



In work we might find resilience - but is it what we need?

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Seoul, November 6th 2025

Outline

Resilience

A psychological concept which has been adapted by other disciplines.

On the whole: The ability to stay healthy or keep functioning throughout or despite crisis.

It can be a competence (“to be or to act resilient”), but also a goal (“to become resilient”).

— preliminary working definition

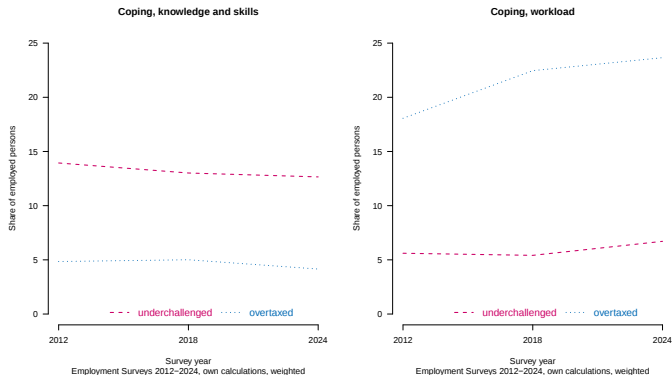
Looking at past developments in the world of work, we find crises like the advent of Personal Computers, possible developments through more refined computing. How did we cope with these? What can we learn from this?

- ▶ Office Occupations have been affected by the introduction of new technologies more often and ahead of other occupational groups.
- ▶ Working capacities (“Arbeitsvermögen”) of employees enabled these introductions, often individual workers have contributed knowledge gained outside work-contexts.
- ▶ VET-trainings in these occupations layed and lay ground for competent handling of technologies.
- ▶ Discussions in media about possible substitutions increased individual fear of job-loss, but only to very moderate extent (less than, e.g. the branch you work in or the question about whether you are informed about everything important regarding your work).

So, with the help of individual coping strategies the introduction of new technologies could succeed, be it the introduction of typewriters, dictaphones, fax machines or personal computers. Workplaces, firms and branches gained from this.

Even though it is “anecdotal evidence”, recent developments seem to be in line with these findings from office occupations, if you think of the implementation of AI. While usage of AI in general was not very high in the last years, it did increase, findings from recent studies show.

How did the introduction of new technologies affect employees' ability to cope with requirements?



In 2024, 83.2 % of employees felt they met knowledge and skills requirements (2012: 81.2 %).

At the same time, in 2024, 69.6 % of employees felt up to their workload (2012: 76.3 %).

What is the effect of introducing new technologies? Knowledge tasks might be complemented, service tasks might be substituted, and for manufacturing tasks both can be argued.

All technology introductions . . .	complement knowledge tasks.	substitute for service tasks.	substitute for manufacturing tasks.	complement manufacturing tasks.
Manufacturing occ. (level 2: specialist)				
Occ. in mechanics and toolmaking	✓	–	–	✓
Occ. in mechatronics, engery electronics and electrical engineering	✓	Software ✓	–	✓
Service occ. (level 2: specialist)				
Medical and healthcare occ. without medi- cal licence	✓	–	–	✓

“Technolgies”: Have there been new manufacturing or process technologies, new computer programs, or new machines or plants been introduced in your work environment in the last two years?

Source: Seegers, Marco & Ehmann, Kathrin (2024): “Task-biased technological change in Germany: Is it the routine or the manual?”, in: *Technological Change and Labor Markets*, pp. 56–76, Routledge

A glance back to coping

How is coping with requirements related to AI use?

AI usage at work	Yes 20.1 %	No 79.2 %	Cannot say 0.7 %
AI usage and coping re. knowledge and skills up to requirements		overtaxed	underchallenged
AI is used	20.2 %	29.9 %	16.3 %
AI usage and coping re. workload up to requirements		overtaxed	underchallenged
AI is used	19.2 %	24.1 %	15.9 %

It looks as though AI usage and being overtaxed might be related.

Source: BIBB/BAuA Employment Survey 2024, weighted, own calculations

What can we learn out of this for now and the future? Is the introduction of (new) technologies solely dependent on individuals?

Drawing on theoretical work surpassing and including the projects you have seen results from so far, we developed a theoretical framework. The core of this middle range theory holds three (types of) actors and three fields of acting and highlights their interrelatedness.

- ▶ 3 actors
 - ▶ society
 - ▶ technology
 - ▶ individuals
- ▶ 3 fields of acting
 - ▶ framing
 - ▶ reaction
 - ▶ shaping

What if . . . ? Let us change “technology” to “environment”, “climate”, “market”, or . . .

There are different answers to the question “What do we want from work?”

- ▶ As a society we might want to find sensible ways to utilize different competencies of individuals.
- ▶ As individuals we might want to find meaningful, fulfilling work.
- ▶ It could also be ways to distract individuals, ways to “keep youth off the streets”, or ways to earn enough money for a specific lifestyle.

Given the interrelatedness of framing, reaction, and shaping, the idea of socio-ecological transformation — and with it of resilience — urges us to start discussing and weighing goals. Questions we need to answer would include:

- ▶ Which techniques and technologies do we want to use?
- ▶ Which goals do we want to achieve?
- ▶ How are these related?



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