



# Acting to self-regulate unhealthy eating habits. An investigation into the effects of habit, hedonic hunger and self-regulation on sugar consumption from confectionery foods



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## ABSTRACT

Many people are motivated to eat healthily but find it difficult to override established and less healthy habits. Habits by their nature are unconscious and cued by the environment, thus making them powerful determinants of behaviour. Limited research has explored the role of habit as a mediator between self-regulation and sugar consumption. This study investigated the relative importance of factors that support/impede the consumption of foods with high sugar content and the mediating effect of habit. The study sample was 500 Irish adult's representative of the population. Sugar consumption, habit, hedonic hunger, self-efficacy, perceived need, dietary planning and dietary self-monitoring were assessed using self-reported measures. A path analysis of the data was used to test the direct and indirect effects of the independent factors on estimated sugar consumption grams per day (g/d). In addition, the interaction effects of self-efficacy and dietary planning/self-monitoring on sugar consumption was examined using simple slope analysis. The results showed that habit had the largest effect in the model and was positively related to sugar consumption g/d ( $b = 12.09$ ,  $p < 0.01$ ). While the direct effect of self-efficacy on sugar consumption g/d was significant ( $b = -5.25$ ,  $p < 0.05$ ), this effect was partially mediated by habit ( $-4.84$ , Bca CI  $-7.00$ ,  $-3.00$ ) and the direct effect of action control on sugar consumption ( $b = -1.30$ ,  $p = 0.311$ ) was fully mediated by habit ( $b = -2.42$ , Bca CI  $-3.93$ ,  $-1.20$ ), which indicates that strong unhealthy habits compete against self-efficacy and can reduce the potential benefits of dietary planning and self-monitoring. The simple slope analysis revealed that action control has a significant negative effect on sugar intake when self-efficacy is weak ( $b = -5.48$ ,  $p = 0.01$ ). The direct effect of hedonic hunger on confectionery sugar consumption ( $b = 1.38$ ,  $p = 0.376$ ) was fully mediated by habit ( $b = 5.92$ , Bca CI  $4.20$ ,  $8.08$ ) indicating that the desire to eat tempting food may overrides one's intended behaviour resulting in counter-intentional habits. It is apparent from the findings that a dual strategy of targeting behaviour and the underlying habits may be effective in improving dietary intake and self-regulation is likely to be sustainable only in an environment that facilitates healthy eating behaviour.

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## 1. Introduction

The link between healthy eating and a healthy lifestyle has been extensively documented and public health institutions have widely disseminated information pertaining to healthy dietary guidelines (Adams et al., 2006; Flegal, Graubard, & Williamson, 2005; Food Safety Authority Ireland (FSAI), 2011). However, lack of adherence to dietary guidelines is a continuing concern across western

countries (Health and Social Care Information centre (HSCIC), 2014; Irish Universities Nutrition Alliance (IUNA), 2011; Kerbs-Smith, Guenther, Subar, Kirkpatrick, & Dodd, 2010). Research shows that people are broadly aware of what constitutes a healthy diet and most people are motivated to make healthy food choices and consumption decisions (Brown et al., 2011; Food Safety Authority of Ireland (FSAI), 2007; Nutrition and Health Foundation (NHF), 2005; The Department of Health and Human Services, US (HHS), 2008), which indicates that the problem of adherence to dietary guidelines is to a large extent impaired dietary volition rather than motivation to eat healthily.

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**Table 1**  
Descriptive statistics, factor loadings and cronbach's alpha for predictor variables.

Variable	Items	Mean (SD)	Factor loading	Eigen-value	Variance explained%	Cronbach's Alpha	Scale
Habit	When I am hungry and I am in a rush, I am very likely to eat sugary foods	4.21 (1.93)	0.82	3.83	54.72	0.86	Agreement scale 1 = Strongly disagree 7 = Strongly agree
	Eating sugary foods is something I do frequently	4.13 (1.91)	0.81				
	When I am busy and I am hungry I am likely to eat sugary foods	4.48 (1.89)	0.79				
	I would find it difficult not to eat sugary foods	4.21(1.94)	0.77				
	Eating sugary foods is something I do without thinking	4.02 (1.92)	0.75				
	Eating sugary foods is I start doing before I realise I am doing it	3.78 (1.93)	0.74				
	I have to consciously make an effort not to do over consume sugary foods	4.76 (1.92)	0.42				
Hedonic hunger	When I know a delicious food is available, I can't help myself from thinking about having some	4.11 (1.81)	0.79	7.48	49.89	0.92	Agreement scale 1 = Strongly disagree 7 = Strongly agree
	It's frightening to think of the power that food has over me	3.01 (1.79)	0.78				
	It seems like I have food on my mind a lot	3.01 (1.71)	0.77				
	Just before I taste a favourite food, I feel intense excitement	3.33 (1.74)	0.75				
	If I see or smell a food I like, I get a powerful urge to have some	4.15 (1.75)	0.74				
	Hearing someone describe a great meal makes me really want to eat something	3.61 (1.80)	0.74				
	When I am around a fattening food I love, it's hard to stop myself from at least tasting it	4.22 (1.80)	0.73				
	I think that I enjoy eating a lot more than most other people	3.17 (1.67)	0.72				
	I love the taste of certain foods so much that I can't avoid eating them even if they are bad for me	3.98 (1.86)	0.70				
	Sometimes, when I am doing everyday activities, I get an urge to eat out of the blue	3.43 (1.77)	0.69				
	I get more pleasure from eating then I do from almost anything else	3.09 (1.72)	0.68				
	I find myself thinking about food even when I am not physically hungry	3.59 (1.82)	0.68				
	Before I eat a favourite food my mouth starts to water	3.61 (1.79)	0.64				
	When I eat delicious food I focus a lot on how good it tastes	4.56 (1.65)	0.62				
	It's very important to me that the foods I eat are delicious as possible	4.53 (1.65)	0.51				
Action control (dietary planning and dietary monitoring)	I had plans in place to avoid sugary foods whenever I felt bored	3.19 (1.80)	0.88	5.03	33.55	0.93	Frequency scale 1 = Never 7 = Always
	I had plans in place to avoid sugary foods whenever I felt in bad mood	2.97 (1.75)	0.84				
	I had plans in place to avoid sugary foods whenever I felt tempted	3.43 (1.82)	0.86				
	I watched carefully that I was not exceeding my desired intake of sugary foods	3.71 (1.83)	0.82				
	I would plan ahead how often I could eat sugary foods in a day	3.09 (1.73)	0.78				
	I paid attention to my sugar intake in order to ensure I was not over consuming	3.96 (1.84)	0.78				
	I monitored my intake of sugar to ensure that I was staying within my set levels	3.96 (1.80)	0.76				

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