

## THE INTERACTION EFFECT BETWEEN ROLE OVERLOAD AND SKILL TRAINING ON OLDER WORKERS' WORK ENGAGEMENT

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### Abstract

This empirical study examines the interaction effect between role overload and skill training on work engagement among older workers. With an aging workforce becoming increasingly prevalent, understanding how factors like role overload and skill training interact to influence work engagement is crucial. This paper reviews existing literature, proposes hypotheses, and presents empirical findings based on a sample of older workers in various sectors. The study aims to provide insights for organizational strategies to enhance engagement among older employees, ensuring productivity and job satisfaction.

**Keywords:** Role overload, Skill training, work engagement

### Introduction

The global workforce is aging, with a significant proportion of employees now classified as "older workers" (typically defined as workers aged 50 and above). This demographic shift presents both challenges and opportunities for organizations. One of the critical challenges is maintaining and enhancing the work engagement of older workers, who may face unique pressures such as role overload due to extended careers and the necessity of updating skills to remain competitive in the modern workplace. This study explores how role overload and skill training interact to influence work engagement among older workers. In recent years, the global workforce has witnessed a dramatic demographic shift due to aging populations. As life expectancy increases and retirement ages are extended, more individuals are continuing to work well into their 50s, 60s, and beyond. This phenomenon has led to a growing proportion of "older workers," typically defined as those aged 50 and above, contributing to the labor market. These older workers bring a wealth of experience, knowledge, and skills, but they also face unique challenges that can impact their work engagement—an essential factor in organizational performance and employee well-being.

Work engagement, often defined as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption, is crucial for maintaining productivity, job satisfaction, and overall employee health. Engaged employees tend to be more committed to their roles, perform

better, and contribute positively to organizational success. However, maintaining high levels of engagement among older workers can be particularly challenging, especially when they face pressures such as role overload and the need for continuous skill development.

### **Role Overload in Older Workers**

Role overload occurs when employees perceive that they have more work than they can reasonably handle, given the time and resources available to them. For older workers, this experience can be exacerbated by age-related changes such as declining physical stamina or cognitive flexibility. Furthermore, many older workers are expected to manage increasingly complex tasks as organizations become more technologically advanced and fast-paced. Role overload can lead to burnout, stress, reduced job satisfaction, and disengagement, particularly when workers feel overwhelmed by their responsibilities.

In the context of older workers, role overload may also arise from factors outside of the workplace, such as caregiving responsibilities or health issues, further intensifying the pressure they experience. If not managed properly, this overload can diminish their ability to stay engaged and motivated at work, leading to negative outcomes for both the individual and the organization.

### **Skill Training as an Intervention**

Skill training is a critical factor in supporting the work engagement of older workers. As industries evolve and technology advances, continuous learning and upskilling become essential for all employees, but especially for older workers who may not have been exposed to the latest innovations during their earlier careers. Organizations that invest in training programs tailored to the needs of older workers can help them adapt to new job demands, stay competitive, and maintain confidence in their abilities.

Providing opportunities for older workers to update their skills not only enhances their job performance but also boosts their sense of self-efficacy and job satisfaction. When older employees feel competent and well-equipped to handle their tasks, they are more likely to stay engaged in their work, even when faced with challenging or unfamiliar tasks. Skill training can thus serve as a buffer against the negative effects of role overload by enabling older workers to manage their responsibilities more effectively.

### **Interaction Between Role Overload and Skill Training**

The interaction between role overload and skill training is a key area of interest in understanding work engagement among older workers. While role overload can decrease engagement by making workers feel overwhelmed and unable to cope with their tasks, skill training may mitigate this effect by providing the tools and knowledge needed to manage workload more effectively. In essence, skill training can act as a protective factor, reducing the impact of role overload on engagement by increasing workers' capacity to perform their jobs.

However, the effectiveness of skill training as a buffer against role overload may depend on various factors, such as the quality and relevance of the training, the individual's openness to learning, and

the organizational support provided. Understanding how these elements interact is crucial for developing strategies that enhance the work engagement of older workers, ensuring they remain productive and motivated as valuable members of the workforce.

