

What Causes Burnout in STEMM and Who Are Affected by it? Burnout Causes and Risk Factors in STEMM

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The Impact of Burnout on Gender Equity in Science, Engineering, and Medicine: A Workshop Series

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Burnout is prevalent

- ▶ 57 percent of workers experience emotional exhaustion and mental disengagement from work (2023 Work in America Survey, American Psychological Association)

Burnout is a multilevel phenomenon

- At the Macro level: economic, cultural, and demographic shifts
- At the Meso level: job demands, job resources
- At the Micro level: identity, cultural fit, interactional inequality

Macro: economic conditions

- Globalization, diffusion of shareholder values, decline of union, corporate downsizing
- Increased job demands, lower job security
 - “Time divide” (Jacobs and Gerson 2003): increase in hours in high skilled jobs and decrease in hours in lower skilled jobs
 - Rise of “gig work” – steady increase in contract workers in STEMM fields (Caulfield 2022; Kunda et al. 2002; Wingfield 2019)

Macro: cultural shift

- “ideal worker norm” (Acker 1990; Balir-Loy 2003; Williams 2001)
 - intensified work to life conflict, negative health and wellbeing outcomes (Collins 2019; Kelly et al. 2010; Kleiner and Pavalko 2010; Schieman, Glavin, and Milkie 2009)
 - “Flexibility Stigma” (Williams et al. 2013)
- Intensification of parenting norm (Hays 1996; Ishizuka 2019; Laureau 2018) and its implication on gender
- STEMM: strong ideal worker norm and flexibility stigma are linked to higher turnover (Cech and Blair-Loy 2014)

Macro: Demographic shift

- Increase in dual earner household mean increase in work hours at the family level
 - heterosexual married couples' joint weekly work hours were 52.5 in 1970 but were higher by more than 10 hours, at 63.1 in 2000 (Jacobs and Gerson 2004)

Meso: job demands

- Long and inflexible hours: health risks and source of job dissatisfaction (Kelly et al. 2009; Kleiner and Pavalko 2010; Jacobs and Winslow 2004)
- “work-work conflicts” (Wynn et al. 2018) – inter-role conflicts, “dual” appointments more common among minoritized academic faculty
- “hidden work”: faculty spend close to 9 hours per week on service (Guarino and Borden 2017) – higher burden for women and minoritized workers -- e.g., mentoring, DEI mission
- Communication mobile technology – “sleeping with your smartphone” (Perlow 2012)

Meso: job resources

- Job resources: organizational and managerial support, control over schedules (including flexible work policies), control over work activities, creative tasks, meaningful work
- Moderating relationships: Job demands and resources In STEMM
 - STEMM workers typically face higher job demands but have more occupational and organizational resources than other workers
 - Yet, strong ideal worker norm offsets the benefit of job resources (Schieman et al. 2009, “Stress of higher status”)

Micro: identification with work

- failing to attach meanings of their work, in the face of overloaded job demands and lack of time for their personal and family life, is major driver of elite workers' leaving jobs (Yavas 2024).
- Strong identification with work can shield workers from burnout -- “calling” “passion project” (Blair-Loy 2003; Cech 2021; van Yperen and Hagedooren 2003)
- Work identification is also shaped by highly rewarding work – organization rewards, cultural appreciation (Blair-Loy 2003)
 - Implication for gender and race inequality in STEMM

Micro: cultural fit

- Perceived lack of fit of women in STEMM jobs
- Women's self-assessed lack of fit
 - Socialization in engineering education (Seron et al. 2016)
 - Languages and images used in recruiting sessions (Wynn and Correll 2018)
- Cultural ideals constructed based on White heterosexual men's values, lifestyles, bodily experiences – vs. motherhood, lactation, menopause

Micro: Interactional inequalities

- Being a numerical minority (“token”) as a stressor (Kanter 1977, Taylor 2016, Jackson et al. 1995)
- Status beliefs and stereotypes: sense of under-appreciation and inequity can lead to lower job satisfaction, turnover, psychological distress (Beck et al. 2021; Haynes 2023; Hall et al. 2015, 2019; Pascoe and Richman 2009; Wingfield and Chavez 2020).
- Emotional labor (Hochschild 1983) and gendered and racialized “feeling rules” (Wingfield 2019)

Recap: Implications for Gender and Race Disparity

1. Seemingly gender- and race-neutral factors: combined with gender and race segregation in jobs they produce gender- and race-specific outcomes

- Working conditions, job resources, identification with work

2. Gender and race-specific factors: biases built into workplace culture, norms, practices, and interactions

- cultural fit, interactional inequality