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Compassionate Leadership, Self-Efficacy, and Voice Behaviour among Female Nurses and Midwives: Mediating Role of Employee Well-Being

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ABSTRACT

Purpose - This study examines the relationships of self-efficacy and compassionate leadership with employee voice behaviour and investigates the mediating role of employee well-being among female nurses and midwives in East Kalimantan, Indonesia. Drawing on the desire fulfillment perspective, the study integrates personal and social resources in explaining constructive employee voice.
Design/methodology/approach - A quantitative cross-sectional survey was conducted among 240 female nurses and midwives selected through purposive sampling. Data were collected using online and offline questionnaires between January and August 2025 and analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS.
Finding/Results - Self-efficacy and compassionate leadership are positively associated with employee well-being and employee voice behaviour, while employee well-being is positively associated with voice behaviour. Employee well-being shows significant indirect relationships linking both self-efficacy and compassionate leadership with employee voice behaviour. Because the corresponding direct and indirect relationships remain significant and operate in the same positive direction, the observed pattern is consistent with complementary partial mediation in both pathways.
Originality/Value - This study integrates self-efficacy as a personal resource and compassionate leadership as a social resource within a single model of employee voice. The observed relationships are consistent with the desire fulfillment perspective, with employee well-being representing an intervening statistical pathway linking these resources with constructive voice behaviour among female nurses and midwives in healthcare settings.

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1. Introduction

Recent pressures on healthcare services have made organizations increasingly dependent on healthcare workers who are able to openly communicate operational problems, patient safety risks, and suggestions for process improvement. When vertical communication does not function effectively, critical information from the frontline, such as procedural errors, shortages of medical equipment, workload pressures, or coordination barriers, may reach management too late. This condition can reduce service quality and weaken the organization's capacity to prevent recurring problems. In this context, employee voice behaviour becomes important because it enables employees to express ideas, concerns, and suggestions intended to improve work processes and organizational functioning.

However, voice does not always emerge automatically. In many organizations, speaking up may be perceived as a risky action because it can be seen as criticism, a disruption to team harmony, or a challenge to authority. Prior literature indicates that relationships with supervisors, role clarity, and psychological safety can influence employees' readiness to express their opinions (D. Wang et al., 2016; Zainal et al., 2023). This issue is particularly relevant for nurses and midwives, as they work closely with patients, engage in intensive interactions, and are directly involved in both clinical and administrative coordination. The diverse challenges faced by healthcare services across regions also require communication channels that can connect managerial policies with the realities of implementation in healthcare facilities.

Theoretically, employee voice can be explained through a combination of personal and social resources. From an individual perspective, self-efficacy reflects a person's general belief in their ability to manage demanding situations, overcome difficulties, and perform required tasks effectively. Previous studies have shown that efficacy beliefs can contribute to work-related behaviour and may be relevant to employees' willingness to engage constructively with workplace challenges (Dedahanov et al., 2019). Other findings also suggest that variations in employee voice are influenced by a combination of individual characteristics and leadership, including possible gender-based differences (Eibl et al., 2020). Accordingly, self-efficacy is positioned in this study as a general personal resource that may support employees' confidence in managing work demands and responding constructively to challenging situations, rather than as a voice-specific form of efficacy.

In addition to individual factors, leadership plays an important role in shaping the communication climate. Leaders determine whether employees' input is perceived as a contribution or as a threat. Studies on ethical leadership and transformational leadership have shown that leadership can foster voice through psychological mechanisms such as self-efficacy, psychological safety, perceived meaningfulness of action, and positive expectations from leaders (Duan et al., 2017; D. Wang et al., 2015; Zainal et al., 2023). More recent attention has also been directed toward compassionate leadership, which is characterized by sensitivity to subordinates' difficulties, humane responses, and support for employees' psychological needs. In high-pressure work settings, compassionate leaders may reduce psychological barriers to speaking up because employees feel more valued and less abandoned when facing difficulties.

Nevertheless, the relationships among leadership, personal resources, and employee voice may also involve employee well-being as an intervening pathway. The desire fulfillment perspective suggests that the fulfillment of psychological needs, such as meaningfulness at work and the perception of being socially valued, is associated with higher well-being, which

in turn may be related to a greater tendency to engage in voice behaviour (Duan et al., 2020). These psychological states are not measured directly in the present study; rather, the desire fulfillment perspective is used as a theoretical lens for explaining the proposed relationships among personal and social resources, employee well-being, and voice behaviour.

Other studies have also shown that employee voice and psychological well-being are related through authentic self-expression, although the strength of this relationship may vary according to collectivistic orientation (Xu et al., 2021). Accordingly, employee well-being is positioned in this study as a theoretically relevant intervening construct linking personal and social resources with employee voice behaviour rather than as evidence of a causal psychological mechanism.

Previous literature has extensively examined self-efficacy, leadership, well-being, and employee voice. However, several research gaps remain. First, limited attention has been given to models that integrate self-efficacy and compassionate leadership simultaneously as personal and social antecedents of employee voice through employee well-being. Existing studies more commonly examine specific leadership approaches or alternative psychological mechanisms linking workplace conditions to voice (Nisar et al., 2020; D. Wang et al., 2015). Second, the role of this intervening pathway warrants further examination among nurses and midwives, whose work involves intensive interpersonal coordination, substantial responsibility for patient care, and potentially consequential decisions about whether to communicate concerns. Third, prior studies have placed greater emphasis on relational mechanisms such as leader–member exchange, psychological empowerment, and psychological safety (Wang et al., 2016; Zainal et al., 2023), leaving employee well-being comparatively less examined as an intervening pathway connecting compassionate leadership and personal efficacy with employee voice.

Based on these gaps, this study examines the relationships of self-efficacy and compassionate leadership with employee voice behaviour and employee well-being among female nurses and midwives in East Kalimantan Province. The novelty of this study lies in integrating self-efficacy as a personal resource and compassionate leadership as a social resource within a single model that examines employee well-being as an intervening construct associated with employee voice behaviour. Theoretically, the study uses the desire fulfillment perspective as an interpretive lens to examine whether employee well-being represents a statistical pathway linking personal and social resources with constructive voice behaviour. Because psychological meaningfulness and social worth are not directly measured, the proposed relationships are interpreted as consistent with this perspective rather than as a direct test of its underlying psychological mechanism.

2. Literature Review & Hypothesis Development

2.1. Self-Efficacy, Compassionate Leadership, and Employee Well-Being

Employee well-being refers to employees' psychological condition, reflected in their sense of meaningfulness, feeling of being valued, and ability to function adaptively at work. In this study, employee well-being is conceptualized as a broad positive evaluation of employees' functioning and experience in their working life. It is reflected through purpose in working life, opportunity for reflection, satisfaction with working life, and a sense of accomplishment. These aspects are not assumed to be conceptually identical; rather, they are treated as related manifestations of a broader positive work-related well-being state.

The desire fulfillment perspective proposes that well-being may be supported when employees perceive their work as meaningful and their presence as socially valued (Duan et al., 2020). These psychological states are not measured directly in this study; instead, the perspective is used to explain why personal and social resources may be associated with broader employee well-being. Employees with high self-efficacy tend to view job demands as manageable challenges, allowing them to work more effectively, experience a stronger sense of competence, and interpret their work more positively. Such efficacy beliefs may therefore support well-being by strengthening employees' perceived competence and their capacity to manage work demands. Accordingly, self-efficacy is positioned as a personal factor that contributes to employees' psychological well-being (Dedahanov et al., 2019; D. Wang et al., 2015).

