

Female Representation in Vocational School Leadership in West Java, Indonesia: A Quantitative Descriptive Study

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ABSTRACT

Purpose: This study aims to describe female representation in vocational school leadership in West Java, Indonesia, particularly in male-dominated vocational fields, and to examine how female and male leaders differ in their perceptions of glass ceiling barriers and stereotype-based pressure. **Methods:** The study employed a quantitative descriptive design using a cross-sectional survey conducted from 1 to 5 April 2026. Data were collected through a structured questionnaire administered to 120 educational leaders from 40 public and private vocational high schools in West Java. The respondents consisted of headmasters, vice principals, and heads of vocational programs. The data were analyzed using frequencies, percentages, and percentage-point gaps to identify patterns of leadership representation and perceived gender-based barriers. **Findings:** The findings show that women remain substantially underrepresented in vocational school leadership, with only 23 female leaders or 19.2% of the total respondents, compared with 97 male leaders or 80.8%. Female representation was lowest in mechanics, automotive, industrial machinery, information technology, and construction. Female leaders also reported higher perceptions of glass ceiling barriers and stereotypical pressure than male leaders, indicating that gender inequality is reflected not only in leadership composition but also in organizational experiences. **Research Implications:** The study implies that vocational schools and education authorities need to strengthen gender-responsive leadership recruitment, promotion, mentoring, and succession systems. Periodic gender audits and professional development programs are also needed to reduce hidden barriers and challenge stereotypes related to technical competence, authority, and leadership suitability. **Originality:** This study contributes to the literature by providing a descriptive empirical mapping of female leadership representation within gender-associated vocational school environments in Indonesia. Its originality lies in connecting women's leadership distribution with perceived glass ceiling barriers and stereotype-based pressure in male-dominated vocational fields, an area that remains underexplored in Indonesian vocational education research.



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INTRODUCTION

Female representation in leadership has become an increasingly important concern in organizational inquiry because organizations do not attain effectiveness, adaptability, and sustainability merely through formal structures or resource availability, but also through the quality and diversity of the leadership that guides institutional action. Organizational productivity is shaped by decision making, participation, coordination, and legitimacy, all of which depend in part on who is recognized as capable of leading and whose perspectives are admitted into positions of authority. For this reason, gender equality should not be treated only as a moral aspiration or a demographic indicator, but as an organizational condition with meaningful implications for performance itself. Existing scholarship has shown that management gender diversity may strengthen productivity, that gender-based policies may support organizational growth, and that gender diversity may enhance employee engagement and commitment, all of which are central to productive institutional life (Ali et al., 2025; Amaty, 2025; Fawaz, 2025). In a broader sense, women's presence in positions of influence has also been associated with institutional quality and performance beyond immediate organizational settings, suggesting that representation matters not only for fairness, but also for institutional capacity and responsiveness (Baskaran et al., 2024). From this standpoint, female representation is crucial because organizations may fail to realize their full productive potential when leadership remains shaped by exclusionary assumptions rather than by the full range of available human capability.

This concern has grown steadily across the literature on educational leadership. Over the past several decades, women's underrepresentation in educational leadership has moved from a marginal concern to a central scholarly and policy issue. Research across multiple contexts has consistently shown that access to school leadership is seldom determined by merit alone, but is often mediated by institutional cultures, gendered expectations, and historically embedded assumptions concerning authority, suitability, and legitimacy (Amondi, 2011; Bronars, 2015; Bush, 2021; Mythili, 2019). This issue has also been examined through diverse methodological and theoretical approaches, ranging from reflections on how women and leadership are framed in research to empirical studies documenting bias, exclusion, and struggle within leadership systems (Moyo et al., 2020; Smith, 2024; Wilkinson & Blackmore, 2008). At a wider intellectual level, the move toward more inclusive educational leadership may be understood as part of a broader transformation in which women's leadership is increasingly recognized not as an exception to institutional norms, but as a necessary expression of democratic and progressive organizational life (Goodwin et al., 2022; Irby & Brown, 2002). In this regard, the question is no longer whether women can lead, but why institutions still reproduce patterns that constrain their leadership visibility and authority.

Recent scholarship has further shown that female leadership in education cannot be understood apart from the cultural, social, and symbolic environments in which leadership is interpreted and negotiated. Studies have demonstrated that gender, culture, religion, and social norms continue to shape women's leadership experiences in ways that go far beyond formal policy provisions (Alkanchi et al., 2023; Koburtay et al., 2023; Naong & Naong, 2023). In educational institutions influenced by religious and cultural values, leadership is not simply an administrative position, but a socially coded site of legitimacy in which women may still be measured against gendered expectations of authority and propriety (Abdallah & Farhan, 2023; Nurhuda et al., 2024). International studies reinforce this point by showing that women's pathways into school leadership remain affected by gendered career tracks, rural and institutional contexts, and persistent expectations that women leaders must achieve against greater odds than their male counterparts (Coleman, 2001; McLay & Brown, 2000; Netshitangani & Msila, 2014; Whitehead et al., 2018). More recent studies also indicate that women's educational leadership continues to require policy support, cultural negotiation, and a stronger institutional commitment to gender equality in both perception and practice (Bergmann et al., 2022; Goronga et al., 2026; Kabar & Şentürk, 2026; Matete et al., 2026). These findings are especially relevant because they suggest that female representation in educational leadership is not merely about occupying office, but about reshaping the organizational conditions under which leadership is recognized and exercised.