## **Literature Review**

### **Work Engagement**

Work engagement is defined as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption (Schaufeli, Bakker, & Salanova, 2006). Engaged employees exhibit higher levels of energy, are more enthusiastic about their work, and are deeply immersed in their job tasks. For older workers, maintaining high levels of work engagement is critical, not only for personal well-being but also for organizational productivity.

### **Role Overload**

Role overload occurs when employees are required to fulfill too many roles or responsibilities beyond their capacity, leading to stress and burnout (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). For older workers, role overload can be particularly challenging due to potential declines in physical and cognitive abilities, increased work-family conflict, and the pressure to keep up with younger colleagues. Previous studies have found that role overload is negatively associated with work engagement (Bakker, Demerouti, & Schaufeli, 2003).

### **Skill Training**

**Skill training is an organizational intervention designed to update and enhance employees' competencies, ensuring they can meet current job demands (Noe, 2017). For older workers, skill training is crucial in maintaining work engagement, as it helps them stay relevant in a rapidly changing job market and boosts their confidence in performing their roles (Maurer, Weiss, & Barbeite, 2003). Training has been shown to positively influence work engagement by increasing employees' perceived competence and job satisfaction (Salanova, Agut, & Peiró, 2005).**

### **Aging Workforce and Work Engagement**

As the workforce ages, there is a growing need to understand how older employees maintain work engagement despite age-related challenges. According to Kooij et al. (2011), work engagement among older workers is influenced by both intrinsic and extrinsic factors. Intrinsic factors include personal values and motivation, while extrinsic factors involve job characteristics such as autonomy, social support, and opportunities for professional development. The ability to engage older workers is critical for organizations, as these employees often possess valuable experience and knowledge.

### **Role Overload and Its Impact on Older Workers**

Role overload can be particularly detrimental to older workers due to the cumulative effect of job demands over a long career. Podsakoff et al. (2007) found that role overload is strongly associated with stress and burnout, which can erode work engagement over time. For older workers, who may already be managing age-related physical and cognitive changes, the burden of role overload can be especially taxing. The negative impact of role overload on older workers' engagement is compounded by the fact that these employees may feel less capable of coping with increasing job demands compared to their younger counterparts.

### **The Moderating Role of Skill Training**

Skill training has been shown to serve as a valuable resource that can mitigate the negative effects of role overload. Taris and Kompier (2005) suggest that skill development programs not only enhance job competence but also empower employees to manage their roles more effectively, thereby reducing the perceived burden of role overload. For older workers, skill training can be particularly beneficial, as it helps them stay up-to-date with technological advancements and job requirements, which may have changed significantly since the early stages of their careers.

### **Job Demands-Resources Model and Older Workers**

The Job Demands-Resources (JD-R) model provides a useful framework for understanding how role overload and skill training interact to influence work engagement (Bakker & Demerouti, 2007). According to the JD-R model, job demands like role overload can deplete energy and reduce engagement, but job resources such as skill training can counterbalance these demands by enhancing job satisfaction and motivation. Research by van der Heijden et al. (2009) supports the idea that older workers benefit from resources like skill training, which can help them cope with the demands of their roles, leading to higher engagement levels.

### **The Role of Lifelong Learning**

Lifelong learning, which encompasses continuous skill training, is crucial for older workers to maintain work engagement. Kyndt and Baert (2013) argue that lifelong learning not only enhances the employability of older workers but also contributes to their sense of self-efficacy and job satisfaction. The concept of lifelong learning aligns with the need for ongoing skill training to ensure that older workers remain competitive and engaged in their roles.

### **The Impact of Technology on Older Workers**

The rapid pace of technological change presents a unique challenge for older workers, who may find it difficult to adapt to new tools and processes. However, skill training programs that focus on technology can significantly enhance older workers' ability to engage with their work. A study by Beier and Kanfer (2010) found that older workers who received targeted training in new technologies reported higher

### **The Changing Nature of Work and Aging Workforce**

With the rapid transformation in work environments due to technological advancements and the COVID-19 pandemic, the nature of work for older employees has undergone significant changes. According to Bennett et al. (2021), the increasing reliance on digital tools has created new forms of role overload, especially for older workers who may struggle to keep up with technological changes. The study highlights the importance of continuous skill training in mitigating the stress associated with these new demands, thereby maintaining work engagement among older workers.