Compassionate leadership refers to leader behaviours that are sensitive to subordinates' difficulties, demonstrate care, and provide supportive responses. In this study, compassionate leadership is distinguished from broader supportive leadership or related leadership approaches by its specific emphasis on noticing employees' difficulties, seeking to understand those difficulties, responding with empathic concern, and taking action intended to provide assistance. The construct therefore involves more than general interpersonal support or empathy alone; it captures an integrated pattern of attention, understanding, caring, and responsive action toward employees experiencing work-related difficulties.

From the desire fulfillment perspective, compassionate leadership may be associated with higher employee well-being because such behaviours can contribute to employees' perceptions of being seen, valued, and supported as human beings rather than merely as task performers. Previous studies have shown that compassion in leadership is associated with more sustainable workplaces, employee well-being, and positive work outcomes (Pansini et al., 2024; Shuck et al., 2019). In addition, compassion at the team level has been shown to be relevant to employee voice in difficult work situations (Wee & Fehr, 2021). Accordingly, compassionate leadership is positioned as a social resource that may support employee well-being through emotional support, social recognition, and employees' perceptions that their difficulties receive an appropriate response from leaders.

H1: Self-efficacy has a positive effect on employee well-being.

H2: Compassionate leadership has a positive effect on employee well-being.

2.2. The Relationship between Employee Well-Being and Employee Voice Behaviour

Employee voice behaviour in this study refers to employees' active engagement with work-related issues through expressing ideas, recommendations, and concerns, as well as remaining informed and involved in issues where their input may contribute to workplace improvement. Accordingly, the construct represents a broader form of work-related voice and participation rather than exclusively supervisor-directed verbal expression. Consistent with the desire fulfillment perspective, employees who experience greater meaningfulness at work and perceive themselves as socially valued may report higher well-being, which may in turn be associated with a greater willingness to express work-related opinions. Duan et al. (2020) showed that psychological meaningfulness and social worth are related to well-being and that higher well-being is associated with a greater likelihood of voice.

The relationship between well-being and voice is also supported by evidence showing that voice and psychological well-being are related through employees' capacity for authentic self-expression (Xu et al., 2021) More broadly, the voice literature indicates that favourable psychological and relational conditions are associated with employees' willingness to

communicate work-related concerns and suggestions (D. Wang et al., 2015). Accordingly, employee well-being is expected to be positively associated with employee voice behaviour.
H3: Employee well-being has a positive effect on employee voice behaviour.

2.3. The Direct Relationship between Self-Efficacy, Compassionate Leadership, and Employee Voice Behaviour

Self-efficacy may be associated with employee voice behaviour because employees who have greater confidence in their general ability to manage difficulties and demanding situations may also be more willing to engage constructively with work-related challenges. In this study, self-efficacy is conceptualized as a general personal resource rather than a voice-specific form of efficacy. Accordingly, its relationship with employee voice behaviour reflects employees' broader confidence in their capacity to manage work demands and respond effectively to challenging situations, which may support their willingness to express work-related ideas, suggestions, or concerns.
Dedahanov et al (2019) showed that work-related self-efficacy contributes to the relationship between job autonomy and voice. While Wang et al (2015) also found that employee self-efficacy and perceived self-impact are associated with the relationship between ethical leadership and employee voice. Eibl et al. (2020) further demonstrated the relevance of employees' self-efficacy beliefs alongside leadership in explaining employee voice. These findings suggest that stronger efficacy beliefs may be associated with a greater willingness to express work-related opinions constructively.
Compassionate leadership may also be positively associated with employee voice behaviour because leaders play an important role in shaping employees' perceptions of the communication environment. Leaders who are sensitive to subordinates' difficulties, demonstrate care, and provide supportive responses may contribute to conditions in which employees perceive speaking up as more acceptable and less socially risky. Empirical evidence indicates that compassion at the team level is associated with employee voice in demanding work situations (Wee & Fehr, 2021), while organisational compassion has also been linked to voice through employees' perceptions of inclusion and responsibility (Guo & Wang, 2022). These findings suggest that supportive and responsive interpersonal conditions may be relevant to employees' willingness to express work-related ideas, concerns, and suggestions. Accordingly, compassionate leadership is expected to be positively associated with employee voice behaviour.
H4: Self-efficacy has a positive effect on employee voice behaviour.
H5: Compassionate leadership has a positive effect on employee voice behaviour.

2.4. The Mediating Role of Employee Well-Being

Employee well-being is positioned as an intervening construct linking self-efficacy and compassionate leadership with employee voice behaviour. From the desire fulfillment perspective, higher well-being is associated with the fulfillment of psychological needs, including meaningfulness at work and the perception of being valued (Duan et al., 2020). Employees with greater self-efficacy may perceive themselves as more capable of managing work demands and maintaining a sense of competence, whereas compassionate leadership may contribute to employees' perceptions of being valued and supported when facing difficulties. These personal and social resources may therefore be associated with higher employee well-being, which in turn may be related to a greater willingness to express work-related ideas, suggestions, or concerns.

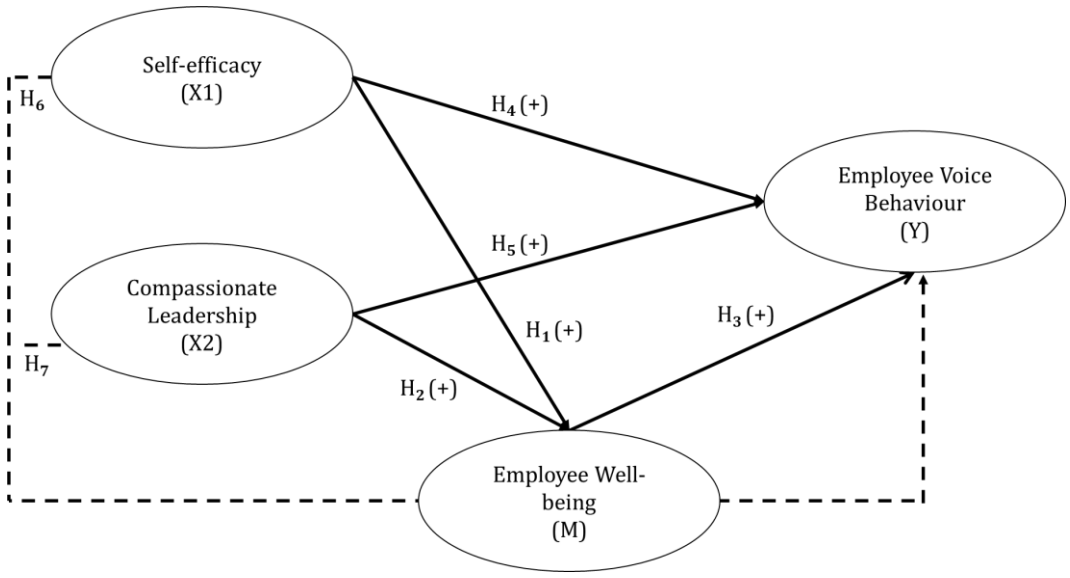
The proposed mediating role of employee well-being is also consistent with employee voice research showing that psychological conditions can represent intervening pathways between work-related antecedents and voice behaviour. Leader–member exchange has been associated with voice through psychological empowerment (D. Wang et al., 2016), ethical leadership with voice through psychological safety and ethical culture (Zainal et al., 2023), and organisational compassion with voice through perceived insider status and felt responsibility (Guo & Wang, 2022). In contrast to these more specific psychological constructs, employee well-being captures broader positive work-related functioning, including purpose, satisfaction, and accomplishment. Accordingly, this study examines whether employee well-being represents a significant indirect statistical pathway linking self-efficacy and compassionate leadership with employee voice behaviour. Given the cross-sectional design, this pathway is theoretically ordered but does not establish temporal or causal mediation.