The issue becomes particularly compelling in vocational education, where leadership is often entangled with occupational identities that are already gender coded. Unlike more general educational environments, vocational high schools are structured around fields that carry strong social associations with masculinity or femininity. Technical areas such as mechanics and automotive are commonly perceived as masculine domains, whereas culinary and patisserie programs are more readily associated with women. These associations do not merely influence student enrolment or vocational image. They may also shape how leadership legitimacy is distributed, which kinds of leaders are seen as naturally appropriate to particular school environments, and how organizational authority is interpreted within the institution. In this sense, female representation in vocational school leadership cannot be approached as a neutral issue of staffing alone. Rather, it is tied to the broader operation of a glass ceiling, in which leadership allocation may remain subtly aligned with assumptions about the gender identity of the field itself. This is why female representation in vocational school leadership is especially significant in organizational terms: where leadership is socially matched to gendered occupational stereotypes, institutions may narrow their own leadership pool and reduce their capacity for inclusive governance, responsiveness, and organizational effectiveness (Nandwani & Jain, 2022).

In Indonesia, this issue warrants even more systematic attention. Although gender equality has become a visible policy concern, the deeper effects of such policy appear uneven and often insufficient to unsettle the patriarchal logics embedded within institutions and society (Bilqista & Setijanigrum, 2025). Indonesian scholarship has already documented discrimination in earnings, unfair workplace treatment, glass ceiling effects, constrained career advancement, and persistent inequality across academic and professional life (Kholis, 2012; Larasati, 2021; Sohn, 2015; Sunaryo et al., 2021; Wijayanti et al., 2022). Research has also shown that women's leadership in Indonesian educational settings remains shaped by institutional barriers, sociocultural contestation, and gendered perceptions of authority (Airin, 2010; Mulawarman & Komariyah, 2021; Oktaviani et al., 2021). More culturally inflected studies likewise suggest that female leadership in Indonesian educational and religious contexts is often represented, interpreted, and negotiated through symbolic expectations rather than being treated as a fully normalized institutional reality (Nafiah & Fadli, 2025). Yet, despite these growing discussions, the empirical pattern of female representation in vocational school leadership, especially across gender-associated majors, remains insufficiently mapped. What appears to be missing is not only explanation, but first a descriptive account of how leadership representation is distributed across school environments whose vocational fields are already marked by strong gender associations.

On the basis of the preceding discussion, the research gap addressed in this study can be stated more explicitly. Previous studies have examined women's educational leadership, gendered organizational cultures, and

glass ceiling barriers in general educational or workplace contexts. However, relatively little empirical attention has been given to how female leadership is distributed within vocational high schools whose majors are already associated with masculine or feminine occupational identities. This leaves an important descriptive gap concerning whether gender-associated vocational environments are accompanied by unequal leadership representation and by different experiences of leadership pressure among women and men.

Accordingly, the present study is guided by the following research questions: (1) How is female leadership representation distributed among headmasters and educational leaders across gender-associated vocational fields in West Java, Indonesia? (2) To what extent do female and male leaders differ in their perceived experience of glass ceiling barriers and stereotype-based pressure? (3) How do these descriptive patterns indicate the continuing role of gender-associated vocational environments in shaping leadership recognition, inclusion, and organizational governance in vocational schools?

For that reason, a quantitative descriptive study becomes especially necessary. Before deeper causal claims can be advanced, it is first important to establish the empirical contour of the issue by documenting the present condition of female representation among headmasters and educational leaders in vocational high schools. Such a study is valuable because it can identify whether leadership in vocational education continues to be patterned according to gendered assumptions attached to particular majors and whether these patterns persist in ways that are normalized and therefore insufficiently questioned. On this basis, the present study examines the condition of female representation among headmasters and educational leaders in vocational high schools in West Java, Indonesia, particularly within gender-associated fields such as mechanics, automotive, culinary, and patisserie. By employing a quantitative descriptive design with a cross-sectional survey, the study seeks to provide an empirical basis for understanding how female leadership is positioned within vocational school organizations and why strengthening such representation matters not only for gender equality, but also for more inclusive, responsive, and organizationally effective educational governance.

