

Gender, job engagement, and extra-role performance

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Research paper
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Abstract

This investigation examines the impact of work engagement and gender on extra-role performance, as well as the influence of gender on work engagement. Additionally, it examines the moderating effect of gender on the relationship between work engagement and extra-role performance. The study population consisted of 300 employees at a baby clothing manufacturing company in Bandung. Using Slovin's formula, a sample size of 291 individuals was determined. Moreover, they were taken using a simple random sampling technique. Unfortunately, after the survey, 258 responses were collected via an online questionnaire, yielding a response rate of 88.66%. Covariance-based structural equation modeling (SEM) with subgroup analysis was used to analyze the data. The analysis revealed that (1) higher employee engagement leads to better extra-role performance, (2) male employees exhibit higher engagement than female employees, (3) the extra-role performance between males and females is the same, and (4) gender does not moderate the relationship between work engagement and extra-role performance. Based on these findings, company owners should address employee concerns and announce initiatives during formal meetings to express appreciation for increased work engagement, thereby fostering extra-role performance.

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Abstrak

Penelitian ini bertujuan untuk menyelidiki dampak keterlibatan kerja dan jenis kelamin terhadap kinerja peran ekstra, dan dampak jenis kelamin terhadap kinerja peran ekstra. Selain itu, penelitian ini menginvestigasi efek moderasi gender terhadap hubungan antara keterlibatan kerja dengan kinerja peran ekstra. Populasi penelitian terdiri dari 300 pekerja di sebuah perusahaan manufaktur di Bandung yang memproduksi pakaian bayi. Dengan menggunakan rumus Slovin, ditetapkan ukuran sampel sebanyak 291 individu yang diambil melalui teknik pengambilan sampel acak sederhana. Sebanyak 258 tanggapan berhasil dikumpulkan melalui kuesioner daring, sehingga menghasilkan tingkat respons sebesar 88,66%. Analisis data dilakukan menggunakan model persamaan struktural berbasis kovarians dengan analisis subkelompok. Hasil analisis menunjukkan bahwa (1) keterikatan karyawan yang lebih tinggi berdampak pada kinerja peran ekstra yang lebih baik, (2) karyawan laki-laki menunjukkan tingkat keterikatan yang lebih tinggi dibandingkan karyawan perempuan, (3) kinerja peran ekstra pria dan wanita sama, dan (4) gender tidak memoderasi hubungan antara keterikatan kerja dan kinerja peran ekstra. Berdasarkan temuan tersebut, pemilik perusahaan sebaiknya menanggapi aspirasi karyawan dan mengumumkan berbagai inisiatif dalam rapat formal sebagai bentuk apresiasi atas peningkatan keterikatan kerja, sehingga dapat mendorong kinerja di luar peran.

Kata kunci: Jenis Kelamin, Kinerja Ekstra Peran Keterlibatan Kerja, Perusahaan Manufaktur.

Introduction

In this highly competitive environment, all companies, including those in the manufacturing sector, must survive. In this sector, factory workers directly contribute to the production of finished goods at various stages. Therefore, they become its vital assets (Saxena, 2021) and internal stakeholders (Ranta & Ylinen, 2024). With their presence, the company can achieve its production goals (Saxena, 2021). Therefore, the human resources manager needs to manage them effectively, from planning and recruiting to selecting, placement, and orientation (Wardhana, 2023).

Ideally, workers should focus on the primary tasks. Besides, they need to perform additional functions as demanded (Trisninawati et al., 2023). This action is related to work that exceeds formal requirements not explicitly specified in the job description (Yap et al., 2009). This action is similar to organizational citizenship behavior (OCB) (Mihalca et al., 2025; Robbins & Judge, 2024; Wahda et al., 2020).

Scholars such as Rai et al. (2018), Daryanto et al. (2022), Stirpe et al. (2022), Lee and Jo (2023), Trisninawati et al. (2023), and Dirjo (2024) have investigated the relationship between employee engagement and extra-role performance. However, their results are contradictory. In their research, Rai et al. (2018), Daryanto et al. (2022), Stirpe et al. (2022), Lee and Jo (2023), and Dirjo (2024) demonstrate a positive inclination. Meanwhile, Trisninawati et al. (2023) find no relationship.