H6: Employee well-being mediates the relationship between self-efficacy and employee voice behaviour.

H7: Employee well-being mediates the relationship between compassionate leadership and employee voice behaviour.

Based on the theoretical arguments and hypotheses developed above, the proposed research model is presented in Figure 1.

Figure 1. Research Model



3. Methodology

3.1. Research Design and Sample

This study employed a quantitative cross-sectional survey design to examine the direct and indirect relationships among self-efficacy, compassionate leadership, employee well-being, and employee voice behaviour. Data were collected from female nurses and midwives working in healthcare facilities in East Kalimantan Province, Indonesia, between January and August 2025. Questionnaires were administered using a combination of online and offline distribution methods to accommodate differences in respondent accessibility across healthcare facilities.

To reduce potential common-method influences during data collection, respondents were informed that participation was voluntary and that their responses would be treated confidentially and used only for research purposes. Individual responses were not reported to supervisors or healthcare facilities, and respondents were encouraged to provide their own evaluations of the questionnaire statements. These procedural measures were intended to reduce evaluation apprehension, social desirability, and response consistency. Nevertheless, because all focal constructs were collected from the same respondents within the same survey, these procedures cannot completely eliminate potential common-method influences.

The study used a non-probability sampling method with a purposive sampling approach. Respondents were required to meet two criteria: (1) being female healthcare workers employed as nurses or midwives with permanent employment status and (2) having a minimum length of service of one year. The second criterion was applied to ensure that respondents had sufficient work experience to evaluate their work-related perceptions, leadership experiences, and well-being. Purposive sampling was used because the study required respondents who met these specific occupational and employment characteristics.

The research instrument consisted of 24 measurement items, comprising six items for self-efficacy, eight items for compassionate leadership, four items for employee well-being, and six items for employee voice behaviour. The minimum sample size was initially determined based on the recommendation of Hair & Alamer (2022), using approximately ten respondents for each measurement indicator. As the study employed 24 indicators, this approach indicated a target sample of 240 respondents. Sample adequacy was additionally evaluated using statistical power analysis based on the final structural model. At a 5% significance level, the achieved power for the five direct structural relationships ranged from 0.939 to above 0.999. The largest minimum sample size required to achieve 90% statistical power at $\alpha = 0.05$ was 202 respondents. Therefore, the final sample of 240 respondents exceeded the power-based requirement for the direct structural relationships examined in the model.

This power assessment applies specifically to the direct structural relationships estimated in the full sample and should not be interpreted as establishing equivalent power for the indirect effects or multigroup comparisons. The adequacy of the mediation results was therefore evaluated primarily from the bias-corrected bootstrap confidence intervals, whereas the subgroup analyses were treated as supplementary robustness analyses whose precision depends on the available group-specific sample sizes.

The respondents were recruited from 37 healthcare facilities in East Kalimantan, comprising 14 public health centers (Puskesmas), eight public hospitals, five private hospitals, and ten clinics/independent midwifery practices (PMB). The final sample included 82 respondents from Puskesmas, with four to eight respondents per facility (mean = 5.86); 78 respondents from public hospitals, with eight to ten respondents per facility (mean = 9.75); 50 respondents from private hospitals, with ten respondents per facility; and 30 respondents from clinics/PMB, with one to seven respondents per facility (mean = 3.00). The identities of the participating healthcare facilities were kept confidential.

3.2. Measures

This study used a structured questionnaire to measure self-efficacy, compassionate leadership, employee well-being, and employee voice behaviour. All measurement items were adapted from previous studies and adjusted to fit the research context. Self-efficacy was measured using six items from the Generalized Self-Efficacy Scale developed by Schwarzer and

Jerusalem (1995), which captures respondents' general beliefs in their ability to manage difficulties and demanding situations rather than voice-specific efficacy.

Compassionate leadership was measured using eight items adapted from Sansó et al. (2022). The original instrument was developed as a leader self-report measure, whereas the present study required employees to evaluate the compassionate behaviours of their immediate supervisor. Accordingly, the referent of the items was changed from the leader's self-assessment to the employee's perception of "my supervisor," while the substantive behavioural content of the original items was retained. The adapted measure therefore captures employee-perceived compassionate leadership rather than supervisors' self-perceptions of their own behaviour. This change in rating source was treated as a substantive measurement adaptation rather than merely a wording modification, because employees and leaders may differ in how they interpret and evaluate the same leadership behaviours. The eight items retained the behavioural sequence represented in the source instrument, including attentive listening, understanding employees' difficulties, empathic concern, and responsive action. Accordingly, the adapted construct is interpreted specifically as employee-perceived compassionate leadership rather than as a general measure of supervisor support, empathy, servant leadership, or supportive leadership. The present use of the employee-rated version is treated as an initial application of an adapted measure and should not be interpreted as establishing psychometric equivalence with the original leader self-report instrument.

Employee well-being was operationalized using four adapted items reflecting purpose in working life, opportunity for reflection, satisfaction with working life, and a sense of accomplishment. The items were selected from prior measures of work-related and subjective well-being (Brunetto et al., 2011; Diener et al., 1985; Gyensare et al., 2023; Wang et al., 2022) to capture a broad positive evaluation of employees' working lives. Purpose and accomplishment reflect employees' positive evaluation of the significance and outcomes of their work, satisfaction captures their overall evaluation of working life, and reflective time captures whether the work context provides sufficient psychological space to process and evaluate work experiences. The four indicators were modelled as a parsimonious reflective representation of a broader positive work-related well-being evaluation rather than as separate dimensions or as a direct measure of desire fulfillment. However, the indicators are not assumed to represent a fully homogeneous or comprehensive well-being domain. In particular, the item concerning sufficient time for reflection may also be sensitive to workload and job-design conditions in addition to employees' subjective work experience. Accordingly, the four-item specification should be interpreted as a limited operationalization of broader work-related well-being rather than as a comprehensive multidimensional well-being scale.

Employee voice behaviour was measured using six items adapted from Badru et al. (2022), Botero and Van Dyne (2009), and Prouska et al. (2023). Four items directly capture employees' expression of recommendations, opinions, and ideas, whereas two items capture attentiveness to and involvement in work-related issues where employees' input may be relevant. The inclusion of these two items reflects the broader operationalization adopted in this study, in which voice encompasses both explicit expression and active engagement with workplace issues that may prompt employee input. Accordingly, the construct is interpreted as broader work-related voice behaviour rather than as a narrowly defined measure of supervisor-directed speaking up. Responses were measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. The operational measures and their respective sources are presented in Table 1.

