Defining the Conditions of Human-AI Companionship for Ethically Tempting Jobs – The Case of Top Executive Management

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Challenges and opportunities

Social isolation, lack of social support and perceived loneliness are increasingly threatening modern societies
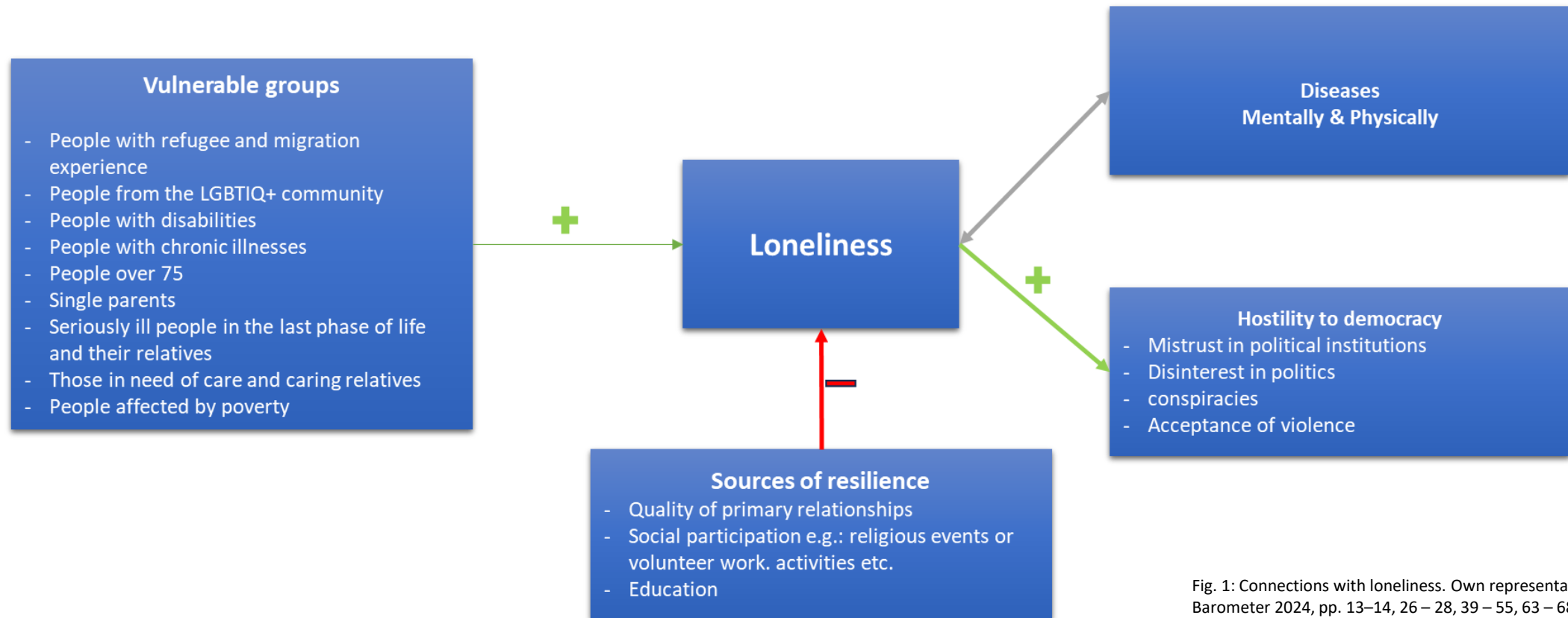

Vulnerable groups

- People with refugee and migration experience
- People from the LGBTIQ+ community
- People with disabilities
- People with chronic illnesses
- People over 75
- Single parents
- Seriously ill people in the last phase of life and their relatives
- Those in need of care and caring relatives
- People affected by poverty

Loneliness

Diseases Mentally & Physically

Hostility to democracy
- Mistrust in political institutions
- Disinterest in politics
- conspiracies
- Acceptance of violence

Sources of resilience
- Quality of primary relationships
- Social participation e.g.: religious events or volunteer work. activities etc.
- Education

Fig. 1: Connections with loneliness. Own representation; see Loneliness Barometer 2024, pp. 13–14, 26 – 28, 39 – 55, 63 – 68.

Top executive management as an overseen and under-researched group of the lonely and peerless?!

Often socially isolated

- Refers to the objective isolation of an individual
- Operationalization via the number of friends, the size of the social network or the frequency of social interactions (Luhmann, 2022)

Often peerless

- Describes a specific aspect of social isolation referring to a lack of high-quality social relations
- Highlights the opportunity that peers can give critical and constructive feedback
- Currently, still relatively undefined construct

Often report a state of loneliness

- a subjective state
- arises from a deficit in social relationships and is experienced as unpleasant (Luhmann, 2022)
- Can be the cause of **serious negative psychophysiological consequences** (Luhmann, 2022)

→ **may ultimately lead to abnorm and/or unethical behavior (ethical failures)**

TEM – peerless and lonely in ethically tempting jobs

Conditions of TEM decision making:

- Time pressure
- Uncertainty
- High risk
- High stakes
- Ultimate
- Insufficient information
- Large scope of consequences
- **High accountability of single actor**

+

Conditions of TEM decision makers:

- Strong Career Motives
- **Peerless**
- Powerful
- High need for cognition
- Stressed
- Emotional
- Accountable
- Vulnerable
- **Lonely**

= **high risk of (E)EF** (epic ethical failure)

Challenge: Increasing number of (E)EFs

Despite various controlling measures for TEM

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— advisery boards
— reporting standards
— compliance regulations
— 360 degree feedback
— ….