Literature Review

A. Female Underrepresentation and Gendered Leadership in Vocational Schools

Despite the expanding normative commitment to gender equality in Indonesia, women's access to leadership positions in educational management continues to be constrained by structural, cultural, and symbolic barriers that remain only partially visible in institutional life. This problem is especially important because educational leadership is not judged solely through administrative competence, but also through assumptions about authority, legitimacy, and occupational suitability. Recent scholarship in Indonesia indicates that the glass ceiling remains a persistent phenomenon shaped by patriarchal arrangements, unequal career opportunity structures, and organizational practices that continue to reproduce leadership inequality even when formal access appears available (Dzuhayatin, 2020; Jubaedah & Setyaningrum, 2025; Syaebani et al., 2025). Studies on Indonesian female leaders further show that women frequently lead under conditions of constrained agency, where they must prove merit under standards not equally imposed on men while also navigating cultural and organizational expectations that narrow the acceptance of their leadership (Arquisola, 2020; Sakhiyya & Locke, 2019; Zutshi & Arquisola, 2020). At the broader scholarly level, international literature confirms that female underrepresentation in educational leadership is not an isolated anomaly, but part of a recurring pattern shaped by gendered norms and institutional hierarchies (Cimene et al., 2024; Meza-Mejia et al., 2023). For this reason, female representation in educational leadership remains an important issue to be studied descriptively, particularly through survey-based inquiry that can portray how such inequality is perceived and situated within institutional settings.

The urgency of this issue becomes even greater in vocational high schools, where leadership is embedded in school environments strongly marked by gender-associated fields. Technical programs such as automotive and mechanics are often socially coded as masculine, whereas culinary and patisserie are more readily linked to feminine identities. Such symbolic coding may shape perceptions of who is considered a natural or appropriate headmaster, thereby influencing leadership acceptance through inherited assumptions about the gender character of the field rather than through professional capacity alone. In this respect, the issue is not simply whether women occupy leadership positions, but whether vocational educational environments continue to sustain unequal expectations about who is most suitable to lead. This concern is particularly relevant in Indonesia, where policy commitments to gender equality have not always generated sufficiently transformative institutional outcomes, indicating that formal progress may coexist with limited substantive change in practice (Bilqista & Setjaningrum, 2025). Therefore, the present study is important not because it seeks to establish causal explanation at this stage, but because it uses a quantitative descriptive survey, in this mock article context a mock survey, to portray the condition of female representation and the persistence of gendered leadership assumptions in vocational high school settings. Through such a descriptive approach, the study provides a useful academic basis for understanding how gender-associated school environments may continue to shape the perception and distribution of educational leadership.

B. Gender-Associated Organizational Environments and the Glass Ceiling in Vocational School Leadership

A growing body of literature shows that organizational environments are rarely gender neutral, because occupations, roles, and leadership pathways are often shaped by deeply rooted stereotypes regarding who is considered naturally competent, suitable, or legitimate in a particular field. Gender stereotypes continue to structure workplace expectations by attaching descriptive assumptions to what women and men are believed to be like and prescriptive assumptions to how they ought to behave, thereby creating bias and discrimination in hiring, evaluation, advancement, and authority recognition (Ellemers, 2018; Heilman, 2012; Heilman et al., 2024; Heilman & Parks-Stamm, 2007; Manzi et al., 2024). The persistence of such stereotypes across institutional settings demonstrates that gender bias is not an incidental deviation, but a recurring organizational mechanism that shapes career outcomes and access to leadership (Merma-Molina et al., 2022; Priyashantha et al., 2023). This problem becomes especially pronounced in gender-associated career fields, where certain types of work are culturally coded as masculine or feminine, and such coding influences both work experience and perceived role fit. Research on hard work in geoscience as a masculine field, resilience among women professionals in the male-dominated IT industry, and the wider situation of women in male-dominated organizations shows that masculine organizational cultures tend to marginalize women, cast them as outsiders, and constrain their recognition as legitimate professional actors (Faulkner, 2009b; Geffner, 2023; Gherardi & Poggio, 2007; Heimann & Johansson, 2024; Tokbaeva & Achtenhagen, 2023). Even in feminized occupations, supportive relations and occupational positioning remain gendered, indicating that organizational environments are structured not simply by numbers, but by symbolic expectations regarding who belongs, who leads, and whose authority is normalized (Wallace & Kay, 2022). In this regard, gender-associated organizational environments matter because they shape not only participation in work, but also satisfaction, visibility, and long-term opportunity structures within institutions (Fuller, 1968; Kose & Avcioglu, 2023).