Table 1. Measurement Item

Num	Variable	Item Measurement	Reference
1	Self-efficacy	1. I can always manage to solve difficult problems if I try hard enough 2. It is easy for me to stick to my aims and accomplish my goals 3. I am confident that I can deal efficiently with unexpected events 4. I can solve most problems if I invest the necessary effort 5. When I am confronted with a problem, I can usually find several solutions 6. No matter what comes my way, I am usually able to handle it	(Schwarzer & Jerusalem, 1995)
2	Compassionate Leadership	1. My supervisor listens carefully when we discuss work-related problems 2. My supervisor gives full attention when team members describe the challenges they face 3. My supervisor takes time to understand the causes of problems carefully 4. My supervisor works together with the team to come to a shared understanding of problems 5. My supervisor is genuinely warm and empathic toward team members 6. My supervisor genuinely cares about the difficulties team members experience 7. My supervisor takes effective action to help team members deal with their problems 8. My supervisor is genuinely committed to making a difference by serving others	(Sansó et al., 2022)
3	Employee Well-Being	1. Overall, I feel that my current job serves an important purpose in my working life. 2. Overall, I have enough time in this job to reflect on what I do at work. 3. Overall, I am reasonably satisfied with my working life. 4. Overall, on most days I feel a sense of accomplishment in what I do at work	(Brunetto et al., 2011; Diener et al., 1985; Gyensare et al., 2023; W. Wang et al., 2022)
4	Employee Voice Behaviour	1. I develop and make recommendations to my supervisor regarding issues that affect my work 2. I speak up and encourage others in my work unit to get involved in issues that affect our work 3. I communicate my opinions about work issues to others in my work unit, even when their opinions are different and they disagree with me 4. I keep myself well informed about work issues where my opinion could be useful 5. I get involved in issues that affect the quality of work life in my unit	(Badru et al., 2022; Botero & Van Dyne, 2009; Prouska et al., 2023)

Num	Variable	Item Measurement	Reference
		6. I speak up to my supervisor with ideas for new projects or changes in work procedures	

3.3. Data Analysis

The data were analysed using partial least squares structural equation modelling (PLS-SEM) with SmartPLS software. The analysis was conducted in two stages. First, the measurement model was evaluated to assess the ability of the observed indicators to represent their respective constructs. All four constructs were specified as reflective measurement models because their indicators were treated as observable manifestations of the underlying constructs rather than as components that define the constructs. Under this specification, changes in the underlying construct are expected to be reflected in the corresponding item responses, and the adequacy of the measurement model was therefore evaluated using indicator loadings, internal consistency reliability, convergent validity, and discriminant validity.

Indicator loadings were examined, with values above 0.70 considered acceptable. Second, the structural model was assessed to examine the hypothesized direct and indirect relationships among self-efficacy, compassionate leadership, employee well-being, and employee voice behaviour. The explanatory power of the endogenous constructs was evaluated using R^2 values. Statistical significance was assessed using bootstrapping with 5,000 subsamples, a two-tailed test, a significance level of 0.05, and bias-corrected 95% bootstrap confidence intervals. Direct, indirect, and total effects were evaluated using the same bias-corrected bootstrap procedure. All structural results reported in the manuscript were obtained from the same verified final SmartPLS model. As a statistical sensitivity diagnostic for potential common-method collinearity, a full-collinearity assessment was conducted using the latent variable scores from the final PLS measurement model. Each focal construct was regressed on the remaining three constructs, and the resulting variance inflation factors (VIFs) were evaluated against the conservative threshold of 3.3 (Kock, 2015). This diagnostic was used as a supplementary assessment and not as evidence that common-method bias was absent.

A sensitivity analysis was also conducted to assess whether the structural conclusions were dependent on the broader operationalization of Employee Voice Behaviour. In this alternative specification, EVB4 and EVB5, which reflect attentiveness to and involvement in work-related issues, were excluded, while EVB1, EVB2, EVB3, and EVB6 were retained as indicators of explicit voice expression. All other constructs, indicators, observations, and structural relationships were kept unchanged. The sensitivity model was evaluated using the same estimation and bootstrap criteria as the primary model.

Robustness across professional and healthcare facility groups was further assessed using multigroup analysis. Before comparing structural coefficients, measurement invariance was evaluated using the measurement invariance of composite models (MICOM) procedure with 5,000 permutations. Configural invariance was established by applying identical indicators, data treatment, algorithm settings, and model specifications across groups. Compositional invariance was assessed by comparing the original compositional correlation with its permutation distribution. Equality of composite means and variances was subsequently evaluated using two-tailed 95% permutation intervals. Full measurement invariance was concluded when configural and compositional invariance and equality of composite means and variances were established, whereas partial invariance was concluded when configural and compositional invariance were established but equality of means and/or variances was

not. Structural differences were interpreted only when compositional invariance was established for the relevant constructs. For each structural path, the Holm adjustment was applied separately across the six pairwise healthcare-facility comparisons to control the family-wise error rate within that path.

Potential dependence among respondents working within the same healthcare facility was also assessed using intraclass correlation coefficients (ICC). Facility membership was treated as the clustering variable across the 37 participating healthcare facilities, and ICC(1) values were estimated for the two endogenous constructs, employee well-being and employee voice behaviour.

4. Result and Discussion

4.1. Respondent Profile

The demographic and work-related characteristics of the respondents are presented in Table 2, including age, profession, educational background, length of service, type of healthcare facility, and work area.

Table 2. Respondent characteristics

Characteristic	Category	Frequency	Percentage
Age Group	21–25 years	38	15.83%
	26–30 years	78	32.50%
	31–35 years	64	26.67%
	36–40 years	38	15.83%
	>40 years	22	9.17%
Profession	Nurse	144	60.00%
	Midwife	96	40.00%
Educational Background	Diploma III	118	49.17%
	Diploma IV/Bachelor	72	30.00%
	Professional Nurse/Midwife Program	45	18.75%
	Master in Health/Health Management	5	2.08%
Length of Service	1–3 years	54	22.50%
	4–6 years	74	30.83%
	7–10 years	62	25.83%
	>10 years	50	20.83%
Type of Health Facility	Public Hospital	78	32.50%
	Private Hospital	50	20.83%
	Public Health Center (Puskesmas)	82	34.17%
	Clinic	30	12.50%
Work Area	Samarinda	83	34.58%
	Balikpapan	45	18.75%
	Kutai Kartanegara	30	12.50%
	Bontang	30	12.50%
	Penajam Paser Utara	19	7.92%
	Kutai Timur	12	5.00%
	Paser	8	3.33%
	Berau	7	2.92%
	Kutai Barat	6	2.50%
Total		240	100.00%

Source: Authors' calculations based on survey data

The respondent profile shows that the largest age group was 26–30 years (32.50%), followed by respondents aged 31–35 years (26.67%). Nurses constituted 60.00% of the sample, while midwives accounted for 40.00%. Nearly half of the respondents held a Diploma III qualification (49.17%), and the largest proportion had 4–6 years of service (30.83%). Public health centers (Puskesmas) represented the largest facility group (34.17%), followed by public hospitals (32.50%), private hospitals (20.83%), and clinics/independent midwifery practices (12.50%). Geographically, the largest proportion of respondents worked in Samarinda (34.58%), followed by Balikpapan (18.75%), while the remaining respondents were distributed across seven other work areas in East Kalimantan. These characteristics indicate that the sample covered different professional, institutional, and geographical settings within the province.

4.2. Measurement Model Assessment

The measurement model was evaluated using indicator loadings, internal consistency reliability, convergent validity, and discriminant validity. The results of the measurement model assessment are presented in Table 3.