Gender as a factor in employee engagement has become a focus for previous scholars, including Adi and Fithriana (2021), Tian et al. (2021), Hanggarawati and Kismono (2022), Do and Pham (2024), and Siregar et al. (2024). Unfortunately, their results are unreliable. Tian et al. (2021), Hanggarawati and Kismono (2022), and Siregar et al. (2024) demonstrate that males have higher engagement than females. On the other hand, Gulzar and Teli (2018) find that females are more engaged in the workplace than males. Meanwhile, Adi and Fithriana (2021) and Do and Pham (2024) demonstrate that males exhibit the same level of engagement as females.

Additionally, extra-role performance by gender has attracted the attention of previous scholars, such as Lestari (2019), Aftab et al. (2021), Luksyte et al. (2023), and Ofobruku (2025).

However, their results are opposite. For example, Luksyte et al. (2023) and Ofobruku (2025) report that male employees exhibit the same level of extra-role performance as females. In their investigation from a teacher's perspective, Aftab et al. (2021) found that females have higher OCB than males. Unlike them, Lestari (2019) reported that male teachers exhibit higher OCB than female teachers.

The moderating effect of gender on the relationship between job engagement (JE) and extra-role performance (ERP) is rarely examined. In their investigation, Honnamane et al. (2024) test the impact of the interaction between gender and JE on ERP and find a positive sign. In comparison, Mensah et al. (2025) use a subgroup analysis by gender to examine the moderating effect of gender on the relationship between job engagement and innovative work behavior (IWB). As a result, they find a positive impact of JE on IWB in the male and female groups. Therefore, gender does not act as a moderator.

Given these contradictions, this research aims to examine three matters. Firstly, the effect of employee engagement and gender on extra-role performance. Secondly, the moderating impact of gender on the relationship between employee engagement and extra-role performance. This study uses employees of LBLP, a baby-clothes manufacturer in Bandung, West Java, Indonesia.

Theoretical framework and hypotheses

The relationship between employee engagement and extra-role performance

Social exchange theory holds that employees who receive support from the company are more engaged, which in turn leads to extra-role performance. The company's support is reflected in job training for specific tasks (Blau, 1964). For employees, engagement reflects their emotional, cognitive, and behavioral connection to the work. Employees with higher engagement are emotionally connected with supervisors and co-workers. They tend to work enthusiastically to achieve their company's objectives and goals (Kaldeen et al., 2021). Besides, this engagement reflects a positive attitude, strengthening their job commitment (Zagladi et al., 2015). Therefore, employees give their best to the company, including performing extra-role behaviors, as demonstrated by Rai et al. (2018), Daryanto et al. (2022), Stirpe et al. (2022), Lee and Jo (2023), and Dirjo (2024): a positive relationship between engagement and extra-role performance. Based on this information, this study proposes the first hypothesis:

H₁: Engagement positively affects extra-role performance.

The relationship between gender and work engagement

As a social identity, gender is usually associated with personal biological sex, i.e., females and males (Chrisler & Lamer, 2016). According to social role theory, differences in work engagement are primarily driven by societal expectations and the gendered division of labor. Men are traditionally socialized to be agentic (assertive, competitive) and assume breadwinner roles. On the other hand, women are socialized to be communal and shoulder a larger share of domestic and caregiving responsibilities (Eagly, 1987). Women are more responsible for family and chores than men; therefore, they find it challenging to engage with work (Banihani et al., 2013). However, men are goal-oriented people; hence, they can engage with work easily (Islam et al., 2021). Without separating job engagement (JE) into dimensions, Tian et al. (2021) and Siregar et al. (2024) found that females have lower work engagement than males.

Additionally, Hanggarawati and Kismono (2022) confirm that vigor and dedication, as two dimensions of job engagement (JE), are higher among males than among females. Meanwhile, absorption, as another dimension of JE, is similar for males and females. Overall, male

engagement is higher than female engagement. Based on this information, this study plans the second hypothesis:

H₂: Male gender positively affects work engagement.