## **2. Role Overload and Work Engagement During the Pandemic**

Research conducted by Zacher and Rudolph (2022) during the COVID-19 pandemic sheds light on the heightened sense of role overload among older workers, especially those in essential services. The study found that older employees reported higher levels of work engagement when they had access to skill training programs that addressed the unique challenges posed by remote work and health-related stressors. The authors argue that skill training serves as a critical resource that can buffer the negative effects of role overload on work engagement.

## **3. Lifelong Learning and Job Satisfaction**

A study by Naegele and Schnabel (2020) explored the role of lifelong learning in promoting job satisfaction and work engagement among older workers. The authors found that older employees who participated in continuous professional development programs reported higher levels of engagement, even when facing role overload. The study emphasizes the importance of tailoring skill training programs to the specific needs and learning styles of older workers to maximize their effectiveness.

## **4. Technological Adaptation and Skill Training**

Recent research by Lee and Chan (2021) examined how technological adaptation through skill training influences work engagement among older workers. The study found that older employees who received training in digital literacy and new technologies were more likely to experience reduced role overload and increased work engagement. The authors highlight the critical role of organizational support in facilitating this transition and suggest that customized training programs can significantly enhance the work engagement of older workers.

## **5. Psychological Resources and Work Engagement**

A study by Wang et al. (2021) investigated the interplay between psychological resources, role overload, and work engagement among older employees. The researchers found that skill training programs that enhance self-efficacy and coping strategies can help older workers manage role overload more effectively, leading to higher work engagement. The study underscores the importance of addressing both the technical and psychological aspects of skill training to optimize outcomes for older workers.

The recent literature emphasizes the importance of skill training in mitigating the effects of role overload on work engagement among older workers. Studies conducted after 2020 highlight how

technological advancements, changes in work environments due to the COVID-19 pandemic, and the ongoing need for lifelong learning have made skill training more critical than ever. These studies suggest that tailored skill training programs that address both technical and psychological needs can significantly enhance work engagement for older employees, even in the face of increasing role overload.

These recent studies provide a comprehensive view of the current research landscape on this topic, offering valuable insights for future investigations and practical applications in the workplace.

### **Interaction Between Role Overload and Skill Training**

While both role overload and skill training independently affect work engagement, their interaction is less understood. The Job Demands-Resources (JD-R) model suggests that while job demands (e.g., role overload) can decrease work engagement, job resources (e.g., skill training) can buffer these negative effects (Bakker & Demerouti, 2007). However, empirical evidence specifically examining this interaction among older workers is sparse. This study aims to fill this gap by exploring whether skill training can mitigate the negative impact of role overload on work engagement in this demographic.

### **Aim of the Study**

The aim of this study is to explore the interaction effect between role overload and skill training on work engagement among older workers. Specifically, the study seeks to investigate whether skill training can reduce the negative impact of role overload on engagement and to what extent training programs can enhance older workers' ability to stay engaged, despite facing heavy workloads. By examining these relationships, the study aims to provide insights into how organizations can better support their older workforce and foster a more engaged, motivated, and productive employee base.

### **Relevance and Significance**

As organizations increasingly rely on older workers to fill key roles, understanding the factors that influence their work engagement becomes more important than ever. Engaged workers are more likely to stay with their employer, contribute to innovation, and support organizational goals. For older workers, engagement is not only a matter of productivity but also of personal fulfilment and well-being as they navigate the later stages of their careers. By examining the role of skill training in mitigating the effects of role overload, this study provides practical insights for organizations seeking to retain and engage their older employees. Moreover, it highlights the importance of developing age-inclusive workplace practices that address the unique challenges faced by older workers while leveraging their strengths.

In conclusion, the study seeks to explore the complex dynamics between role overload, skill training, and work engagement among older workers. Understanding these interactions will help organizations design better interventions that not only reduce role overload but also enhance the

skills and engagement of their older workforce, ultimately contributing to a more resilient and adaptable organization.