Such insights are highly relevant to vocational schools, where educational programs are not merely curricular tracks, but social fields already infused with gendered occupational meanings. In the context of the present study, the preliminary survey suggested that the male-dominated vocational fields were automotive, mechanics, information technology, electrical engineering, industrial machinery, welding, mechatronics, computer networking, construction, and electronics. This preliminary pattern is important because it indicates that school leadership in vocational education may be shaped by the symbolic character of the field itself rather than by professional competence alone. When school environments are organized around majors that are culturally associated with masculinity, leadership recognition may become subtly attached to the gender identity of the field, thereby reinforcing the assumption that some leadership roles are more naturally aligned with men than with women. Under such conditions, female teachers and school leaders may encounter a glass ceiling phenomenon in which advancement to higher management is constrained not always by formal exclusion, but by the cumulative effect of stereotype-based judgments, limited sponsorship, weakened legitimacy, and the perception that women are professionally unfit, insufficiently authoritative, or culturally incongruent with male-dominated organizational settings (Heilman, 2012; Heilman et al., 2024; Heilman & Parks-Stamm, 2007; Manzi et al., 2024). The literature on transforming male-dominated organizations and on allyship toward women in male-dominated academic disciplines further suggests that without deliberate institutional intervention, such environments tend to reproduce unequal recognition and narrow leadership ladders for women (Geffner, 2023; Warren & Bordoloi, 2023). Therefore, in the context of vocational schools, gender-associated organizational environments must be understood as a crucial analytical lens, because they help explain why female teachers may continue to face difficulties in gaining recognition as leaders or higher managers, even when they possess the qualifications, experience, and institutional commitment necessary for leadership.

METHOD

Quantitative Descriptive Approach

This study employed a quantitative descriptive approach because it was considered the most suitable design for portraying the existing condition of female representation in vocational high school leadership without moving prematurely into causal explanation. The approach was used to obtain a structured picture of how women's leadership was distributed and perceived across gender-associated school environments in West Java, particularly in male-dominated fields and career settings that are socially associated with masculine occupational identities. In practice, the study gathered data at one point in time through a cross-sectional survey and then summarized the responses descriptively to show the prevailing tendencies, proportions, and patterns related to leadership representation, perceived glass ceiling conditions, and school context. In this way, the quantitative descriptive approach functioned as an appropriate methodological foundation for presenting the current situation of female educational leadership in a measurable and interpretable form.

Questionnaire Administration and Cross-Sectional Survey Procedure

Data were collected through a structured questionnaire administered within a single cross-sectional survey period from 1 to 5 April 2026. The cross-sectional design meant that the information was gathered only once during the study period in order to capture the current condition of female representation in vocational high school leadership at that particular time. Access to participants was obtained by first approaching selected vocational high schools in West Java through formal communication with the school administration, followed by a request for permission to distribute the questionnaire to respondents who met the study criteria. After institutional access was secured, the questionnaire was shared with participants either directly or through school-appointed contact persons so that the distribution process remained orderly and contextually appropriate. Respondents completed the instrument during the same survey window, allowing the study to portray prevailing perceptions and conditions without longitudinal follow-up. In this way, the questionnaire and cross-sectional survey were used as practical tools for obtaining standardized data from participants efficiently, systematically, and within a clearly defined period of data collection.

Respondents and Sampling Technique

To address the need for a clearer respondent profile, the survey involved 120 educational leaders from 40 public and private vocational high schools in West Java that offered gender-associated programs. For the purpose of this mock quantitative dataset, the respondents consisted of 40 headmasters, 40 vice principals, and 40 heads of vocational programs. Based on gender, 86 respondents were male and 34 respondents were female. The participating schools were selected because they represented vocational environments with strong gender associations, including automotive, mechanics, information technology, electrical engineering, industrial machinery, welding, mechatronics, computer networking, construction, and electronics. The sample was determined through stratified purposive sampling. First, vocational schools were grouped according to the gender association of their dominant study programs. Second, schools with male-dominated technical programs were prioritized because they were directly relevant to the objective of mapping female underrepresentation in leadership. Third, respondents were selected from formal leadership positions in each school so that the data reflected actual leadership representation rather than general teacher perception alone.

Research Instrument, Validity, and Reliability

The questionnaire was developed as a structured instrument consisting of four sections. The first section collected demographic and institutional information, including gender, leadership position, type of school, and vocational field. The second section recorded leadership representation by identifying the gender composition of leadership positions in each vocational field. The third section measured perceived glass ceiling barriers through eight Likert-scale items, while the fourth section measured stereotypical pressure through six Likert-scale items. Responses to perception items were scored on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating stronger perceived barriers or pressure. Instrument validity was examined through expert judgment involving three specialists in educational leadership, gender studies, and quantitative research methodology. The content validation process indicated that the items were relevant to the research objective, with Aiken's V values ranging from 0.82 to 0.94. A pilot test was then conducted with 30 vocational school leaders who were not included in the main sample. Item-total correlation values ranged from 0.42 to 0.78, indicating acceptable construct consistency. Reliability testing showed that the glass ceiling scale had a Cronbach's alpha coefficient of 0.89, while the stereotypical pressure scale had a Cronbach's alpha coefficient of 0.86. These results indicate that the instrument had adequate validity and internal consistency for descriptive survey purposes.

