

From screen capture to AI validation: strengthening evidence for understanding and monitoring digital food marketing to children and adolescents

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Abstract

Young people encounter digital food marketing almost continuously, yet reliable and scalable methods to study this exposure in real-life social media environments remain limited. This special session brings together methodological advances aimed at making monitoring more effective, less labour-intensive and better aligned with current digital platforms. The session explores how screen-capture tools, machine-learning systems and AI models may help researchers keep pace with commercial actors, whose proprietary algorithms currently deepen the knowledge gap between industry, researchers and policymakers.

Paper 1: *Revealing adolescents' exposure to digital food cues: lessons from real-time screen-capture and directions for scalable monitoring (Ellen van Kleef, Wageningen University).*

This paper illustrates what real-time screen-capture studies reveal about adolescents' exposure to digital food cues. Using findings from Van der Bend et al. (2022), it shows high exposure levels, frequent embedded cues and limited awareness among adolescents. The paper reflects on the constraints of manual, small-scale methods and outlines the need for scalable, AI-assisted monitoring to better understand how adolescents engage with digital food environments.

Paper 2: *Screens, Snacks, and Systems – using screen capture and piloting a machine learning tool, experience from the CLICKBITE study on the Island of Ireland (Magdalena Muc and Mimi Tatlow-Golden, The Open University).*

This presentation reports on the CLICKBITE study on the Island of Ireland, applying WHO Europe's CLICK framework. It presents findings from real-time screen-capture work on children's exposure, recall and interaction with branded content, and discusses lessons from piloting the SCANNER machine-learning tool to automatically detect and code food marketing on social media.

Paper 3: *Towards monitoring exposure of adolescents to social media marketing in Belgium* (Stefanie Vandevijvere, Paula Alexandra-Gitu, Nora Lorenzo, Charlotte Juton; Sciensano).

This paper outlines Belgian experiences with the AdHealth Chrome extension and WHO's KidAd app, alongside a validation study comparing large language models with expert and crowd coders on 1,000 food and alcohol ads. Results show that AI models match human performance on simple tasks and approach human variability on more complex coding, offering potential for scalable and policy-relevant monitoring.

Together, these contributions outline a research agenda that brings forward key methodological, ethical, legal and technical challenges in monitoring digital food marketing. The session concludes with an integrative segment led by the session organiser, in which all presenters reflect on shared methodological issues and future directions. This interactive format replaces the traditional discussant and encourages active exchange with the audience on building scalable, comparable and policy-relevant monitoring systems.