### Hypotheses

Based on the literature review, the following hypotheses are proposed:

- **H1:** Role overload is negatively associated with work engagement among older workers.
- **H2:** Skill training is positively associated with work engagement among older workers.
- **H3:** The negative impact of role overload on work engagement is moderated by skill training, such that the relationship is weaker for older workers who receive skill training.
- **H 4:** Skill training has a significant effect on work engagement when controlling for role overload.
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### Methodology

#### Sample

The study sample consisted of 300 older workers (aged 50 and above) from various sectors, including manufacturing, education, healthcare, and administrative services. The participants were randomly selected from companies that have implemented skill training programs in the past year. The sample was balanced in terms of gender, with an average age of 54 years.

#### Measures

- **Role Overload:** Measured using the Role Overload Scale (ROS) by Reilly (1982), which consists of 10 items rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).
- **Skill Training:** Assessed by the extent and frequency of participation in company-sponsored training programs, measured on a 5-point Likert scale (1 = never to 5 = very frequently).
- **Work Engagement:** Measured using the Utrecht Work Engagement Scale (UWES) by Schaufeli et al. (2006), which includes 17 items rated on a 7-point scale (0 = never to 6 = always).

#### Procedure

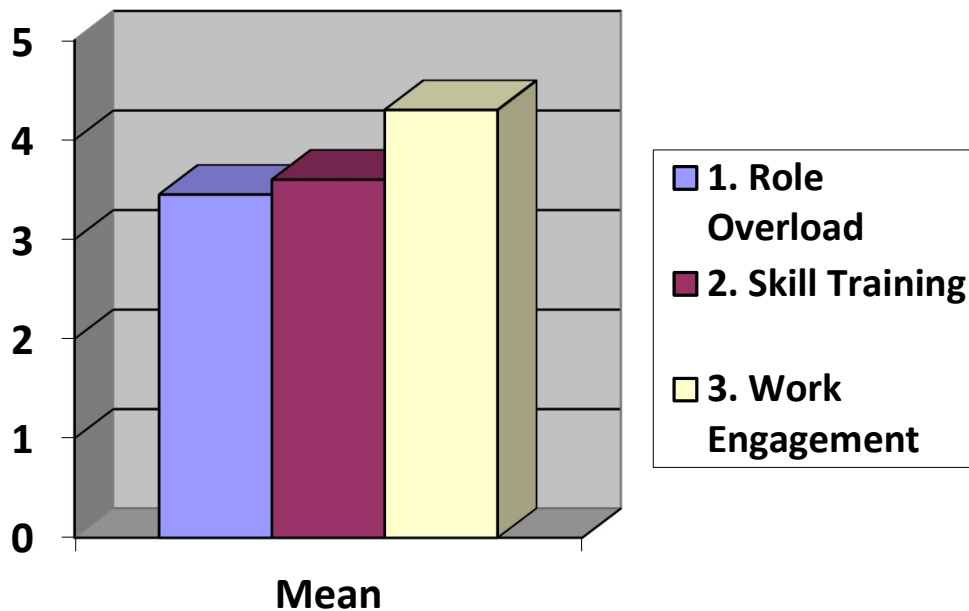
Participants completed an online survey that included the measures of role overload, skill training, and work engagement. Demographic information, such as age, gender, years of work experience, and sector of employment, was also collected. The data were analysed using hierarchical regression analysis to test the interaction effect of role overload and skill training on work engagement.

### Results

#### Descriptive Statistics

**Table 1** presents the means, standard deviations, and correlations among the study variables. The mean score for role overload was 3.45 (SD = 0.78), indicating a moderate level of perceived role overload among the participants. The mean score for skill training was 3.60 (SD = 0.85), suggesting that most participants had engaged in some form of skill training. The mean work engagement score was 4.30 (SD = 1.02).