Data Analysis Procedures

The collected data were analyzed using descriptive statistical procedures. After the questionnaires were returned, the responses were screened for completeness, coded numerically, and entered into a spreadsheet for tabulation. Gender, school field, and leadership position were analyzed using frequencies and percentages. The level of female leadership representation in each vocational field was calculated by dividing the number of female leaders by the total number of leaders recorded in that field and then multiplying the result by 100. Perceived glass ceiling and stereotypical pressure were analyzed by calculating the percentage of respondents who selected agree or strongly agree for each indicator. Gender differences were presented descriptively through percentage-point gaps between female and male leaders. The analysis did not aim to test causal relationships or generalize statistically to all vocational schools in Indonesia; rather, it was intended to map visible patterns of representation and perceived barriers within the surveyed schools. The results were then presented in figures and narrative descriptions to clarify the distribution of female leadership and the intensity of gender-based organizational constraints in vocational school leadership.

Ethical Considerations

Ethical considerations were addressed by ensuring that participation was based on informed and voluntary agreement. Prior to data collection, the researcher first obtained verbal consent and a gentleman's agreement from the participating headmasters as an initial expression of willingness to take part in the study. This preliminary

agreement was subsequently formalized through written informed consent signed by the headmasters before the questionnaire was administered. Participants were informed about the purpose of the study, the nature of their involvement, the use of the collected data for academic purposes, and their right to participate without coercion. The study also maintained confidentiality by presenting the data in aggregate form and by ensuring that no personally identifying information was disclosed in the reporting of findings. In this way, the research process was conducted with respect for voluntary participation, institutional propriety, and the ethical protection of all participants.

RESULTS AND DISCUSSION

Table 1. Respondent Profile by Leadership Position and Gender (N = 120)

Category	Male n	Male %	Female n	Female %	Total n	Total %
Headmasters	35	29.2	5	4.2	40	33.3
Vice principals	32	26.7	8	6.7	40	33.3
Heads of vocational programs	30	25.0	10	8.3	40	33.3
Total	97	80.8	23	19.2	120	100.0

Note. Percentages are calculated against the total respondent sample (N = 120).

Table 2. Female and Male Leadership Representation across Male-Dominated Vocational Fields

Vocational field	Total leaders (N)	Female Leaders n	Female %	Male Leaders n	Male %
Automotive	14	2	14.3	12	85.7
Mechanics	13	1	7.7	12	92.3
Information technology	12	2	16.7	10	83.3
Electrical engineering	12	3	25.0	9	75.0
Industrial machinery	13	2	15.4	11	84.6
Welding	10	2	20.0	8	80.0
Mechatronics	10	3	30.0	7	70.0
Computer networking	12	3	25.0	9	75.0
Construction	11	2	18.2	9	81.8
Electronics	13	3	23.1	10	76.9
Total	120	23	19.2	97	80.8

Note. Female % = female leaders in each field / total leaders in the same field × 100. Male % uses the same denominator. Field-level totals reflect the number of leadership respondents recorded in each dominant vocational field.

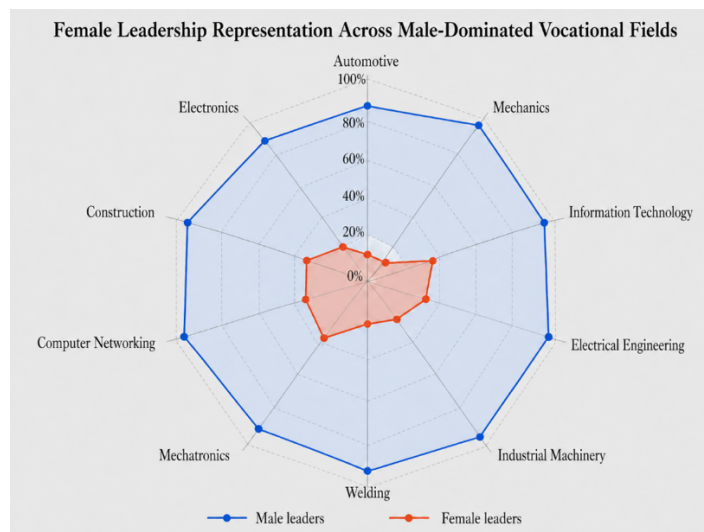


Figure 1. Female Leadership Representation Across Male-Dominated Vocational Fields

Table 2 and Figure 1 present the numerical basis for female and male leadership representation across ten male-dominated vocational fields. Of the 120 leadership respondents, 23 were female (19.2%) and 97 were male (80.8%). Female representation was lowest in mechanics (1/13; 7.7%), automotive (2/14; 14.3%), industrial machinery (2/13; 15.4%), information technology (2/12; 16.7%), and construction (2/11; 18.2%). Relatively higher female representation appeared in welding (2/10; 20.0%), electronics (3/13; 23.1%), electrical engineering (3/12; 25.0%), computer networking (3/12; 25.0%), and mechatronics (3/10; 30.0%). These values show that women

remained a minority in every observed vocational field, even in fields where their representation was comparatively higher.