Table 3. Measurement model assessment

Construct	Item	Loading	Cronbach's α	rho_A	Composite Reliability	AVE
Self-Efficacy	SE1	0.797	0.891	0.891	0.917	0.647
	SE2	0.801				
	SE3	0.823				
	SE4	0.787				
	SE5	0.801				
	SE6	0.816				
Compassionate Leadership	CL1	0.792	0.919	0.92	0.934	0.638
	CL2	0.816				
	CL3	0.75				
	CL4	0.799				
	CL5	0.826				
	CL6	0.792				
	CL7	0.788				
	CL8	0.826				
Employee Well-Being	EWB1	0.779	0.817	0.819	0.879	0.646
	EWB2	0.807				
	EWB3	0.81				
	EWB4	0.817				
Employee Voice Behaviour	EVB1	0.798	0.886	0.886	0.913	0.636
	EVB2	0.806				
	EVB3	0.789				
	EVB4	0.794				
	EVB5	0.802				
	EVB6	0.798				

Source: SmartPLS output

The results show that all indicator loadings range from 0.750 to 0.826, exceeding the recommended threshold of 0.70. Cronbach's alpha values range from 0.817 to 0.919, rho_A values from 0.819 to 0.920, and composite reliability values from 0.879 to 0.934, indicating satisfactory internal consistency. The AVE values range from 0.636 to 0.647, exceeding the threshold of 0.50 and supporting convergent validity. No indicators were deleted from the final measurement model.

For Compassionate Leadership, the eight employee-rated indicators showed satisfactory loadings and internal consistency, indicating that the adapted items functioned coherently in the present sample. Accordingly, the construct is interpreted in the subsequent analyses as employee-perceived compassionate leadership rather than as a validated employee-rated equivalent of the original leader self-report measure. These results are interpreted as evidence of internal measurement consistency, however, rather than as proof that the employee-rated adaptation is psychometrically equivalent to the original leader self-report instrument.

For Employee Well-Being, the satisfactory loadings, reliability, and AVE indicate empirical coherence among the four indicators; however, these psychometric results are not interpreted as sufficient evidence of content validity by themselves. These statistics also do not establish that the four indicators are conceptually interchangeable or fully homogeneous manifestations of employee well-being. The conceptual coverage of the construct is therefore considered separately based on the theoretical rationale and item selection described in the Measures section.

Table 4. Discriminant validity using HTMT

Construct	1	2	3	4
Self-Efficacy	—			
Compassionate Leadership	0.315	—		
Employee Well-Being	0.483	0.64	—	
Employee Voice Behaviour	0.463	0.56	0.637	—

Source: SmartPLS output

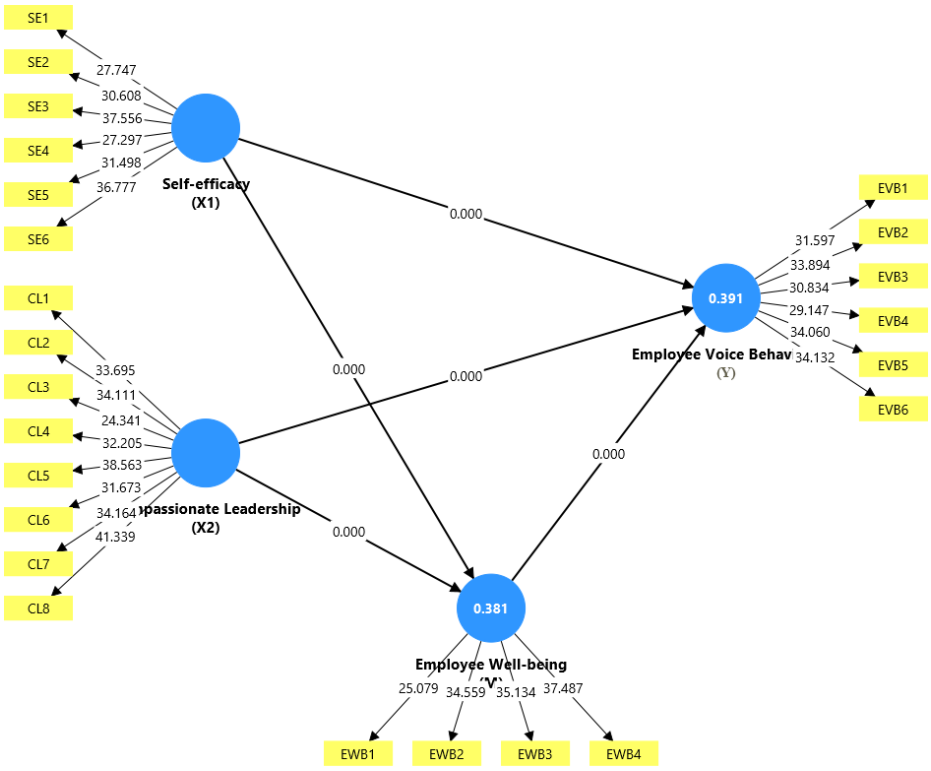
A full-collinearity assessment was additionally conducted as a sensitivity diagnostic for potential common-method collinearity. The VIF values were 1.283 for Self-Efficacy, 1.589 for Compassionate Leadership, 1.764 for Employee Well-Being, and 1.643 for Employee Voice Behaviour. All values were below the conservative threshold of 3.3 (Kock, 2015), indicating no problematic full collinearity among the focal constructs under this diagnostic. However, these results should not be interpreted as demonstrating the absence of common-method bias, particularly because all focal variables were reported by the same respondents within the same survey.

4.3. Structural Model and Hypothesis Testing

The structural model was subsequently assessed based on its explanatory power and the significance of the hypothesized relationships. The R^2 value for employee well-being was 0.381, indicating that self-efficacy and compassionate leadership jointly explained 38.1% of the variance in employee well-being. The R^2 value for employee voice behaviour was 0.391, indicating that self-efficacy, compassionate leadership, and employee well-being jointly explained 39.1% of the variance in employee voice behaviour.

The statistical significance of the structural relationships was evaluated through bootstrapping, as presented in Figure 2.

Figure 2. Bootstrapping results



Source: SmartPLS output

The bootstrapping results indicate that all hypothesized structural relationships are statistically significant at the 5% level. The detailed path coefficients, t-statistics, p-values, and bootstrap confidence intervals are reported in Table 5.

Table 5. Hypothesis testing results

Hypothesis	Relationship	β	SE	t-statistic	p-value	Bias-corrected 95% CI	Decision
H1	X1 – M	0.277	0.050	5.488	< 0.001	[0.172, 0.368]	Supported
H2	X2 – M	0.478	0.044	10.882	< 0.001	[0.385, 0.561]	Supported
H3	M – Y	0.301	0.068	4.402	< 0.001	[0.162, 0.426]	Supported
H4	X1 – Y	0.206	0.058	3.580	< 0.001	[0.091, 0.314]	Supported
H5	X2 – Y	0.282	0.065	4.351	< 0.001	[0.149, 0.407]	Supported
H6	X1 – M – Y	0.083	0.026	3.251	0.001	[0.041, 0.140]	Supported
H7	X2 – M – Y	0.144	0.036	4.030	< 0.001	[0.076, 0.214]	Supported

Source: SmartPLS output

The results presented in Table 5 show that all seven hypothesized relationships are statistically significant. Self-efficacy is positively associated with employee well-being (β = 0.277, p < 0.001, 95% BC CI [0.172, 0.368]) and employee voice behaviour (β = 0.206, p < 0.001, 95% BC CI [0.091, 0.314]). Compassionate leadership is positively associated with employee well-being (β = 0.478, p < 0.001, 95% BC CI [0.385, 0.561]) and employee voice behaviour (β = 0.282, p < 0.001, 95% BC CI [0.149, 0.407]). Employee well-being is also positively associated with employee voice behaviour (β = 0.301, p < 0.001, 95% BC CI [0.162, 0.426]). In addition, the indirect effects

of self-efficacy through employee well-being (β = 0.083, p = 0.001, 95% BC CI [0.041, 0.140]) and compassionate leadership through employee well-being (β = 0.144, p < 0.001, 95% BC CI [0.076, 0.214]) are statistically significant, as neither confidence interval includes zero.

