



**World Sugar Research
Organisation**

Dietary Sugars & Addiction



Addiction



There is a popular belief that sugar can be addictive. However, scientific evidence does not support the idea that sugar, or any other foodstuff, is addictive.

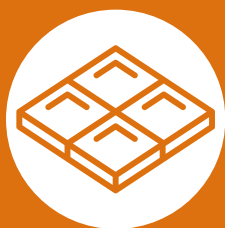
Addiction, also known as substance dependence, is a physiological and psychological process which causes dependence and, in turn, withdrawal symptoms if the addictive substance is no longer taken. The term is sometimes also applied to behavioural disorders, such as gambling addiction, which causes psychological dependence that is uncontrolled and compulsive.

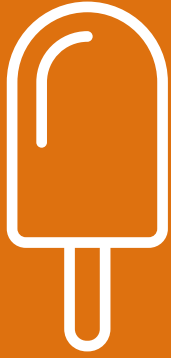
Dietary Sugars and Addiction

There is a popular belief that sugar can be addictive. However, scientific evidence does not support the idea that sugar, or any other foodstuff, is addictive¹⁻⁹. Furthermore, addiction to sugar is not recognised by any set of independent criteria which have gained general medical or psychological acknowledgement^{5,10-12}.

Eating something you enjoy can stimulate a rewarding response in the brain, and the secretion of dopamine, which plays a role in the feeling of pleasure. This response is not specific to sugars and pleasure is not the same as an addiction. For example, the release of dopamine can occur with other pleasurable experiences, such as sharing a joke or taking part in physical activity.

The pleasurable feeling of reward is a result of complex brain signalling processes, which are generated upon seeing, smelling, tasting, and digesting an enjoyable food. There is an overlap between pathways in the brain involved in the rewarding property of foods and those involved in substance dependence. However, the overlap in neuronal pathways does not validate the concept of food addiction or that food or sugar behaves like a drug^{1,10}. Symptoms of addiction, such as withdrawal, craving and tolerance have not been found in human studies examining sugars⁵.





Preference for Sweet Taste

Addiction should not be confused with a preference for sweet taste¹. Sugar tastes sweet and we are born with a natural liking for sweet taste. This was inherited from our ancestors as sweetness suggested a food was safe to eat and provided a useful source of energy. Although there is a genetically determined liking for sweetness, individuals differ in their response to sweetness and preference declines with age, opposite to what would be expected if sugar was addictive⁵. In addition, scientific evidence is mixed as to whether individuals who have a strong liking for sweet tastes are more likely to overeat and become overweight¹³.

Addiction should not be confused with a preference for sweet taste. Sugar tastes sweet and we are born with a natural liking for sweet taste.

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