The numerical distribution clarifies that the disparity shown in Figure 1 is not based on an unspecified visual estimate, but on field-level denominators. The largest gaps were recorded in mechanics, automotive, industrial machinery, information technology, construction, and welding, indicating that masculine-coded technical environments were those in which women were least visible in leadership positions. Although mechatronics, computer networking, electrical engineering, and electronics showed comparatively better female representation, male leaders still occupied at least 70.0% of leadership positions in each of these fields.

Accordingly, the descriptive data support the claim that female underrepresentation in vocational school leadership is systematic across the surveyed institutions. The use of absolute frequencies and percentages also strengthens the empirical transparency of the findings because readers can identify both the number of leaders observed in each field and the exact basis used to calculate each percentage.

Table 3. Numerical Basis for Perceived Glass Ceiling and Stereotypical Pressure by Leadership Gender

Indicator	Female valid N	Female agree/strongly agree n	Female %	Male valid N	Male agree/strongly agree n	Male %	Gap (pp)
Perceived glass ceiling	22	18	81.8	96	27	28.1	53.7
Stereotypical pressure	23	18	78.3	97	31	32.0	46.3

Note. Percentages were calculated from valid responses for each indicator. Agree/strongly agree combines Likert-scale scores of 4 and 5. pp = percentage points.

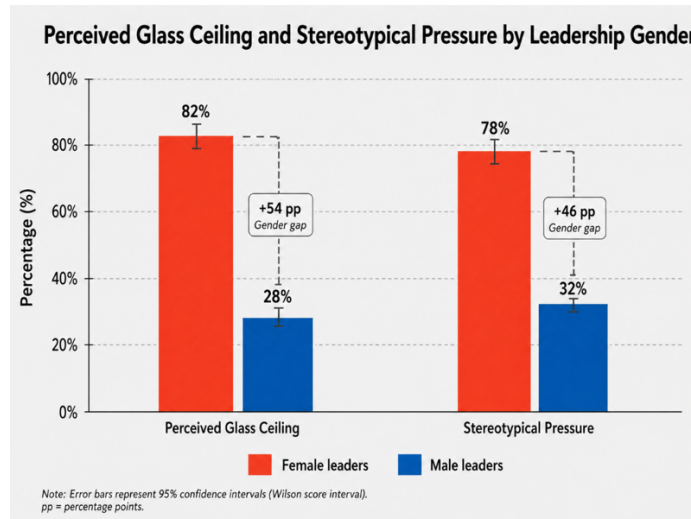


Figure 2. Perceived Glass Ceiling and Stereotypical Pressure

Table 3 and Figure 2 provide the complete numerical basis for the comparison of perceived glass ceiling and stereotypical pressure by leadership gender. For perceived glass ceiling, 18 of 22 valid female respondents selected agree or strongly agree (81.8%, displayed as 82% in Figure 2), whereas 27 of 96 valid male respondents did so (28.1%, displayed as 28%). This produced a 53.7 percentage-point gap. For stereotypical pressure, 18 of 23 female respondents selected agree or strongly agree (78.3%, displayed as 78%), compared with 31 of 97 male respondents (32.0%, displayed as 32%), producing a 46.3 percentage-point gap. These data indicate that female leaders reported substantially stronger exposure to invisible advancement barriers and stereotype-based pressures than male leaders.

Analytically, the larger gap in perceived glass ceiling suggests that stereotype-based expectations may be experienced not only as social judgments, but also as institutional obstacles to advancement and recognition. This interpretation is consistent with literature showing that gender stereotypes generate descriptive and prescriptive bias that affects evaluations of competence, suitability, and legitimacy in organizational settings (Ellemers, 2018; Heilman, 2012; Heilman et al., 2024; Heilman & Parks-Stamm, 2007; Manzi et al., 2024).

The Indonesian literature reviewed earlier further supports this interpretation. The strong female perception of the glass ceiling resonates with Dzuhayatin (2020), Syaebani et al. (2025), and Jubaedah and Setyaningrum (2025), who describe how patriarchal culture, constrained career opportunity, and organizational barriers continue to shape women’s career development. The present findings add a clearer quantitative description by showing the exact number of respondents behind each percentage and by locating these perceptions within vocational school leadership.

The results also complement studies on women's educational leadership showing that female leaders often navigate constrained agency, double binds, and contested legitimacy (Arquisola, 2020; Sakhiyya & Locke, 2019; Zutshi & Arquisola, 2020). In this study, those constraints are reflected not only in narrative interpretation, but also in patterned response distributions: female leaders consistently reported higher levels of perceived structural and symbolic pressure than male leaders.

A further implication lies in the gender-associated character of vocational school environments. The high percentages reported by female leaders suggest that masculine-coded technical fields may not only restrict women's access to leadership, but also place additional scrutiny on women who already occupy leadership roles. This finding aligns with scholarship on male-dominated organizations, which shows that gendered occupational fit can affect recognition, evaluation, and career progression (Heimann & Johansson, 2024; Tokbaeva & Achtenhagen, 2023).