To provide a more complete assessment of the mediating role of employee well-being, the direct, indirect, and total effects were further examined using bias-corrected 95% bootstrap confidence intervals, as presented in Table 6.

Table 6. Mediation analysis

Predictor	a: X - EWB (95% BC CI)	b: EWB - EVB (95% BC CI)	c′: Direct effect (95% BC CI)	Specific indirect effect (95% BC CI)	Total indirect effect (95% BC CI)	c: Total effect (95% BC CI)	Mediation
Self-Efficacy	0.277 [0.172, 0.368]	0.301 [0.162, 0.426]	0.206 [0.091, 0.314]	0.083 [0.041, 0.140]	0.083 [0.041, 0.140]	0.289 [0.180, 0.386]	Complementary partial mediation
Compassionate Leadership	0.478 [0.385, 0.561]	0.301 [0.162, 0.426]	0.282 [0.149, 0.407]	0.144 [0.076, 0.214]	0.144 [0.076, 0.214]	0.426 [0.310, 0.520]	Complementary partial mediation

Source: SmartPLS output

As shown in Table 6, employee well-being showed significant indirect relationships linking both self-efficacy and compassionate leadership with employee voice behaviour. For self-efficacy, the indirect effect was positive and statistically significant (β = 0.083, 95% BC CI [0.041, 0.140]), while the corresponding direct effect remained significant (β = 0.206, 95% BC CI [0.091, 0.314]). Similarly, compassionate leadership had a significant indirect relationship with employee voice behaviour through employee well-being (β = 0.144, 95% BC CI [0.076, 0.214]), while its direct relationship also remained significant (β = 0.282, 95% BC CI [0.149, 0.407]). Because the direct and indirect effects were significant and operated in the same positive direction, both relationships indicate complementary partial mediation.

Although the estimated indirect effect of compassionate leadership (β = 0.144) was numerically larger than that of self-efficacy (β = 0.083), no formal inferential comparison between the two indirect effects was conducted; therefore, this numerical difference is not interpreted as evidence of a statistically stronger mediating relationship.

4.4. Robustness and Multigroup Analysis

As an additional sensitivity check, Employee Voice Behaviour was re-estimated using only the four indicators that directly capture explicit voice expression (EVB1, EVB2, EVB3, and EVB6), excluding EVB4 and EVB5. The four retained indicators showed satisfactory loadings ranging from 0.807 to 0.840. Internal consistency and convergent validity also remained satisfactory (Cronbach's α = 0.841, rho_A = 0.841, composite reliability = 0.894, AVE = 0.677). The R^2 value for Employee Voice Behaviour was 0.364, compared with 0.391 in the primary six-item specification.

The structural conclusions remained stable under this narrower specification. Employee Well-Being remained positively associated with Employee Voice Behaviour (β = 0.286, p < 0.001, 95% BC CI [0.149, 0.414]), as did Self-Efficacy (β = 0.190, p = 0.001, 95% BC CI [0.070, 0.298]) and Compassionate Leadership (β = 0.284, p < 0.001, 95% BC CI [0.144, 0.413]). The indirect relationships through Employee Well-Being also remained positive and statistically significant for Self-Efficacy (β = 0.079, p = 0.002, 95% BC CI [0.038, 0.137]) and Compassionate Leadership (β = 0.136, p < 0.001, 95% BC CI [0.069, 0.209]). Because no formal comparison between the six-

item and four-item specifications was conducted, the small numerical differences in coefficient magnitudes are not interpreted as statistically meaningful. Overall, the substantive conclusions were stable when Employee Voice Behaviour was operationalized using only the four explicit voice-expression indicators.

To assess the robustness of the structural relationships across respondent characteristics, multigroup analyses were conducted by profession and healthcare facility type. Measurement invariance was assessed using the MICOM procedure before comparing structural path coefficients across groups.

The MICOM results are presented in Table 7. Full measurement invariance was established for all four constructs between nurses and midwives. Across healthcare facility comparisons, full invariance was also established for most constructs, although several comparisons showed partial or no invariance. These results determine which group comparisons can be interpreted in the subsequent multigroup analysis.

Table 7. Measurement Invariance Assessment Using MICOM

Compa-rison	Con-struct	Con fi-gur al	Ori-gina l c	p(c)	Com po-sitio nal	Mea n p	Equal Means	Var i-anc e p	Equal Vari-ances	Classi-fication
Nurse vs Midwife	SE	Yes	0.99 87	0.69 36	Yes	0.957 2	Yes	0.88 02	Yes	Full
	CL	Yes	0.99 88	0.20 62	Yes	0.452	Yes	0.42 74	Yes	Full
	EWB	Yes	0.99 96	0.84 78	Yes	0.718 8	Yes	0.84 42	Yes	Full
	EVB	Yes	0.99 95	0.79 3	Yes	0.448 6	Yes	0.70 46	Yes	Full
Public Hospital vs Private Hospital	SE	Yes	0.99 75	0.64 98	Yes	0.428	Yes	0.65 78	Yes	Full
	CL	Yes	0.99 9	0.42 28	Yes	0.731 2	Yes	0.32 08	Yes	Full
	EWB	Yes	0.99 85	0.57 68	Yes	0.816 8	Yes	0.63 42	Yes	Full
	EVB	Yes	0.99 92	0.73 26	Yes	0.597 2	Yes	0.44 36	Yes	Full
Public Hospital vs Puskesmas	SE	Yes	0.99 43	0.10 04	Yes	0.763 4	Yes	0.87 92	Yes	Full
	CL	Yes	0.99 76	0.03 14	No	0.835 2	Yes	0.08 76	Yes	No invarianc e
	EWB	Yes	0.99 99	0.97 46	Yes	0.453 2	Yes	0.32 54	Yes	Full
	EVB	Yes	0.99 95	0.84 6	Yes	0.408 6	Yes	0.24 26	Yes	Full
Public Hospital vs Clinic/PMB	SE	Yes	0.99 12	0.27 98	Yes	0.103 6	Yes	0.14 62	Yes	Full
	CL	Yes	0.99 52	0.03 24	No	0.238 2	Yes	0.11 96	Yes	No invarianc e
	EWB	Yes	0.99 89	0.69 12	Yes	0.045 2	No	0.39	Yes	Partial
	EVB	Yes	0.99 79	0.38 66	Yes	0.187 2	Yes	0.35 92	Yes	Full