The relationship among gender, work engagement, and extra-role performance

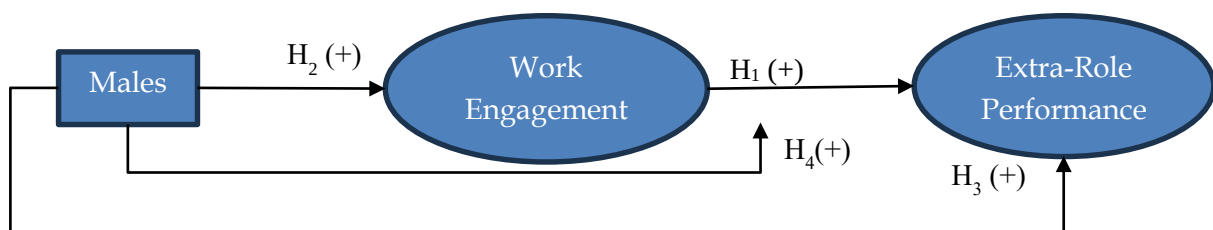
Eagly's (1987) social role theory explains that gender-based division of labor is a social phenomenon. In the Western community, male participation in higher authority and status and the disproportional female caregiving roles create the stereotype between males and females. Besides, this gender-based division of labor differs in the skills required. When gender stereotypes are prominent within a group, and certain tasks are culturally associated with gender, both directly shape the Behavior of members based on their expectations. Lestari (2019) explains that males are expected to take on responsibility at the workplace; therefore, they perform beyond the requirements. Unlike them, females focus on household matters; hence, they only finish their tasks when required. In their study, Lestari (2019) found that male teachers exhibit higher levels of OCB dimensions than female teachers. The related dimensions are conscientiousness, sportmanship, civic virtue, courtesy, and altruism. Regarding gender moderating the association between work engagement and extra-role performance, Honnamane et al. (2024) found that the interaction between gender and JE positively affects individual OCB. Based on this information, this study plans the third and fourth hypotheses:

H₃: Males positively affect extra-role performance.

H₄: Gender moderates the relationship between work engagement and extra-role performance.

The investigated model

After formulating four hypotheses, the research model is presented in Figure 1. In this figure, gender is the observed variable; therefore, it is symbolized by the rectangle, as Ghazali (2017) explained. Meanwhile, engagement and extra-role performance are latent variables; hence, they are depicted as ovals, as described by Ghazali (2017).



Source: Hypotheses Development

Figure 1.

Research Model

Methods

Sample and procedure

The population of this study is 300 workers of LBLP. Furthermore, the total sample is calculated using the Slovin formula, as cited in Firdaus (2021), with a 1% margin of error. After utilizing this formula, the total sample obtained is 291. Moreover, simple random sampling is

used to select them. The random process is conducted using Excel's built-in random number generators. As the data collection method, this study uses a survey to collect responses and a 5-point Likert scale (1-5) to measure reactions to indicators, ranging from disagreement to agreement, as described by Sugiyono (2022).

The related survey was conducted in April 2025 and received responses from 258 employees. Therefore, the response rate is $(258/291) \times 100\% = 88.66\%$. Moreover, their classification is based on gender, age, education, and tenure (see Table 1). In this table, the largest group of employees is female (63.95%), aged between 20 and 29 (48.06%), holds a senior high school certificate as their highest level of education (58.14%), and has a tenure of one to five years (53.10%). For the smallest group, members are male (36.05%), aged 50 or older (2.33%), hold a master's degree (0.39%), and have 12 or more years of tenure (5.04%).

Tabel 1.
Respondents' Characteristics

	Counts	% of Total
Gender		
Male	93	36.05%
Female	165	63.95%
Age		
< 20 years old	34	13.18%
20 - 29 years old	124	48.06%
30 - 39 years old	66	25.58%
40 - 49 years old	28	10.85%
> 50 years old	6	2.33%
Education		
Elementary School	4	1.55%
Junior High School	13	5.04%
Senior High School	150	58.14%
Undergraduate Vocational Program	31	12.02%
Undergraduate Academic Program	59	22.87%
Master	1	0.39%
Tenure		
Below one year	78	30.23%
One to five years	137	53.10%
Six to twelve years	30	11.63%
Above 12 years	13	5.04%

Variable Measures

This study employs worker engagement and extra-role performance as endogenous variables, following Stirpe et al. (2022), and measures them using 9 and 6 indicators, respectively. The nine indicators of job engagement used by Stirpe et al. (2022) refer to the short-form Utrecht Engagement Scales developed by Schaufeli et al. (2006). Gender is measured using a dummy variable with males as the reference category, as noted by Hadiananto and Mariana (2023). The indicators are presented in Table 2.

Data analysis

As the data analysis technique, this research uses a covariance-based structural equation model (CBSEM). Before estimating this CBSEM, this study performs validity testing by comparing the loading factors and average variance extracted (AVEs) with 0.5. If they are higher than 0.5, the responses are considered valid (Junaidi, 2021). Meanwhile, reliability is assessed by comparing composite reliability and Cronbach's Alpha, with a threshold of 0.7. If they exceed 0.7, the response is considered reliable (Dash & Paul, 2021).

