**SRNT Europe Debate**

**The use of nicotine oral products in adults may be a rational behaviour**

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Commentary

We define a rational decision as one made by an adult who *approximately* maximises the benefits and minimises the adverse effects that their decision may have on themselves and others whom they care about. Many major decisions that adults make are only approximately rational; they may have seemed like a good idea at the time, but they may appear less rational in retrospect, e.g. choosing whom to marry, or deciding whether, or not to have children. More prosaically, adults may make choices that provide emotional comfort even if they come with some longer-term health risks. We may decide to have an extra dessert or a glass of wine that we know isn’t the best for use in the long term (e.g. weight gain, dental issues) but doing so helps to unwind, cope with life’s challenges, or connect with others. If we accept that these adult choices can be rational, we should accept that it may be rational to use nicotine for similar emotional and social gains.

The mode of nicotine use matters. Cigarette smoking is often *not* rational. Most adults start smoking in adolescence before they are able to make fully informed choices about cigarette smoking. Cigarette smoking is the most addictive way to obtain nicotine and it delivers tars and carcinogens that kill up to two thirds of daily smokers who continue to smoke. Most smokers regret having started, would like to stop and struggle to do so.

But *adults* who decide to obtain their nicotine in far less harmful ways may be arguably rational. This includes those who use pharmaceutical nicotine, low nitrosamine oral tobacco and nicotine pouches and probably includes those who use e-cigarettes.

When used in less hazardous ways, nicotine may have benefits for the user that in their assessment far outweigh any adverse health effects. Many people find its effects pleasurable, much like coffee drinkers do. Persons with ADHD, psychosis, and dementia may find that nicotine has cognitive enhancing effects. Its use may also be helpful in regulating mood, coping with stress, and improving cognition in people without these disorders.

Nicotine has been shown to have certain stress-relieving effects 1,2. Using nicotine might be a rational choice to help people manage stress. Even if people are using nicotine to alleviate cravings and/or withdrawal symptoms– that’s still a rational choice because their use will make them feel better in the short term.

That nicotine enhances the reward value of other reinforcers is well established in animal studies 3 and increasingly demonstrated in humans 4 For example, smokers work harder on a simple card-sorting task to earn money after receiving nicotine 5. Nicotine also makes listening to music or watching film clips more enjoyable in dependent and non-dependent smokers 6,7.

Nicotine can have cognitively enhancing effects**.** In a review of 42 laboratory studies, nicotine improved performance in six of the nine domains meta-analysed including fine motor skills, and aspects of attention and memory 8 in both non-smokers and smokers who are not nicotine deprived. Hence when someone needs to concentrate and stay alert to perform a demanding academic or professional task, they may rationally use nicotine to improve their cognitive performance, if the nicotine is used in a way that does not involve smoking.

Importantly, nicotine need not have cognitively or mood enhancing effects to be considered rational; the *perceived value* of the outcome is as important. Therefore, even if the user *thinks* that nicotine will have these effects, this, we argue, is sufficient for rational choice. Such positive outcome expectancies, derived from expectancy-value theories, are a well-established and well-accepted phenomenon guiding goal-directed behaviour 9,10.

Aside from any perceived or actual effects on mood and cognition, human beings have an extraordinary affinity for nicotine. In the Americas, tobacco was cultivated in Alaska to Terra Del Fuego and Indigenous Australians discovered the effects of a native plant that contains nicotine (pituri). Europeans who colonised the Americas turned tobacco use into a global commodity within a century.

The fact that nicotine is used globally indicates that it serves some widely shared human needs. This fact, and the evidence summarised above, indicates that nicotine use is as rational as many other forms of human behaviour when nicotine is used by adults in ways that do not carry major health risks like smoking.

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**Additional Information**

Conflicts of Interest

LD has received consultancy fees from Johnson & Johnson, a manufacturer of medicinal nicotine products. She has no affiliation with, and has never received funds from, the tobacco industry.

WH has not received any funding from the alcohol, pharmaceutical, tobacco or e-cigarette industries. His past research on tobacco related topics was funded by the National Health and Medical Research Council (Australia).

Source of the Commentary

This commentary arose from the SRNT-Europe Opening Debate at the Annual Conference in September 2023. The debate was on the topic “Is nicotine use rational?”. The authors were assigned to argue “For” this motion.