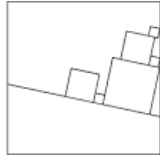


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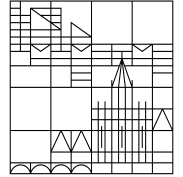


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# Can welfare states buffer technostress? Income and technostress in the context of various OECD countries

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# Definition Technostress & Relevance

## DEFINITION

An individual's "struggle to deal with constantly evolving ICTs and the changing cognitive and social requirements related to their use" (Tarafdar et al., 2007, p. 303)

Stress when using ICTs evolves if there is...

...a high dependency on an ICT

...a gap between the workers' knowledge of the ICT and its actual needed understanding

...a change in the work culture due to the use of technology (Ragu-Nathan et al., 2008)

## RELEVANCE

- Extending the literature on the socioeconomic antecedents of technostress in a large-scale, representative, multilevel study from all OECD countries
- Extending the technostress coping perspective beyond the individual level to the cross-country level
- Welfare state regime matters for the individual coping mechanism with technostress at work

## Existing Research

Perceived technostress is lower for individuals with higher formal education (Ragu-Nathan et al., 2008)



Individuals with higher education levels perceive more technostress (Krishnan, 2017)

+ No evidence when assessing different socioeconomic levels (Borle, Boerner-Zobel et al., 2021; Goetz and Boehm, 2020; Shu et al., 2011)

→ Results concerning the relationship between socioeconomic position and technostress perceptions remain inconclusive

# Theory

We aim to answer whether there are variations of the relationship between **employees income and technostress across countries with different welfare state regimes**

## **Transactional model of stress and coping by Lazarus (1966)**

Dual cognitive appraisal process:

1. Individuals interpret stressors and assess whether an event is **beneficial, harmful, or irrelevant** (Hanngrove et al., 2013; Lazarus, 1966)
  2. Individuals enter a decision-making process to evaluate whether they have **enough resources** to cope with these stressors (Lazarus, 1966; McGrath, 1976)
- Resources sufficient → Eustress  
→ Resources insufficient → Distress → Coping mechanisms needed

Conditions in which **ICT use** might be **perceived as a negative experience**

# Hypotheses

## Hypothesis 1:

*Income is negatively associated with perceived technostress*

→ Higher income allows employees to:

- Save money, be financially independent for some time, and have a better decision latitude on how to cope with technological changes at work
- Be more cognisant of the advantages of ICTs, such as the ability to develop social networks and gain wealth (Mills and Whitacre, 2003; Zhu et al., 2020), indicating more favourable feelings about technology's influence on their jobs (Dodel and Mesch, 2020)

# Hypotheses

## Hypothesis 2:

*Unemployment compensation moderates the relationship between income and perceived technostress in such that the negative impact of higher income on technostress is stronger in countries with high levels of compensation than in countries with lower levels of compensation.*

- Higher income is strongly associated with lower levels of perceived technostress if the **welfare state sufficiently insures higher-income earners against potential future income loss** in the case of unemployment.
- The cognitive processing of dealing with ICTs is easier if the person works in a welfare state system and thus can **rely on certain fallback mechanisms**.

## Data & Sample

**Dataset:** OECD's Risks that Matter (RTM) survey

### **In our sample:**

24,676 individuals from 24 OECD member countries

(Austria, Belgium, Canada, Switzerland, Chile, Germany, Denmark, Spain, Estonia, Finland, France, Greece, Ireland, Italy, South Korea, Lithuania, Mexico, Netherlands, Norway, Poland, Portugal, Slovenia, Turkey, and the United States)



# Method and Variables

## Regression analysis in a Bayesian framework

### Technostress

- measured with a **five-item scale** based on the original measure by Tarafdar and colleagues (2007)
- (1) techno overload (“I am forced by technology to more work than I can handle”)
  - (2) techno-invasion (“I feel my personal life is being invaded by technology”)
  - (3) techno-complexity (“I often find it too complex for me to understand and use new technologies”)
  - (4) techno-Insecurity (“I feel constant threat to my job security due to new technologies)
  - (5) techno-uncertainty (“I perceive that there are always new developments in technologies in my work environment”)

