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Effects of the use of artificial intelligence in different boundary conditions of career development on the affective reactions of employees: A vignette study

Objective

This study aims at answering the following research questions:
- How does artificial intelligence influence employees' affective reactions in the career development context?
- What is the role of complexity, task distribution, assignment of trainings, and performance evaluation as potential boundary conditions?

Background

The use of artificial intelligence (AI) and algorithmic decision-making (ADM) in human resource management has increased over time due to efficiency and cost reasons (Köchling et al., 2021; Leicht-Deobald et al., 2019; Suen et al., 2019; Woods et al., 2020). In recruiting, AI is used in form of asynchronous or telephone interviews and chatbots (Köchling et al., 2022). In the context of career development, ADM is used comparably less, although its implementation can lead to a better fit between talent, strategic positions, and careers (Suen et al., 2019). Previous findings in the recruiting field cannot be transferred directly to the context of career development because both contexts differ in their nature. When it comes to evaluating individuals' potentials and talent, intuitive and emotional components, known as "human" skills, become more relevant (Lee, 2018). This study investigates complexity, task distribution, assignment of trainings and performance evaluation as boundary conditions for employees' acceptance of AI in career development. Understanding employees' acceptance of AI in career development is crucial because low acceptance can lead to an increase in counterproductive work behavior and turnover intention, as well as to a decrease of organizational commitment (Gardner & Carlopio, 1996; Lee, 2018; Zhang et al., 2022).

Theory

Drawing on the affective response model, I examine opportunity to perform and emotional creepiness as mediators for the relationship between AI usage and organizational commitment, counterproductive work behavior and turnover intention. The affective response model helps to understand human interactions with new technologies, hence it is particularly fitting to address the acceptance of AI in career development (Zhang, 2013). The results extend the affective response model in the sense that specific responses to the depicted boundary conditions can be derived. ´Moreover, it is important to understand how employees react to high transparency of complex AI functionality to further deepen the understanding of the affective response model.
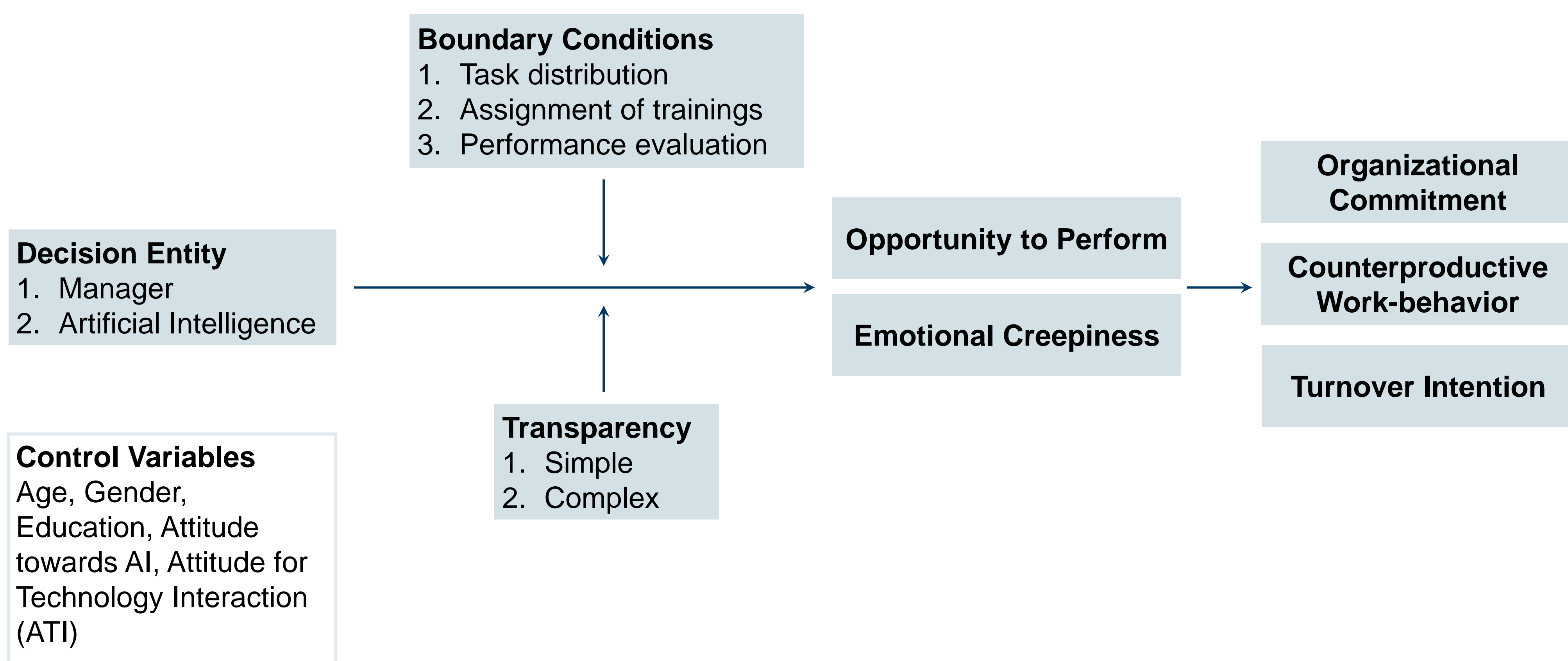
Research Model

Decision Entity
1. Manager
2. Artificial Intelligence

Boundary Conditions
1. Task distribution
2. Assignment of trainings
3. Performance evaluation

Transparency
1. Simple
2. Complex

Control Variables
Age, Gender, Education, Attitude towards AI, Attitude for Technology Interaction (ATI)

Opportunity to Perform

Emotional Creepiness

Organizational Commitment

Counterproductive Work-behavior

Turnover Intention

Methodology

Sample

Using a German online sampling provider to gather the respondents, the sample consists of employees over the age of 18. It will represent a cross-section of the German population.

Scenarios

This vignette analysis is based on a between-subject design using twelve hypothetical scenarios, differentiating between a decision of human vs. algorithm and the different boundary conditions (i.e., complexity, task distribution, assignment of trainings and performance evaluation). Participants will be randomly assigned to one of the scenarios and will read a brief description of a contextual scenario where either a manager or AI makes a decision, as well as different levels of transparency about the data that was used to gather the decision. Each scenario will be assigned to around 30 participants.

Questionnaire

Opportunity to perform is measured with two items, "In this situation, I could show my skills and knowledge" and "In this situation, I would be able to show what I can" (Bauer et al., 2001). Emotional creepiness is based on a scale of Langer et al. (2017) and is measured with the items "During this situation, I would have queasy feeling" as well as "This situation would feel threatening". All scales of the items will be measured with a range from 1 (strongly disagree) to 5 (strongly agree). Moreover, control variables of age, gender, education, affinity for technology interaction and affinity towards AI are included in the questionnaire to improve the validity of the true relationships in question.

Data Analysis

First, the means, standard deviations and correlations of the variables will be investigated. A confirmatory factor analysis of the latent variables in the next step will give insights about the model fit. Moreover, this study will make use of a one-way ANOVA to compare the significance of the difference of the means between the various boundary conditions. This enables the direct comparison of our results with the study results of Lee (2018) who used similar boundary conditions and measures, but did not differentiate between a simplex and complex scenario as well as differentiate affective reactions to opportunity to perform and emotional creepiness. Finally, this study tests the treatment as well as direct effects of the mediators with the use of a structural equation model.

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