Next, this CBSEM must pass specific goodness-of-fit measures, such as the standardized root mean square residual (SRMSR) between 0.05 and 0.10 (Schermelleh-Engel et al., 2003), as well as parsimonious normed and comparative fit indices (PNFI and PCFI) above 0.5, and a parsimonious goodness-of-fit index (PGFI) higher than 0.5 (Dash & Paul, 2021). Finally, the hypotheses are examined by comparing the p-values of the critical ratios for the hypothesis-related coefficients at the 5% significance level. If this probability is lower than 5%, the hypothesis is recognized (Junaidi, 2021). In the moderating examination, subgroup analysis is used. The moderating effect is proven if the probability of the nested model comparison is lower than 5% (Arbuckle, 2022).

Tabel 2.

Variable Measurement of Worker Engagement and Extra-Role Performance

Variable	Indicators	Source
Gender	Dummy variable with males as the reference category	Hadianto and Mariana (2023)
Extra-Role Performance (ERP)	I assist absent co-workers in completing their tasks (ERP1). I take time to listen to co-workers' problems and fears (ERP2). I save and shield organizational property (ERP3). I assist others with heavy workloads (ERP4). I adhere to informal rules devised to maintain order (ERP5). My presence at work is above standard (ERP6). I am glad when working intensely (ENG1) When getting up in the morning, I like going to work (ENG2). I am solid and energetic at my job (ENG3).	Stirpe et al. (2022)
Work Engagement (ENG)	When working, I am entirely involved (ENG4). At my work, I use energy entirely (ENG5). I focus on finishing my work (ENG6). I work enthusiastically (ENG7). My work is full of meaning and purpose (ENG8). I am gratified with my work (ENG9).	Stirpe et al. (2022)

Results and discussion

Measurement Model Assessment

After removing the inaccurate items, ENG2, ENG3, ERP1, and ERP2, which have a loading factor lower than 0.5: 0.425, 0.459, 0.452, and 0.4364, respectively, this study present Table 3, where, all loading factors higher than 0.5 for the rest items, ENG1, ENG4, ENG5, ENG6, ENG7, ENG8, ENG9, ERP3, ERP4, ERP5, EPRP6: 0.668, 0.636, 0.644, 0.710, 0.795, 0.696, 0.736, 0.609, 0.673, 0.719, and 0.630. Therefore, their response is accurate, as evidenced by AVEs for ENG and ERP exceeding 0.5 (0.870 and 0.754, respectively). For reliability testing, composite reliability for ENG and ERP exceeds 0.7 (0.960 and 0.874, respectively), and Cronbach's Alpha for ENG and ERP exceeds 0.7 (0.866 and 0.751, respectively); hence, the responses are reliable.

Tabel 3.

Measurement Model Assessment

Indicator	Loading factor	AVE	Composite Reliability	Cronbach Alpha
ENG1	0.668			
ENG4	0.636			
ENG5	0.644			
ENG6	0.710	0.870	0.960	0.866
ENG7	0.795			
ENG8	0.696			
ENG9	0.736			
ERP3	0.609			
ERP4	0.673	0.754	0.874	0.751
ERP5	0.719			
ERP6	0.630			

Structural Model Fit Assessment and Hypothesis Testing

Table 4 presents the results of the model fit assessment, hypothesis testing, and multi-group analysis. The model demonstrates an acceptable level of fit, with an SRMSR value of 0.076, which falls within the recommended range of 0.05–0.10, indicating a satisfactory model fit (Schermelleh-Engel et al., 2003). Furthermore, the PGFI and PCFI values of 0.547 and 0.633, respectively, exceed the recommended threshold of 0.50, confirming that the proposed model adequately represents the observed data (Dash & Paul, 2021).

Table 4.

