帆风顺的,而是不断面对挫折、克服困难的过程。

注意和警戒任务有CPT、CCPT和Stroop任务。CPT要求被试对特定靶刺激进行反应;CCPT要求被试对特定目标后紧接着出现的靶刺激进行反应,特定目标后出现的其它刺激不反应(孙拥军, 2008);Stroop任务要求个体抑制读词的冲动,优先对字体颜色进行命名。这些任务需要个体运用自我控制打断习惯反应、抑制无关刺激和保持警觉状态。注意和警戒任务的现实意义:开车等活动需要个体保持

高唤醒状态和注意水平。

4 损耗克服方法

早期研究多为验证该现象的存在,近来关注克服损耗的方法及效果。在任务1和任务2间进行干预,观察个体在任务2上的表现。如果执行克服任务组比未执行组在任务2上表现更好,说明克服有效。克服方法有:

一是提高整体控制能力。能量有限理论预测细微行为练习能增强自控能力。2周的姿势改进、饮食监测、非利手和握力练习等能提高个体的自控能力,减少损耗(Gailliot, Plant, Butz, & Baumeister, 2007; Muraven, 2010)。

二是恢复因自控而损耗的能量。在双任务间进行休息可减少损耗(Tyler & Burns, 2008)。损耗的资源本质是大脑活动所需能量不足,补充葡萄糖可减小损耗(Gailliot, Baumeister, Schmeichel, DeWall, Maner, Plant et al., 2007)。

三是激励个体调动更多能量。较强的动机水平能起到资源替代作用,促使个体调动更多的剩余能量完成任务,克服损耗(Muraven & Slessareva, 2003)。

四是预防能量消耗。执行意图可以预防损耗发生(Webb & Sheeran, 2003)。

5 评价与展望

损耗诱发和测量的任务不同的好处(Muraven, Tice & Baumeister, 1998):(1)排除熟悉和无聊等可能解释;(2)证明不同的控制行为需要同一资源,损耗具有普遍性。现有研究存在以下局限:

1)有些任务存在分歧。一种观点认为,3位数乘法很无聊,个体放弃的想法强烈,需要自我控制(Vohs et al., 2005);另一种观点认为解数学题有标准程序,和抑制反应没有关系,不损耗自我资源(Muraven & Baumeister, 2000)。许多行为困难并需要努力,但要求抑制冲动的程度很小,故并非所有的努力行为都是自控行为。未来应考察任务在难度、努力程度和控制程度上的区别。董蕊和张力为(2010)发现注意控制任务的6分钟视频不能直接用于运动员,可能因为运动员比普通人的自控能力更强。研究者应针对不同群体,探索更有效的损耗方法。问题解决任务多以30分钟为限,少数为20分钟(Schmeichel & Vohs, 2009)或45分钟(Muraven & Slessareva, 2003)。Baumeister认为理论上个体可能

坚持一周甚至更久 30 分钟出于方便考虑。时间限制可能导致天花板效应,未来应注意探索更有效的测量手段。

2) 未充分考虑个体差异变量(如高低自控能力)的影响。握力任务可以测量个体损耗前的基线水平,但基线测量时需要自我控制,严格说个体在基线时的损耗状态仍存在差异(Albert et al. 2007)。

3) 三任务研究较少。三任务范式要求被试连续完成 3 个任务,任务 2 和 3 为因变量任务。Muraven 发现任务 2 和 3 存在权衡现象(Muraven, Shmueli, & Burkley 2006)。有些克服效果能否延续到第三任务,尚不清楚。未来应多用三任务范式探讨损耗机制和克服效果。

4) 因变量多用行为指标。HRV 是预测自控能力的一个指标,更高 HRV 反映更强的自控能力(Segerstrom & Nes 2007)。未来应多采用生理指标研究自我损耗的生理机制。

自我控制差是很多个人和社会问题的核心,研究自我控制是心理学家最有希望为人类幸福做出贡献的地方,它可以让我们在大大小小的方面改变自己和社会(罗伊·鲍迈斯特,约翰·蒂尔尼 2012)。自我控制的关键缺陷是能量有限,易发生损耗。现有的克服方法只是暂时克服损耗,但对未损耗个体无效。基于长远利益,通过练习提高整体自控能力,才是治本的方法。自我损耗的克服,需要开源和节流,未来可在这两方面下功夫。

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A Review on Research Methods of Ego-Depletion

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Abstract When it comes to individual success, good self-control is one important factor that cannot be neglected. In the self-control process, however, people always have to pay for every act resulting in ego-depletion. And this may lead to the failure in self-control later. The ego-depletion can be well illustrated by the self-control strength model, which postulates that the resources of self are limited. If it is used in one task, other resources of self control will decrease. Consequently people may not be able to reach the standard of established self-control performance, which then may lead to self-depletion and result in control failure later. Researchers usually used the dual-task paradigm. Researchers randomly assigned participants into a depletion or non-depletion group (or a high-depletion or low-depletion group). The participants were asked to complete two sequential tasks: task 1 (depletion task) and task 2 (performance task). In the first task, the self-depletion occurred. After they finished the first task, the measurement of the second task closely followed. It turned out that out of the self-resource consumption in the former task, participants of the depletion group behaved poorly in the later task. The depletion task and performance task normally take different forms in order to assemble the effect in general. In this article, we draw a review on the methods of ego-depletion, including inducing, measuring and overcoming in the dual-task paradigm. The inducing part includes inhibiting desire, regulating emotions, thought suppression, attention control and so on. The ego-depletion measuring includes physical stamina tasks, problem-solving tasks, concentration and vigilance-type tasks and so on. Moreover, on the methods of overcoming ego-depletion, we discuss four points: 1) increasing the individuals' overall self-control ability, 2) restoring individuals' energy of self-control, 3) motivating individuals to mobilize more energy to overcome depletion effects, and 4) reducing the energy loss of self-control tasks. Besides, in this article we also discuss the limitations in present ego-depletion studies, and they are: 1) there is no agreement in the types of self-control tasks to be used; 2) the dual-task paradigm is too simple, and more research is needed with extra tasks in the future; 3) we need to use physiological indicators instead of behavioral indicators; 4) the methods of overcoming ego-depletion are temporary. Therefore, we suggest that future studies should focus more on the task effectiveness and employ the three-task design more frequently. We believe that future studies will pay more attentions to the methods of short-term effects, while improving the overall control capabilities in overcoming ego-depletion.

Key words self-control, ego-depletion, dual-task paradigm, overcoming