

The Influence of Attitude towards Artificial Intelligence on Occupational Self-Efficacy among Adults

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Abstract

This study aimed to investigate the influence of attitude towards Artificial Intelligence (AI) on occupational self-efficacy among adults. The data were collected through online Google forms and the sample size is n=178. **The measuring tools**: The General Attitude Towards artificial intelligence scale (GAAIS) and, Occupational Self-Efficacy Scale (OSS-6) was used to collect data. The study undertook correlation research design. **Conclusion**: There is a correlation between attitude towards artificial intelligence and occupational self-efficacy analysis predict the attitude towards artificial intelligence on occupational self-efficacy. The independent t-test analysis shows that female have higher score in occupational self-efficacy than male.

Introduction

"Artificial intelligence is that activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment." (Nilson, 2010). Our attitudes towards Artificial Intelligence (AI) affect the development, implementation, and acceptability of new solutions that utilize AI (Schepman and Rodway, 2020). A better understanding of different attitudes towards AI can lead to more efficient implementation and usage of these technologies (Kelly et al., 2023).

Self-efficacy is a concept that was first introduced by Albert Bandura in 1977, "selfefficacy refers to a person's beliefs that he or she is able to effectively perform the tasks needed to attain a valued goal "(Bandura, 1977). Hackett and Betz (1981) were the first to propose the concept of occupational self-efficacy. (Peng et al., 2021) "Occupational selfefficacy refers to the belief that an individual is competent to fulfill work-related tasks or activities" (Felfe and Schyns, 2006). Occupational self-efficacy is not a specific personality trait or work capacity; rather, it is the confidence or belief in occupational capability (Schyns, 2004).

Methodology

Aim: The aim of this study is to investigate the influence of attitude towards Artificial Intelligence (AI) on occupational self-efficacy among adults.

Objectives

- To examine the relationship between attitude towards AI and occupational selfefficacy.
- To examine the influence of attitude towards AI on occupational self-efficacy.
- To examine the gender difference in occupational self-efficacy.

Hypotheses

- H₁: There will be a significant relationship between positive attitude towards Artificial Intelligence (AI) and occupational self-efficacy.
- H₂: There will be a significant relationship between negative attitude towards Artificial Intelligence (AI) and occupational self-efficacy.
- H₃: There will be a significant prediction of attitude towards Artificial Intelligence (AI) on occupational self efficacy.
- H₄: There will be a significant gender difference in occupational self-efficacy.

Variables: Attitude towards artificial intelligence (AI) is independent variable, occupational self-efficacy is dependent variable and gender is extraneous variable.

Sampling Method: The population of this study is adults between the age group of 20-35. The sample size is 178 and the sampling technique is convenient sampling.

Inclusion Criteria: Participants must be between 20 to 35 years old, mentally competent, proficient in the language in which the survey/questionnaire is administered (e.g., English)

Exclusion Criteria: Participants with severe cognitive impairment or intellectual disability and, participants outside the 20-30 age range.

Tool Description

The General Attitudes towards Artificial Intelligence Scale (GAAIS) is a 20-item tool used to measure individuals' attitudes towards Artificial Intelligence (AI). (Schepman and Rodway, 2017).

Occupational Self-Efficacy Scale (OSS-6): The original Occupational Self-Efficacy Scale (OSS), (Schyns and Collani, 2002), consists of 20 items. The short version of the OSS, consisting of six or eight items, (Rigotti et al., 2008).

Statistical techniques: Normality was checked using Skewness and kurtosis also Kolmogorov-Smirnov and Shapiro Wilk tests, Pearson's correlation coefficient, regression analysis and t-test were used in this study.

Results

 Table 1: Correlation between positive attitude towards artificial intelligence and

 Occupational self-efficacy

Variables	Ν	Mean	SD	r value
Positive attitude towards AI	178	39.71	5.55	0.28**
Occupational self-efficacy	178	22.03	5.85	

There is a moderate positive correlation (r=0.28, p<0.01) between positive attitude towards AI and occupational self-efficacy, which is statistically significant at the 0.01 level.

Table	2:	Correlation	between	negative	attitude	towards	artificial	intelligence	and
	(Occupational	self-effica	ісу					

Variables	Ν	Mean	SD	r value
Negative attitude towards AI	178	20.64	4.36	-0.03
Occupational self-efficacy	178	22.03	5.85	

There is no noticeable relationship between negative attitude towards AI and occupational self-efficacy. The correlation is extremely weak and not statistically significant.

Model		Unstandardizd Coefficients		Standardizd Coefficients	Т	Sig.
		B Std. Error Be		Beta		_
	(Constant)	10.19	3.05		3.33	0
1	positive attitude towards AI	0.29	0.07	0.26	3.9	0
R = 0.28	R ² -0.08 F- 15.27					

Table 3: Regression analysis for positive attitude towards artificial intelligence and **Occupational self-efficacy**

0.28 K²= 0.08 F= 15.27

R-value of 0.28 indicates a weak positive linear relationship between positive attitude towards AI and occupational self-efficacy. R² value is 0.08; this indicates that about 8% of the variation in occupational self-efficacy can be explained by the positive attitude towards AI. F value is 15.27 indicates that the positive attitude towards AI has a statistically significant effect on occupational self-efficacy.

Table 4: Significance of gender differences in occupational self efficacy

Variables	Groups	Ν	Mean	SD	Т
Occupational salf office ov	Μ	96	20.25	5.31	1 31
Occupational sen-entracy	F	82	24.00	5.86	4.34

The t-value of 4.34 indicates a statistically significant difference between the male and female groups in terms of occupational self-efficacy. The female group has a higher mean occupational self-efficacy score (24.00) compared to the male group (20.25).

Discussion

The first hypothesis (H₁) is statistically analyzed using correlation analysis and the results showed that there is significant moderate positive correlation (r = 0.28, p < 0.01) between positive attitude towards AI and occupational self-efficacy. This suggests that individuals with a more positive attitude towards AI tend to have higher occupational selfefficacy. Hence hypothesis (H₁) is accepted. The second hypothesis (H₂) shows, there is no noticeable relationship between negative attitude towards AI and occupational self-efficacy. Hence hypothesis (H_2) is rejected. The third hypothesis (H_3) is statistically analyzed using linear regression and the results showed that the positive attitude towards AI has a statistically significant effect on occupational self-efficacy (F value = 15.27). The R² value of 0.08 suggests that about 8% of the variation in occupational self-efficacy can be explained by the positive attitude towards AI. This finding suggests that attitude towards AI is a significant predictor of occupational self-efficacy. Hence hypothesis (H₃) is accepted. The fourth hypothesis (H₄) is analyzed using independent t-test, for H4 the t-value of 4.35 indicates a statistically significant difference in occupational self-efficacy between males and females, it indicates that females having a higher mean occupational self-efficacy score. Therefore, hypothesis (H₄) is accepted.

Conclusion

The study suggests that individuals with more positive attitude towards AI tend to have higher occupational self-efficacy. And the attitude towards AI is one of the predicting factor of occupational self-efficacy. Additionally, the study found that females tend to have higher occupational self-efficacy than males. These findings have implications for understanding the impact of AI on occupational self-efficacy and the role of gender in shaping these relationships.

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