Private Hospital vs Puskesmas	SE	Yes	0.9967	0.4624	Yes	0.6594	Yes	0.7622	Yes	Full
	CL	Yes	0.9979	0.5166	Yes	0.632	Yes	0.7152	Yes	Full
	EWB	Yes	0.9977	0.6128	Yes	0.3528	Yes	0.6626	Yes	Full
	EVB	Yes	0.9986	0.7586	Yes	0.8614	Yes	0.8236	Yes	Full
Private Hospital vs Clinic/PMB	SE	Yes	0.9916	0.3456	Yes	0.3374	Yes	0.3868	Yes	Full
	CL	Yes	0.9896	0.0842	Yes	0.333	Yes	0.6678	Yes	Full
	EWB	Yes	0.9997	0.9554	Yes	0.0304	No	0.3098	Yes	Partial
	EVB	Yes	0.9982	0.7518	Yes	0.3908	Yes	0.7852	Yes	Full
Puskesmas vs Clinic/PMB	SE	Yes	0.9971	0.7594	Yes	0.1642	Yes	0.226	Yes	Full
	CL	Yes	0.9906	0.1546	Yes	0.1226	Yes	0.725	Yes	Full
	EWB	Yes	0.998	0.649	Yes	0.0944	Yes	0.124	Yes	Full
	EVB	Yes	0.9974	0.6596	Yes	0.4064	Yes	0.9894	Yes	Full

Note: SE = Self-Efficacy; CL = Compassionate Leadership; EWB = Employee Well-Being; EVB = Employee Voice Behaviour. MICOM was assessed using 5,000 permutations. Full invariance indicates configural and compositional invariance together with equality of composite means and variances. Partial invariance indicates that configural and compositional invariance were established but equality of means and/or variances was not established.

Full measurement invariance was established for Self-Efficacy, Compassionate Leadership, Employee Well-Being, and Employee Voice Behaviour between nurses and midwives. For healthcare facility comparisons, compositional invariance was not established for Compassionate Leadership in the Public Hospital–Puskesmas comparison (c = 0.9976, p = 0.0314) and the Public Hospital–Clinic/PMB comparison (c = 0.9952, p = 0.0324). Employee Well-Being showed partial invariance for Public Hospital–Clinic/PMB and Private Hospital–Clinic/PMB because compositional invariance was established but equality of composite means was not.

Table 8. Multigroup robustness analysis

Panel A. Nurse versus Midwife

Relationship	Nurse β	Midwife β	Δβ	Permutation p-value
SE - EWB	0.33	0.203	0.127	0.226
CL - EWB	0.507	0.454	0.054	0.551
EWB - EVB	0.383	0.189	0.195	0.184
SE - EVB	0.188	0.212	-0.023	0.855
CL - EVB	0.243	0.344	-0.101	0.462

Panel B. Healthcare facility type

Relationship	Public Hospital β	Private Hospital β	Puskesmas β	Clinic β	Pairwise differences with raw p < 0.05	Holm-adjusted p

SE - EWB	0.232	0.418	0.166	0.480	None	—
CL - EWB	0.568	0.475	0.472	0.377	None	—
EWB - EVB	0.187	0.640	0.237	0.366	Public–Private, p = 0.029	0.172
SE - EVB	0.210	-0.029	0.372	-0.052	Private–Puskesmas, p = 0.019; Puskesmas–Clinic/PMB, p = 0.049	0.115; 0.246
CL - EVB	0.449	0.153	0.133	0.453	None	—

Source: Authors' calculations based on SmartPLS

Note: SE = Self-Efficacy; CL = Compassionate Leadership; EWB = Employee Well-Being; EVB = Employee Voice Behaviour. The Clinic/PMB subgroup comprised 30 respondents and was interpreted cautiously because of its smaller sample size. Comparisons involving compassionate leadership between Public Hospital–Puskesmas and Public Hospital–Clinic/PMB were not substantively interpreted because compositional invariance was not established.

For the profession-based analysis, full measurement invariance was established for self-efficacy, compassionate leadership, employee well-being, and employee voice behaviour across nurses and midwives. None of the five structural relationships differed significantly between the two professional groups, with permutation p-values ranging from 0.184 to 0.855. These results provide no evidence of statistically significant structural differences between nurses and midwives in the relationships examined in the model.

For healthcare facility type, most pairwise comparisons established sufficient measurement invariance for multigroup comparison. Three nominal differences were observed at the 5% level: the relationship between employee well-being and employee voice behaviour differed between public and private hospitals (p = 0.029), while the relationship between self-efficacy and employee voice behaviour differed between private hospitals and Puskesmas (p = 0.019) and between Puskesmas and Clinic/PMB (p = 0.049). However, none of these differences remained statistically significant after Holm adjustment for multiple comparisons. These results therefore provide no statistically robust evidence of between-facility differences in the examined structural relationships. They should not, however, be interpreted as demonstrating structural equivalence across facility types. The subgroup sample sizes were substantially smaller than the full sample, particularly for private hospitals (n = 50) and Clinic/PMB (n = 30), which reduces the precision and statistical sensitivity of the pairwise comparisons. Consequently, the absence of significant adjusted differences may reflect either limited structural heterogeneity, limited subgroup power, or both, and the facility-based MGA is interpreted as an exploratory robustness analysis. Accordingly, the multigroup results are interpreted as supporting the stability of the main individual-level relationships within the available sample rather than as evidence that the structural model is equivalent or generalizable across healthcare facility types.

Potential facility-level dependence was additionally examined across the 37 participating healthcare facilities. Cluster sizes ranged from 1 to 10 respondents, with a mean of 6.49 respondents per facility. The ICC(1) was 0.015 for employee well-being and -0.063 for employee voice behaviour. The very small ICC for employee well-being indicates minimal between-facility variation, while the negative ICC for employee voice behaviour provides no

evidence of positive within-facility clustering. The ICC(2) for employee well-being was also low (0.090). Taken together, these diagnostics did not indicate substantial facility-level dependence that would warrant replacing the single-level PLS-SEM specification with a multilevel model. These findings indicate little detectable clustering in the present sample, but they should not be interpreted as evidence that organizational or institutional context is irrelevant. The participating facilities differed in institutional type and respondent cluster size, and the current ICC estimates therefore provide only a sample-specific diagnostic of dependence rather than evidence of cross-institutional generalizability.

4.5. Discussion

The findings show that all hypotheses received empirical support. Self-efficacy and compassionate leadership were positively associated with employee well-being and employee voice behaviour, while employee well-being showed significant indirect relationships linking these personal and social resources with voice behaviour. These results are consistent with the framework developed in this study, which positions personal confidence, compassionate leader support, and employee well-being as interrelated factors associated with employee voice among nurses and midwives.

The positive relationships of self-efficacy with employee well-being and employee voice behaviour suggest that employees' general confidence in their capabilities is a relevant personal resource in healthcare work. Nurses and midwives with stronger self-efficacy may perceive work demands as more manageable and feel more capable of responding to difficulties. Such confidence may also be associated with a greater willingness to express work-related ideas or concerns constructively. These findings are consistent with Dedahanov et al. (2019), Eibl et al. (2020), and Wang et al. (2015), which highlight the relevance of efficacy beliefs to proactive work behaviour and employee voice. However, because this study measured generalized rather than voice-specific self-efficacy, the findings should be interpreted as reflecting broader confidence in managing work-related challenges rather than confidence specifically directed toward speaking up.

Compassionate leadership was positively associated with both employee well-being and employee voice behaviour. This suggests that leaders who are attentive to employees' difficulties, demonstrate genuine concern, and respond supportively can strengthen employees' feelings of being valued and supported. Such leadership is particularly relevant in healthcare settings, where nurses and midwives frequently face demanding interpersonal and service-related pressures. This pattern is consistent with Shuck et al. (2019), Pansini et al. (2024), Wee and Fehr (2021), Nisar et al. (2020), and Guo and Wang (2022), who highlight the importance of compassion and supportive leadership relationships for employee well-being and voice.