### Income

- **logged disposable annual income** equalised for household size

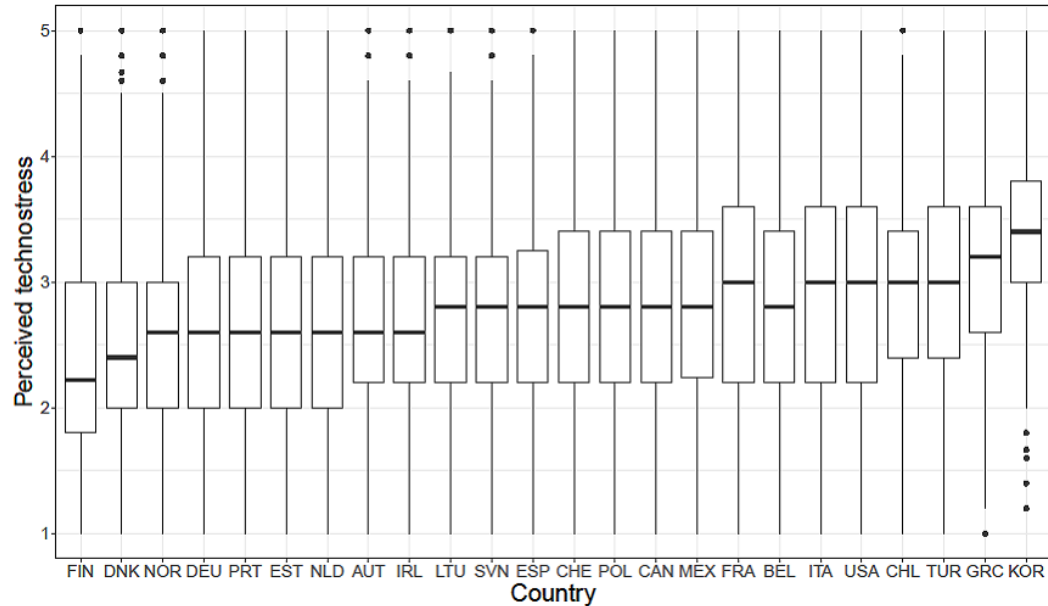
### Welfare state generosity

- **income replacement rates after one year** from the **OECD Social and Welfare Statistics** from 2019 and 2020



# Results

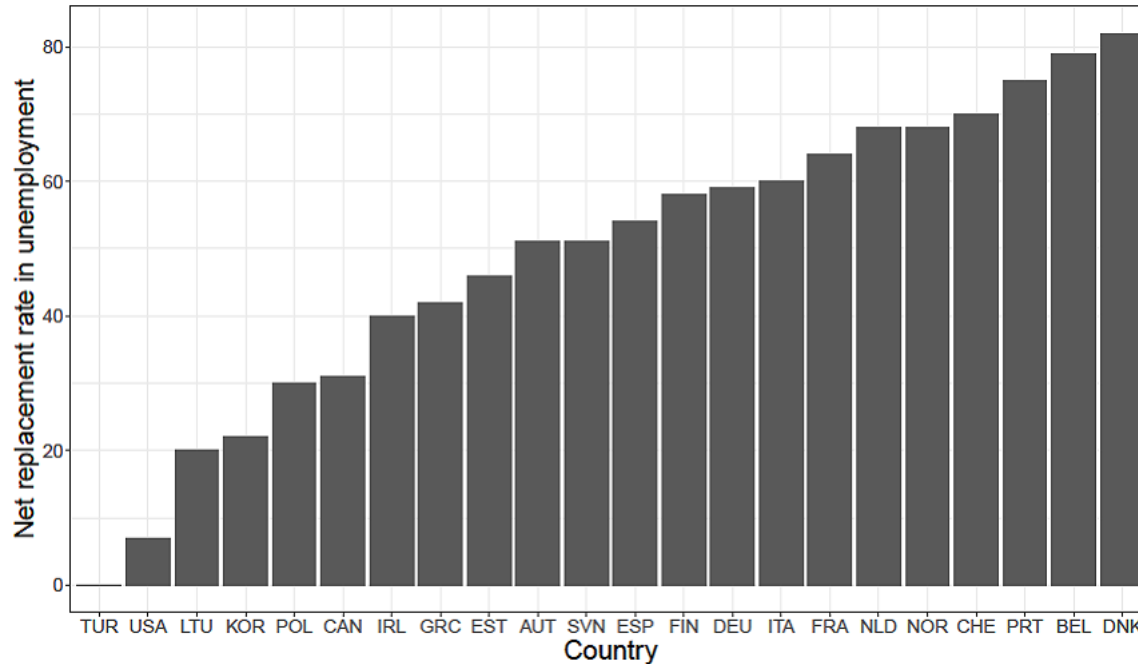
**Figure 1:** Distribution of perceived technostress across countries.