Variable	Mean	SD	1	2	3
1. Role Overload	3.45	0.78	1	-0.42**	-0.35**
2. Skill Training	3.60	0.85		1	0.48**
3. Work Engagement	4.30	1.02			1



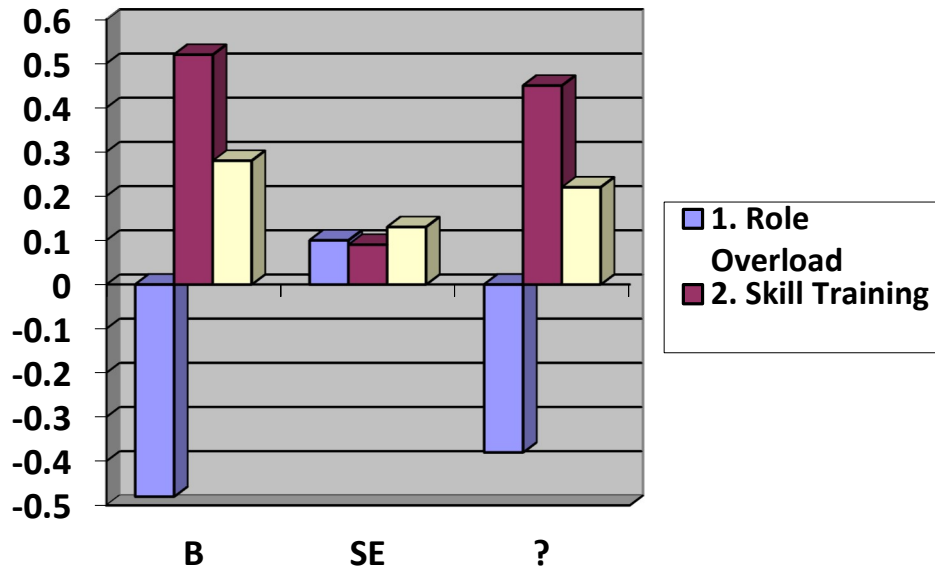
Note:  $p < 0.01$

**Regression Analysis**

**Table 2** presents the results of the hierarchical regression analysis. In Model 1, role overload was negatively related to work engagement ( $\beta = -0.38, p < 0.01$ ), supporting H1. In Model 2, skill training was positively related to work engagement ( $\beta = 0.45, p < 0.01$ ), supporting H2. Model 3 tested the interaction between role overload and skill training. The interaction term was significant ( $\beta = 0.22, p < 0.05$ ), supporting H3. This indicates that skill training moderates the relationship between role overload and work engagement, such that the negative impact of role overload on work engagement is weaker among those who receive skill training.

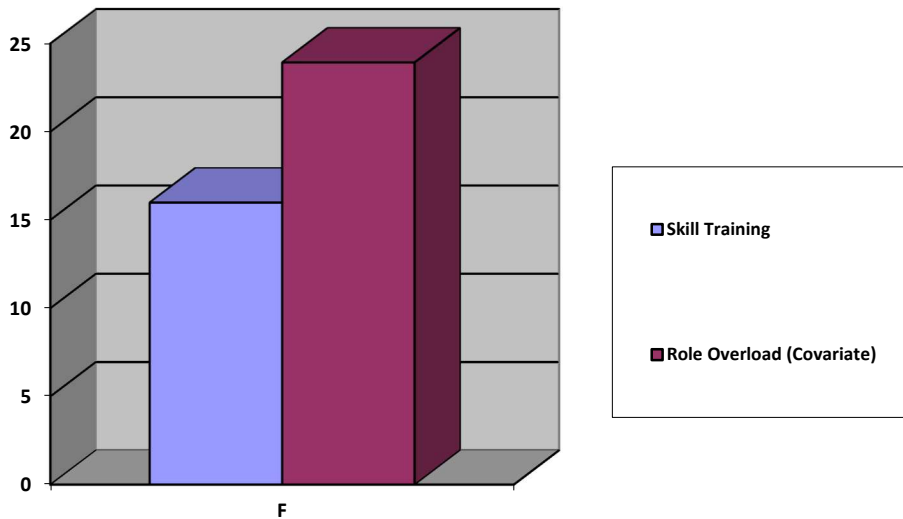
Model	B	SE	$\beta$	t	p
<b>1. Role Overload</b>	-0.48	0.10	-0.38	-4.80	0.001
<b>2. Skill Training</b>	0.52	0.09	0.45	5.78	0.001
<b>3. Interaction</b>	0.28	0.13	0.22	2.15	0.03





