

## Understanding the alcohol-harm paradox: what next?



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The alcohol-harm paradox (ie, the observation that people of low socioeconomic status (SES) tend to experience greater alcohol-related harm than those of high SES, even when the amount of alcohol consumption is the same or less than for individuals of high SES) continues to challenge epidemiologists and other public health experts. In the era of growing income inequalities worldwide, there is also concern as to how these increasing economic gaps affect health, including health risk behaviours.<sup>1</sup>

To better understand the current evidence on the role of alcohol in socioeconomic health inequalities, Charlotte Probst and colleagues<sup>2</sup> did a systematic review of studies that examined two potential explanatory mechanisms: (1) the differences in the volume and patterns of alcohol consumption between SES groups, and (2) an interactive or modifying effect of SES and alcohol consumption. The work updates and extends a previous systematic review of the alcohol harm paradox published in 2015.<sup>3</sup> Probst and colleagues found that the greatest difference in harms between low and high SES was for heavy episodic drinking (or risky single occasion drinking), rather than for the mean quantity consumed per month or week. Additionally, they found suggestive evidence for a multiplicative effect between SES and alcohol consumption, which would imply that higher alcohol consumption poses disproportionately greater health risks for individuals with low SES than for those with high SES.

On the basis of the findings of this systematic review, it could be argued that addressing the so-called alcohol-harm paradox requires public health programmes and legal policies that reduce the prevalence or frequency of heavy episodic drinking among individuals with low SES. However, it should be noted that in the literature reviewed by Probst and colleagues, drinking patterns explained a maximum of 30% of the variability in alcohol harm between socioeconomic groups. This value could partially be explained by an under-reporting of alcohol consumption by participants in the reviewed studies. Nevertheless, it is clear that substantial variability in alcohol-related harms between SES groups cannot be explained by drinking patterns alone.

In a seminal book, Krieger<sup>4</sup> emphasises the need to consider a so-called eco-social perspective to achieve a

better understanding of contemporary determinants of health. Furthermore, Krieger and Davey Smith<sup>5</sup> call for a more pluralistic view of causality—an approach that takes into account important contextual factors in addition to the purported agent (here, alcohol). In answering the question of why to consider inclusion of poverty as a confounder in epidemiological research, Krieger<sup>6</sup> states: “many of the exposures epidemiologists are interested in coexist and are jointly embodied – not necessarily because they are causally connected, *per se*, but because they are entangled by the ways people actually live in their societal context, replete with constraints as well as possibilities”.

Another important aspect of the alcohol-harm paradox is how intertwined and entangled such risk factors can be within a person's social and physical environment. An example stems from alcohol outlet density. It has been shown that increases in alcohol availability locally (especially via on-premise density) is associated with increases not only in consumption, but also in alcohol-related harm.<sup>7</sup> Furthermore, alcohol outlet density and alcohol harm correlate positively with neighbourhood deprivation.<sup>8,9</sup> A deeper understanding of the potentially complex mechanisms behind the paradox should be the next challenge for alcohol epidemiology and public health research in general. Future research might show that the approaches that public health practitioners need to take to tackle the uneven health burden of alcohol use are the same as those used to address the breadth of public health challenges—that is, they should be rooted in an environmental and eco-social understanding of health.

I declare no competing interests.

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