- **Lowest** average levels of **perceived technostress** in some of **the Nordic countries** (Finland, Denmark, Norway) as well as in some of the **core countries of the Eurozone** (e.g., Austria, Germany, and the Netherlands)
- **Perceived technostress** appears **highest** in some of the **emerging market economies** like South Korea, Turkey, and Chile, in countries of the euro periphery like Italy and Greece, and in the United States.

## Results

Figure 2: Unemployment benefits across countries.



→ The generosity of unemployment benefits **varies along welfare-state lines**.

→ While the **level of generosity is low** in **emerging economies** like Turkey and **liberal welfare** regimes like the United States, we **find high levels of unemployment compensation** in **established European welfare states** like Belgium and Denmark.

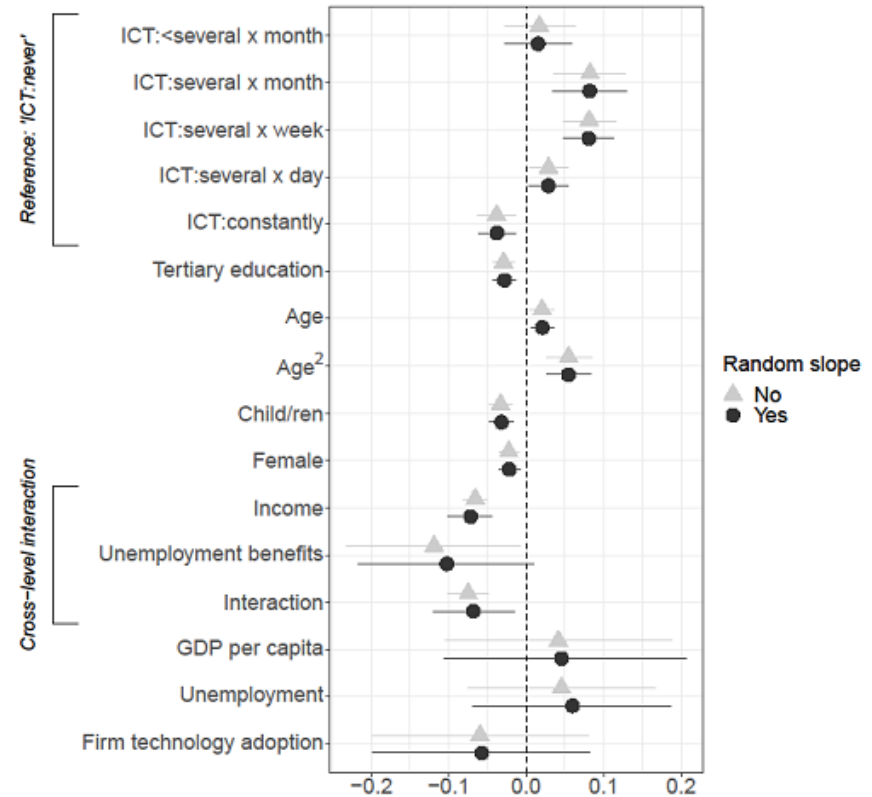
# Results

- The two main variables of interest – **income and unemployment benefits** – exhibit a **statistically significant, negative association with perceived technostress**
- The **interactive term between income and unemployment compensation is negative and statistically significantly different from zero**

→ In countries with **higher levels of unemployment benefits** the **negative impact of income on technostress is stronger** than in countries with lower levels of compensation

**Figure 4:** Results from two Bayesian multilevel models with cross-level interaction

between income and unemployment benefits, excluding and including a random slope on income.



## Contributions

- This study adds by **opening the discussion** of the role of income as a socioeconomic status variable when coping with technostress
- On the micro level, organisations should **facilitate ICT literacy, keep users informed** about the rationale for introducing new ICTs, and **offer a supportive organisational culture** to prevent technostress in the workplace (Berg-Beckhoff et al., 2017; La Torre et al., 2019; RaguNathan et al., 2008)
- Practical policy implications
  - Welfare states could help to alleviate tech-related polarisation by **providing compensation and social insurance**
  - Social policies should be seen as an essential tool to **offer resources for people to cope with rising levels of technology and associated risks**

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**Thank you for  
your attention!**

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