Employee well-being was positively related to employee voice behaviour. Employees with higher well-being may have greater psychological energy and emotional readiness to communicate ideas, concerns, or suggestions. Voice often involves interpersonal risk because employees may challenge existing practices or introduce opinions that are not immediately accepted. When employees experience greater meaningfulness, satisfaction, and accomplishment at work, they may be more willing to contribute constructively through voice. This finding is consistent with Duan et al. (2020) and Xu et al. (2021), who show that positive psychological conditions are closely related to employees' willingness to express themselves at work.

The voice-related findings should therefore be interpreted in relation to broader work-related voice behaviour, encompassing both explicit expression and active engagement with workplace issues, rather than exclusively as supervisor-directed speaking up. Importantly, the sensitivity analysis using only the four explicit voice-expression indicators produced the same substantive pattern of direct and indirect relationships. This suggests that the main structural conclusions are not driven solely by the inclusion of the two broader attentiveness and involvement indicators, although the primary six-item construct remains interpreted as broader work-related voice behaviour.

Employee well-being showed significant indirect relationships linking self-efficacy and compassionate leadership with employee voice behaviour. Because the corresponding direct and indirect relationships remained statistically significant and operated in the same positive direction, the observed pattern is consistent with complementary partial mediation in both pathways. Self-efficacy may be associated with greater well-being through employees' broader confidence in managing work demands, whereas compassionate leadership may be associated with greater well-being through employees' perceptions of being recognised and supported. Higher employee well-being, in turn, was positively associated with employee voice behaviour. The estimated indirect relationship was $\beta = 0.083$ for self-efficacy and $\beta = 0.144$ for compassionate leadership. Although the latter estimate was numerically larger, the two indirect effects were not formally compared; therefore, the difference is not interpreted as evidence that one mediating relationship is statistically stronger than the other.

These findings are consistent with the desire fulfillment perspective by showing that employee well-being is statistically involved in the indirect relationships linking personal and social resources with employee voice behaviour. However, because psychological meaningfulness and social worth were not directly measured, the findings should be interpreted as compatible with this perspective rather than as evidence that its proposed psychological mechanism was directly tested.

5. Conclusion and Suggestion

This study concludes that self-efficacy and compassionate leadership are positively associated with employee well-being and employee voice behaviour among female nurses and midwives in East Kalimantan Province. Employee well-being is also positively associated with employee voice behaviour and shows significant indirect relationships linking both self-efficacy and compassionate leadership with employee voice behaviour. Because the corresponding direct and indirect relationships remain significant and operate in the same positive direction, the observed pattern is consistent with complementary partial mediation for both pathways. Although the estimated indirect relationship is numerically larger for compassionate leadership than for self-efficacy, no formal inferential comparison was conducted; therefore, this difference is not interpreted as evidence that one pathway is statistically stronger than the other. These findings provide evidence consistent with the desire fulfillment perspective by showing that employee well-being represents an intervening statistical pathway associated with the proposed relationships between personal and social resources and constructive voice behaviour. Because the underlying psychological states proposed by this perspective were not directly measured, the study does not claim to establish the desire fulfillment mechanism itself.

From a practical perspective, the observed associations suggest that healthcare facility managers may consider creating work conditions that support employees' ability to express

ideas and concerns while also attending to employee well-being. Initiatives related to communication skills, clinical mentoring, problem-solving support, and opportunities that reinforce employees' sense of competence may be relevant to supporting self-efficacy. Leadership development may also emphasize attentive listening, understanding employees' difficulties, providing appropriate support, and responding constructively to workplace concerns. These recommendations should be interpreted as practice implications suggested by the observed associations rather than as interventions whose effectiveness was established by this cross-sectional study.

6. Limitations and Future Research

This study has several limitations. First, the cross-sectional design does not establish temporal ordering among self-efficacy, compassionate leadership, employee well-being, and employee voice behaviour. Accordingly, the significant indirect relationships should be interpreted as statistical mediation consistent with the proposed theoretical model rather than evidence of a causal psychological mechanism. Reverse relationships, including the possibility that employees with higher well-being or greater voice may perceive their capabilities or leaders more positively, cannot be ruled out. Second, all focal constructs were reported by the same respondents at a single point in time. Although this design was appropriate for examining employees' perceptions, the findings may still be affected by common-method influences, general positive affect, social desirability, or other same-source response tendencies. Accordingly, the observed relationships may partly reflect shared response tendencies in addition to the substantive relationships among the constructs, and the satisfactory measurement-model results should not be interpreted as eliminating this possibility.

Third, the sample was restricted to female nurses and midwives working in healthcare facilities in East Kalimantan, which limits the extent to which the findings can be generalized to male healthcare workers, other healthcare professions, or different geographical and institutional settings. Fourth, Employee Well-Being was measured using a parsimonious four-item operationalization covering purpose, reflection, satisfaction, and accomplishment. Although the indicators demonstrated satisfactory empirical coherence, this measure does not capture the full multidimensional domain of employee well-being. Future studies should validate the construct using broader established well-being instruments and compare alternative specifications that distinguish hedonic, eudaimonic, social, or occupational dimensions of well-being.

Fifth, Compassionate Leadership was measured using an employee-rated adaptation of a scale originally developed as a leader self-report measure. Although the adapted indicators demonstrated satisfactory measurement properties in the present sample, changing the source of evaluation may influence respondents' interpretation of the items and cannot establish psychometric equivalence with the original instrument. Future research should independently validate the employee-rated version and compare employee and leader assessments of compassionate leadership, as well as examine its discriminant validity against conceptually adjacent constructs such as supervisor support, servant leadership, and empathy. Sixth, the Employee Voice Behaviour measure includes two indicators reflecting attentiveness to and involvement in work-related issues, in addition to four indicators that directly capture verbal expression. The construct should therefore be interpreted as broader work-related voice rather than as a narrowly defined upward-voice measure. Although the four-item sensitivity analysis based exclusively on explicit voice-expression indicators produced consistent structural

conclusions, this does not eliminate the need for future validation using a more narrowly established voice measure. Future research could employ a more restrictive voice scale focused exclusively on explicit speaking-up behaviour.

Future research should employ time-separated or longitudinal designs to establish clearer temporal ordering among the constructs. Multiple-source designs would also strengthen the evidence, for example by combining employee reports of self-efficacy and well-being with leadership assessments from alternative sources and supervisor-rated or independently documented indicators of employee voice. Future studies may additionally examine employee voice using patient-safety reports, quality-improvement records, or other behavioural indicators where available. Replication across broader professional, demographic, institutional, and geographical samples is also warranted. Further research may examine psychological safety, perceived organizational support, workload, burnout, organizational culture, and leader–member exchange as potential explanatory or boundary conditions of the relationships examined in this study.

The multigroup analyses should also be interpreted cautiously because subgroup sizes were unequal and substantially smaller than the full sample. This issue was most pronounced for the Clinic/PMB subgroup (n = 30), limiting the statistical sensitivity of facility-based comparisons. Accordingly, nonsignificant between-group differences should not be interpreted as evidence of structural equality. Future research with larger and more balanced facility-specific samples would permit more adequately powered comparisons across healthcare settings.

Declaration of AI and AI-assisted technologies in the writing process (if author[s] utilize AI)

During the preparation of this work, the authors used ChatGPT to assist with language editing and manuscript formatting. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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