CBSEM Estimation Results for Fit Indices, Hypothesis Testing, and Gender Moderation Testing

Model Fit Indices							
SRMSR	0.076	PGFI	0.547	PCFI	0.633		
Hypothesis	Structural Relationship	Group	Estimate	S.E.	C.R.	p-value	Decision
H1	ENG → ERP	Overall	0.636	0.081	7.822	<0.001	Supported
H2	DMALE → ENG	Overall	0.326	0.096	3.382	<0.001	Supported
H3	DMALE → ERP	Overall	0.003	0.057	0.044	0.965	Not Supported
Hypothesis	Structural Relationship	Group	Estimate	S.E.	C.R.	p-value	Decision
	ENG → ERP	Male	0.692	0.156	4.432	<0.001	
	ENG → ERP	Female	0.584	0.092	6.333	<0.001	-
H4	Nested Model Comparison (Male vs Female)		DF	CMIN	p-value		No moderation
	Measurement Weights		9	9.024	0.435		

Regarding the structural relationships, the results indicate that work engagement has a significant positive effect on extra-role performance ($\beta_1 = 0.636$, $p < 0.001$), thereby supporting H1. Furthermore, gender (DMALE) has a significant effect on work engagement ($\gamma_1 = 0.326$, $p < 0.001$), supporting H2. In contrast, the direct effect of gender on extra-role performance is not statistically significant ($\gamma_2 = 0.003$, $p = 0.965$); therefore, H3 is not supported.

The multi-group analysis further examines whether gender moderates the relationship between work engagement and extra-role performance. The positive effect of work engagement on extra-role performance remains significant in both males ($\beta_{1a} = 0.692, p < 0.001$) and females ($\beta_{1b} = 0.584, p < 0.001$). However, the nested model comparison yields a non-significant result ($p = 0.435$), indicating measurement invariance between the two groups. Consequently, the strength of the relationship between work engagement and extra-role performance does not differ significantly across gender, suggesting that gender does not moderate this relationship. Therefore, H4 is not supported.

Discussion

This study supports the first hypothesis, which states that work engagement positively affects extra-role performance. This situation indicates that when employees are highly engaged, they appreciate the company by performing routine tasks and taking voluntary action, such as helping co-workers, offering innovative suggestions, and maintaining the company's reputation. Given this tendency, this study affirms the social exchange theory and the findings of Rai et al. (2018), utilizing the retail employees from India; Daryanto et al. (2022) and Dirjo (2024), using Gen-Z employees and civil servants from Indonesia, respectively; Stirpe et al. (2022), applying the employees in pharmaceutical companies from Italy; and Lee and Jo (2023), utilizing the employees in South Korean enterprises.

This study also affirms the second hypothesis, which states that males positively affect work engagement, indicating that male employees have higher workplace engagement than female employees, due to a stronger orientation toward the firm's goals. Given this result, this study confirms the social role theory and the finding of Tian et al. (2021) based on perceptions of employees from various Chinese enterprises. It is reinforced by Hanggarawati and Kismono (2022) based on perceptions of Baby Boomer and Generation X and Y employees from an Indonesian company. Regarding generation, they reveal that the job engagement level (JEL) of Baby Boomers (5.603) is higher than that of Generation X (5.258) and Generation Y (4.843). This positive relationship between males and this engagement is confirmed by Siregar et al. (2024), who studied hospital employees in Indonesia.

This study rejects the third hypothesis. Therefore, no relationship between gender and extra-role performance. This condition means the same extra-role performance level between female and male employees in the workplace. It happens because female and male employees feel that the employer treats their extra efforts equally. Given this evidence, this study supports the findings of Luksyte et al. (2023) regarding private employees in Singapore, the United Kingdom, and the United States, as well as those of Ofobruku (2025) regarding public employees in Nigeria.

This investigation cannot prove that gender moderates the association between work engagement and extra-role performance. In the workplace, males and females have a high level of engagement with the company, leading to conduct outside the job requirements. Therefore, this research supports the findings of Mensah et al. (2025), which indicate that the relationship between job engagement and innovative work behavior (IWB) for females and males is the same, based on the perspectives of 159 banking employees in the Cape Coast metropolis, Ghana.

Limitations

Academically, this research has a limitation: using extra-role performance as the final endogenous variable and gender as the determinant of job engagement. Therefore, future scholars should include in-role performance as an additional endogenous variable and

incorporate other job engagement determinants, such as organizational commitment, leadership, and compensation, into their research models.

Conclusion

As stated in the introduction, this investigation aims to examine the association between job engagement and extra-role performance, and the impact of gender on both, using data from 258 workers at a manufacturing company in Bandung. After investigating them, this study concludes: (1) a positive relationship between job engagement and extra-role performance, (2) males have a higher job engagement level than females, and (3) gender does not affect extra-role performance. Based on these facts, this study recommends that the company owner provide emotional support to employees by listening to their personal problems and seeking ways to address them. Additionally, the owner appreciates their efforts by acknowledging them in the formal meeting.

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