From Black Box to Trusted Coach:

Algorithmic Transparency, AI Role Framing, and Autonomy-Negotiation in Consumer Health Technologies

Health-AI wearables—including smartwatches, fitness trackers, and continuous-monitoring devices—are becoming embedded in consumers' everyday health decisions. These technologies can support prevention and self-care through personalised recommendations based on everyday health data. Yet they also shape what consumers see as healthy, advisable, or expected behaviour. As AI systems become more proactive, personalised, and integrated with healthcare, insurance, and workplace wellness infrastructures, consumers may experience them not only as helpful tools but also as opaque systems of data collection, behavioural steering, and potential surveillance.

This track examines a central transformative consumer research question: **How does the design of AI health technologies—especially their transparency and AI role framing—shape consumers' ability to make autonomous, informed, and empowered health decisions?** We use the term *autonomy negotiation* to describe how consumers weigh the benefits of personalised guidance against concerns about data control, explanation, pressure, and loss of agency. Rather than treating acceptance as static, the track examines how consumers interpret, accept, resist, or disengage from Health-AI recommendations over time.

The track is anchored in an ongoing programme of research on Health-AI wearables and builds on earlier experimental research on smartwatch acceptance, which extended TAM/UTAUT by identifying perceived technological risk and social influence as key predictors of consumer attitudes and usage intentions. A second controlled online experiment advances this work by examining how algorithmic transparency and AI role framing shape responses to Health-AI wearables. It tests whether an assistive versus authority-oriented AI role influences algorithmic trust, perceived autonomy, and psychological reactance, and thereby usage, health-data-sharing, and recommendation-following intentions. Rather than presenting a finished study, the track will use this evidence alongside participants' research and stakeholder cases to develop an autonomy-negotiation framework, specifying when effects differ by users' health or digital literacy, privacy sensitivity, prior wearable experience, health needs, or use contexts involving insurers, employers, or care providers.

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Consistent with TCR's dialogical format, the track will combine shared evidence review, structured discussion, small-group synthesis, and collaborative development rather than finished-paper presentations. Before the conference, participants will receive a short evidence pack and provide a brief structured input: researchers may share an emerging study, preliminary finding, conceptual question, or methodological challenge; external stakeholders may contribute a relevant Health-AI use case, organisational practice, or governance dilemma concerning data access, consent, explanation, or voluntary use.

The following three-day structure will serve as a flexible guide and will be refined with selected participants' expertise, questions, and cases:

Day 1: Mapping support, control, and context. The group will examine how transparency, explanation, recommendation style, and user control shape the boundary between supportive guidance and unwanted control across consumer and institutional settings. Guiding tension: **Support versus control**—when does Health-AI function as helpful coaching, and when does it become pressure, paternalism, or behavioural monitoring? Participants will map relevant risks, opportunities, and evidence across self-tracking, prevention, insurance, workplace wellness, and care contexts.

Day 2: Developing the autonomy-negotiation framework. Building on this map, the group will examine how algorithmic trust, perceived autonomy, and psychological reactance interact with health motivation, data literacy, fairness perceptions, and emotional responses to self-tracking. Guiding tension: **Transparency versus cognitive burden**—when do explanations enable informed choice, and when might they create information overload or superficial disclosure? The group will refine an integrative framework, specifying consumer heterogeneity and critical boundary conditions.

Day 3: Translating insights into fair and autonomy-respecting Health-AI. The group will ask for whom, under which conditions, and in which institutional arrangements Health-AI supports or undermines well-being. Guiding tension: **Personalisation versus fairness**—how can systems tailor support without excluding consumers with fewer digital resources, reproducing health inequalities, or imposing narrow definitions of healthy living? Particular attention will be paid to older consumers, people with chronic health conditions, people with differing health or digital literacy, privacy-sensitive consumers, and users whose wearable use is linked to employers, insurers, or care providers. Participants will translate the framework into design and governance principles and agree a feasible post-conference research and writing plan.

The track welcomes scholars and external stakeholders with relevant research, practice, or lived-experience perspectives on consumer-facing Health-AI. Relevant expertise may include consumer behaviour, digital health, service research, AI and human-computer interaction, technology acceptance, privacy and data governance, public policy, ethics, health technology, healthcare, insurance, or patient and consumer advocacy. Advanced PhD students and junior faculty within three years of the PhD are particularly encouraged to apply; where possible, at least one place will be allocated to a junior scholar.

Post-conference, the group will develop an integrative conceptual or empirical manuscript on autonomy negotiation in Health-AI wearables for consideration in the *Journal of the Association for Consumer Research* TCR 2027 special issue, subject to the journal's review process. It will also produce a practitioner brief, *Designing Autonomy-Respecting Health-AI Wearables*, translating the track's findings into actionable principles for designers, developers, insurers, and healthcare providers. The collaboration may also seed follow-up research.