

Plain packaging increases visual attention to health warnings on cigarette packs in non-smokers and weekly smokers but not daily smokers

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ABSTRACT

Aims To assess the impact of plain packaging on visual attention towards health warning information on cigarette packs. **Design** Mixed-model experimental design, comprising smoking status as a between-subjects factor, and package type (branded versus plain) as a within-subjects factor. **Setting** University laboratory. **Participants** Convenience sample of young adults, comprising non-smokers ($n = 15$), weekly smokers ($n = 14$) and daily smokers ($n = 14$). **Measurements** Number of saccades (eye movements) towards health warnings on cigarette packs, to directly index visual attention. **Findings** Analysis of variance indicated more eye movements (i.e. greater visual attention) towards health warnings compared to brand information on plain packs versus branded packs. This effect was observed among non-smokers and weekly smokers, but not daily smokers. **Conclusion** Among non-smokers and non-daily cigarette smokers, plain packaging appears to increase visual attention towards health warning information and away from brand information.

Keywords Eye tracking, health warnings, plain packaging, tobacco, visual attention.

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INTRODUCTION

Tobacco marketing is now prohibited in many countries, as it encourages the uptake of smoking and makes it harder for current smokers to quit [1]. As marketing restrictions have become more widespread, the tobacco industry has focused instead on unregulated marketing channels, including packaging, as a way of promoting its products [2]. Analysis of tobacco industry documents has illustrated that promotion through the pack is achieved by pack design (including branding), pack size, price marking and pack modifications (such as novel pack shapes or methods of opening) [3].

Health warnings on cigarette packaging can inform the public about the health risks of smoking. More prominent and explicit health warnings have been shown to have a greater effect on smokers' knowledge of health risks and smoking behaviour than smaller warnings [4,5], while pictorial health warnings are more effective

than text warnings [6]. However, in all countries cigarette branding is still clearly visible, and warnings take up only part of the pack. This is critical, given both the importance of health warnings in promoting negative thoughts about harmful health behaviours and eliciting behaviour change [7], and the known effects of branding on cigarette preference [3]. One proposal to address tobacco promotion further is the introduction of plain packaging. This involves standardizing the shape, colour and method of opening of a cigarette pack, with all branding removed [8]. The brand name remains on the pack in a standard typeface, colour and size. Packs show all relevant legal markings, including health warning, information on ingredients, duty-paid stamps and possibly security marks.

Research on plain packaging suggests that it could have an impact on smoking and health-related outcomes in at least three ways [2]. Plain packaging could: (i) make health warnings appear more prominent and strengthen