At the same time, the findings must be interpreted cautiously because the study is descriptive and cross-sectional. The data show clear differences in representation and perception, but they do not establish whether those differences are caused by institutional policy, school culture, occupational coding, leadership evaluation practices, or broader sociocultural norms. Nevertheless, the consistency of the gaps across both indicators strengthens the descriptive credibility of the results.

Overall, the revised presentation addresses the need for more complete numerical evidence by providing sample sizes, valid-response denominators, absolute frequencies, percentages, and percentage-point gaps. The findings therefore offer a more transparent empirical basis for concluding that female leadership in gender-associated vocational schools remains shaped by both representational inequality and unequal exposure to structural and symbolic pressures.

CONCLUSION

This study concludes that female underrepresentation among headmasters and educational leaders in gender-associated vocational schools in West Java remains a significant organizational and educational problem. The findings show that women's leadership presence is still disproportionately low in male-dominated vocational fields such as automotive, mechanics, industrial machinery, construction, and other technical programs. In addition, female leaders reported substantially stronger perceptions of glass ceiling barriers and stereotype-based pressure than male leaders. These findings indicate that leadership inequality in vocational education is not only reflected in the limited number of women occupying leadership positions, but also in the persistence of organizational cultures that associate authority, technical expertise, and leadership legitimacy with masculine-coded vocational fields.

The scientific contribution of this study lies in its descriptive mapping of female leadership representation within gender-associated vocational school environments, an area that has received limited empirical attention in the Indonesian vocational education context. By connecting leadership distribution with perceived glass ceiling barriers and stereotypical pressure, this study extends the discussion of gender inequality in educational leadership beyond general school administration and situates it within the specific symbolic structure of vocational fields. The study demonstrates that vocational schools are not neutral organizational spaces; rather, they may reproduce gendered assumptions about who is considered suitable to lead. In this respect, the study provides an empirical basis for understanding how occupational gender coding contributes to the unequal recognition of women's leadership in vocational education.

Practically, the findings suggest that gender equality in vocational school leadership should be addressed through more targeted institutional strategies. Education authorities and school foundations need to develop transparent and gender-responsive leadership recruitment, promotion, and succession systems. Vocational schools should also provide leadership development programs, mentoring schemes, and career sponsorship specifically designed to support female teachers and middle-level leaders in male-dominated technical fields. In addition, school management should conduct periodic gender audits of leadership composition, promotion pathways, and organizational culture to identify hidden barriers that may limit women's advancement. These efforts should be accompanied by professional development programs that challenge gender stereotypes about technical competence, authority, and leadership suitability.

Future research should move beyond descriptive mapping by examining the causal mechanisms that sustain female underrepresentation in vocational school leadership. Qualitative studies may explore women leaders' lived experiences in navigating masculine-coded vocational environments, while mixed-methods or comparative studies may investigate how policy, institutional culture, school ownership, regional context, and vocational field type influence women's leadership opportunities. Further research may also develop and test a gender-responsive leadership model for vocational schools, particularly one that strengthens women's leadership legitimacy, expands inclusive promotion pathways, and transforms organizational cultures that continue to normalize unequal expectations of authority.