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— leadership training
— coaching
— mentoring
— career counseling
— job crafting etc.

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Why?

- Every step in career fosters loss of social support
- Systematic and systemic reduction of critical peers
- Tolerated dark patterns of leadership
- History of just noticeable differences in personality and behavior towards manager derailment

Source: The New York Times, 2021

Source: BTC-Echo, 2022

Source: Investopedia, 2023

Source: RND, 2021

Opportunity: Human-AI Companionship for Ethically Tempting Jobs

Our project vision

Political frameworks for combating loneliness

- Great Britain 2018: World's first strategy against loneliness
  - Raising public awareness
  - Promoting sustainable change
  - Improving the knowledge base

- Netherlands 2018: „United Against Loneliness" Program
  - Raising public awareness
  - Local coalitions: targeted coordination
  - National coalitions: collaboration between civil society organizations, companies and experts

- Germany 2022: Strategy against loneliness
  - Raising public awareness
  - Strengthen knowledge
  - Strengthen practice
  - Act across departments
  - support people
  - Competence network loneleness

Fig. 5: Measures to combat loneliness in Great Britain, the Netherlands and Germany. Own representation; see BMFSFJ 2023.
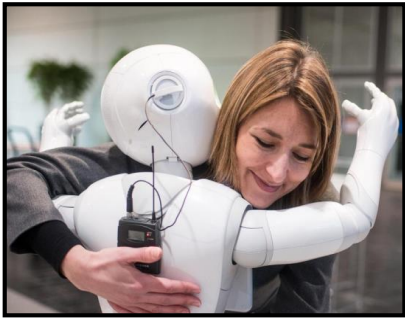
AI is already enabling various approaches to securing social inclusion, social support and virtual companionship for vulnerable groups

AI enables virtual or artificial companions that

- are physically near,
- communicate in a human-like way,
- build emotional connections,
- reflect feelings of companionship,
- provide feedback and
- can offer support.

Design of virtual assistants or virtual companions considers

- natural/biophilic features,
- adaptability,
- proactivity and reciprocity,
- transparency, privacy and ethics,
- relationship and
- touching people's sense of touches.

Braun et. al. (2018); Diederich et. al. (2022); Strohmann et. al. (2022); Van Erp, Toet (2015)

Our project vision

1. Understanding the conditions of Human-AI Companionship for ethically tempting jobs – The case of top executive management

2. Designing AI Agents for Human-AI Companionship

Ultimately supporting TEM in ethically tempting decision making → less (E)EFs

Source: cottonbro studio, 2024

Project timeline: achievements, goals and future directions

Source:

Achievements

- Problematizing literature review on AI-based social support (no research beyond traditionally vulnerable groups; elderly, people with refugee and migration experience, people with disabilities, single parents etc.)

- Qualitative interviews with TEM: defining conditions of technology acceptance, trust, interaction, collaboration

- Setting up an extended lab infrastructure for experimental research (wearable sensors EEG, ECG etc.)

- Prototyping an AI toolbox (SNAP) to process and synchronize heterogeneous data sources in order to model and train algorithms for just noticeable behavioral differences in every day life

- Adjusting an android based App for neuro-feedback from wearable sensors (SPICA) for vertical integration of different biophysical data signals

	Position		Branche	
	1	CEO	Soziales Unternehmen	> 100 Mitarbeiter
	2	CEO	Versicherungs- und Schadenregulierung	> 100 Mitarbeiter
	3	CEO	Technische Dienstleistungen	> 300 Mitarbeiter
	4	CFO (ehemalig)	Internationales Luftfahrtunternehmen	> 1000 Mitarbeiter
	5	CFO	Internationales Softwareunternehmen	> 1000 Mitarbeiter
	6	CIO (Vorstand)	Logistik- und Güterverkehrsunternehmen	> 1000 Mitarbeiter
	7	CEO	Mittelständisches Softwareunternehmen	> 100 Mitarbeiter
	8	Area Manager	Energiesektor	> 1000 Mitarbeiter

Needs and goals

- Extending the research network
  → open invitation to join the team

- Establishing expert panel
  → open invitation for a heterogenous group of experts for moderated focus group discussions

- Prototyping a modular virtual companionship tool based on wearable technologies for TEM
  → open invitation to engage in various stages of the design process (technical, ethical, human, …)

- Testing a modular virtual companionship tool based on wearable technologies for TEM
  → open invitation to engage in laboratory (field) experiments

- Finding additional partners in practice
  → open invitation to forward the project vision to TEM, AI/digitalization officers, …

Future directions

- AI based horizontal and vertical integration of wearable data

- Development and testing of modular AI-companionship-solutions for ethically tempting jobs
  - Experimental research
  - Field research

- Predicting unseen/unnoticed changes towards unethical behavior
  - Adjusting algorithms → customizable, trustworthy

- Collaborative decision making beyond individual data

- Collecting individual data on team level in different situations

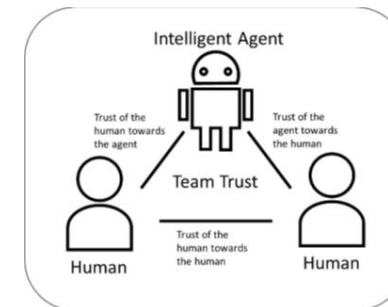- Extending the scope of research and application on ethically tempting jobs beyond TEM

Fig: Possible trust relationships in human-agent-teams (Ulfert & Georganta, 2020).

Our expertise in the field

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Work-Systems Design / AI

Leadership / AI

Human – Autonomy Teaming

Organizational Behavior / AI

Neurotechnology / Mashine Learning

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