

27 - 29 March 2026

Oxford , United Kingdom

## **Firefighters as Transhuman: Rethinking Gender, Ability, and Women's Work in a Technologically Enhanced Profession**

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### **Abstract**

Modern firefighting is a technologically mediated occupation in which survival, performance, and effectiveness depend on integrated human-technology systems rather than unassisted biological strength. Self-contained breathing apparatus, engineered thermal protection, thermal imaging cameras, and advanced communication tools enable firefighters to operate in environments that exceed ordinary human limits, fundamentally reshaping how work is performed on the fireground. Yet despite this shift, women firefighters continue to face persistent gender-based barriers rooted in cultural assumptions that equate occupational competence with masculine-coded traits such as size, strength, and physical dominance. This paper examines firefighting through a women's studies lens, asking how technological enhancement exposes the mismatch between gendered expectations and the actual functional demands of the profession. Drawing on feminist scholarship, qualitative research with women firefighters, and empirical studies of fireground performance, the analysis demonstrates that modern firefighting tasks are structured around cardiovascular endurance, breathing discipline, movement efficiency, situational awareness, communication, and coordinated crew dynamics. These competencies are not determined by biological sex, yet women's abilities are frequently evaluated against outdated biologically essentialist standards that obscure the role of technology in shaping performance. By reframing firefighters as operators within integrated human-technology networks, this paper argues that firefighting is gender-neutral in practice, even as it remains gendered in culture. Centering women's experiences reveals how technological mediation challenges long-standing narratives of exclusion while also highlighting the structural and cultural obstacles that continue to limit women's full participation, legitimacy, and advancement within the fire service. This analysis contributes to women's studies by demonstrating how technology can both disrupt and expose gendered power structures in traditionally male-dominated professions.

**Keywords:** Firefighters; Gender; Technology; Women; Work