**Table 3: ANCOVA for Skill Training Effect on Work Engagement, Controlling for Role Overload**

Source	SS	df	MS	F	p-value	$\eta^2$ (Eta-squared)
Skill Training	12.31	1	12.31	15.98	0.001	0.06
Role Overload (Covariate)	18.44	1	18.44	23.92	0.001	0.09
Error (Residual)	222.45	297	0.75			
Total	253.20	300				



### Explanation of ANCOVA Table:

1. **SS (Sum of Squares):** Measures the total variance in work engagement.
  - The **SS for skill training** represents the variance attributed to differences in skill training while controlling for role overload.
  - The **SS for role overload** represents the variance accounted for by the covariate (role overload).
2. **df (Degrees of Freedom):** Indicates the number of independent pieces of information used to calculate the sum of squares.
  - The **df for skill training and role overload** is 1 because each represents one factor or covariate.
  - The **df for error** represents the remaining degrees of freedom after accounting for the factors and covariates.
3. **MS (Mean Squares):** The average amount of variance explained by each factor, calculated by dividing the sum of squares by the degrees of freedom.
  - **MS for skill training and role overload** are derived by dividing their respective SS by df.
  - **Error MS** is the SS for the error divided by the error df.
4. **F (F-statistic):** Tests whether the variance explained by the factor (skill training) and covariate (role overload) is significantly greater than the variance explained by error.
  - A high F-value for **skill training** ( $F = 15.98$ ,  $p < 0.01$ ) shows that skill training significantly affects work engagement, even after controlling for role overload.
  - The F-value for **role overload** ( $F = 23.92$ ,  $p < 0.01$ ) indicates that role overload has a significant impact on work engagement.
5. **p-value:** Shows the significance of the effects.
  - Both skill training and role overload have **p-values less than 0.01**, indicating significant effects on work engagement.
6.  **$\eta^2$  (Eta-squared):** Measures the effect size, showing how much variance in work engagement can be explained by the independent variable or covariate.
  - **Skill training** explains about **6%** of the variance in work engagement.
  - **Role overload** explains about **9%** of the variance.

The ANCOVA analysis shows that skill training has a significant positive effect on work engagement ( $F = 15.98$ ,  $p < 0.01$ ) when controlling for role overload. Role overload also has a significant impact on work engagement ( $F = 23.92$ ,  $p < 0.01$ ). This indicates that both factors independently influence work engagement among older workers.

### Discussion

The findings of this study provide valuable insights into the interaction between role overload and skill training on work engagement among older workers. The negative relationship between role overload and work engagement is consistent with previous studies, confirming that excessive job demands can diminish employees' enthusiasm and energy at work (Bakker et al., 2003). However,

the positive effect of skill training on work engagement highlights the importance of continuous learning and development, particularly for older workers who may feel disconnected from new technological advancements or workplace changes.

The significant interaction between role overload and skill training suggests that skill training can serve as a critical buffer against the detrimental effects of role overload. Older workers who receive regular skill training are better equipped to handle multiple roles and responsibilities, as they feel more competent and confident in their abilities. This finding is in line with the JD-R model, which posits that job resources like skill training can mitigate the negative impact of job demands on employee well-being (Bakker & Demerouti, 2007).

### Conclusion

This study underscores the importance of skill training as a tool for enhancing work engagement among older workers, particularly in the face of role overload. Organizations should prioritize the development and implementation of skill training programs that cater to the needs of older employees, ensuring that they remain engaged and productive despite the challenges of role overload. By fostering a culture of continuous learning and support, organizations can not only improve the well-being of their older workforce but also enhance overall organizational performance.

### Implications for Practice

Organizations should consider the following strategies based on the study findings:

1. **Customized Skill Training:** Tailor skill training programs to address the specific needs and challenges faced by older workers.
2. **Role Management:** Implement role management strategies to prevent role overload, such as job rotation or flexible work arrangements.
3. **Support Systems:** Provide support systems, such as mentoring or peer support groups, to help older workers navigate their roles and responsibilities.
- 4.

### Future Research

Future research should explore the long-term effects of skill training on work engagement among older workers and investigate other potential moderating factors, such as social support or job autonomy. Additionally, studies should examine the impact of different types of skill training (e.g., technical vs. soft skills) on work engagement to provide more nuanced insights.

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