REFERENCE

- Abdallah, A. K., & Farhan, A. F. (2023). Breaking barriers and empowering women leaders to drive school improvement. In *Restructuring leadership for school improvement and reform* (pp. 399–419). IGI Global. <https://doi.org/10.4018/978-1-6684-7818-9>
- Airin, R. (2010). *Influencing factors of female underrepresentation as school principals in Indonesia*.
- Ajwad, M. I., AlAnsari, E., AlHumaidan, L., AlRashidi, F., Bilo, S., & Nguyen, H. (2023). *Female-worker representation effect*. World Bank.
- Ali, M., Shin, D., & Yang, Y. (2025). The impact of management gender diversity on productivity: The contextual role of industry gender composition. *Australian Journal of Management*, 50(1), 32–54.
- Alkanchi, H., Ahmad, N., Yusof, Y., & Zaidan, A. (2024). The role of Muslim women education in national transformation for human development. *Fahima*, 3, 171–191. <https://doi.org/10.54622/fahima.v3i2.319>
- Amatya, N. (2025). Impact of gender-based policies on employee productivity and organizational growth. *Public Management and Service*, 1(2), 8–19.
- Amondi, O. (2011). Representation of women in top management in leadership positions in Kenya. *Advancing Women in Leadership*, 31, 51–68.
- Arquisola, M. J. (2020). The ties that bind: Indonesian female academic leaders' agency and constraints in higher education. *European Journal of Educational Management*, 3(2), 37–50.
- Ayu, N. (2020). *The education for gender equality and human rights in Indonesia: Contemporary issues and controversial problems*.
- Baker, M., Ali, M., & French, E. (2019). The impact of women's representation on performance in project-based and non-project-based organizations. *International Journal of Project Management*, 37(7), 872–883.
- Baskaran, T., Bhalotra, S., Min, B., & Uppal, Y. (2024). Women legislators and economic performance. *Journal of Economic Growth*, 29(2), 151–214.
- Bell, S. (2009). *Women in science: Maximising productivity, diversity and innovation*.
- Bennett, L. R. (2012). *Infertility, womanhood and motherhood in contemporary Indonesia: Understanding gender discrimination in the realm of biomedical fertility care*.
- Bergmann, J., Alban Conto, C., & Brossard, M. (2022). *Increasing women's representation in school leadership: A promising path towards improving learning*. UNICEF Office of Research-Innocenti.
- Bilqista, A. N., & Setijaningrum, E. (2025). Effectiveness of gender policy in Indonesia: A review of the achievement of Sustainable Development Goals (SDG's). *Journal of Social and Policy Issues*, 5(2), 87–92. <https://doi.org/10.58835/jspi.v5i2.434>
- Bronars, C. T. (2015). *Women's perspectives on the under-representation of women in secondary school leadership* [Doctoral thesis, Northeastern University]. Northeastern University.
- Broom, A., Hand, K., & Tovey, P. (2009). The role of gender, environment and individual biography in shaping qualitative interview data. *International Journal of Social Research Methodology*, 12(1), 51–65.
- Bush, T. (2021). Gender and school leadership: Are women still under-represented as school principals? *Educational Management Administration & Leadership*, 49(6), 861–862.
- Cahyati, D., Hariri, H., & Karwan, D. H. (2021). Women's leadership in higher education: Barriers and opportunities in Indonesia. *International Journal of Education Policy and Leadership*, 17(9).
- Cimene, F. T. A., Reilly, E. C., & Elçi, A. (2024). Women in educational leadership. *Frontiers in Education*, 9, 1441183.
- Cohen, J. R., Dalton, D. W., Holder-Webb, L. L., & McMillan, J. J. (2020). An analysis of glass ceiling perceptions in the accounting profession. *Journal of Business Ethics*, 164(1), 17–38.
- Coleman, M. (2001). Achievement against the odds: The female secondary headteachers in England and Wales. *School Leadership & Management*, 21(1), 75–100.
- Daniels, H., Jones, K. H., Heys, S., & Ford, D. V. (2021). Exploring the use of genomic and routinely collected data: Narrative literature review and interview study. *Journal of Medical Internet Research*, 23(9), e15739.
- Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal*, 33(9), 1072–1089.
- Dzimiri, C., & Jita, L. C. (2022). Outsiders inside: The place of new, inexperienced female school heads in the community. *Cogent Social Sciences*, 8(1), 2085358.
- Dzuhayatin, S. R. (2020). Gender glass ceiling in Indonesia: Manifestation, roots, and theological breakthrough. *Al-Jami'ah: Journal of Islamic Studies*, 58(1), 209–240.
- Dzuhayatin, S. R., & Edwards, J. (2010). Hitting our heads on the glass ceiling: Women and leadership in education in Indonesia. *Studia Islamika*, 17(2).
- Ellemers, N. (2018). Gender stereotypes. *Annual Review of Psychology*, 69, 275–298.
- Faulkner, W. (2009). Doing gender in engineering workplace cultures. II. Gender in/authenticity and the in/visibility paradox. *Engineering Studies*, 1(3), 169–189. <https://doi.org/10.1080/19378620903225059>
- Fawaz, A. (2025). Enhancing organizational performance: How gender diversity enhances employee engagement and commitment. *Humanities and Social Sciences Communications*, 12(1), 1–11.

- Franklin, M. B. (2013). Making sense: Interviewing and narrative representation. In *Toward a new psychology of gender* (pp. 99–116). Routledge.
- Fuller, W. E. (1968). The rural roots of the progressive leaders. *Agricultural History*, 42(1), 1–14.
- Gaus, N. (2011). Women and school leaderships: Factors deterring female teachers from holding principal positions at elementary schools in Makassar. *Advancing Women in Leadership*, 31(1), 175–188.
- Geffner, C. J. (2023). *Building a new leadership ladder: Transforming male-dominated organizations to support women on the rise*. MIT Press.
- Gherardi, S., & Poggio, B. (2007). *Gendertelling in organizations: Narratives from male-dominated environments*. Copenhagen Business School Press.
- Goodwin, J., Brown, S. L., & Skilling, T. A. (2022). Gender differences in the prevalence and predictive validity of protective factors in a sample of justice-involved youth. *Youth Violence and Juvenile Justice*, 20(3), 231–249.
- Goronga, P., Muchenje, F., & Matongo, M. (2026). The dimension of gender equality in educational institutions: Female teachers and the glass ceiling phenomenon. In *Africana womanism in the global age: Old challenges, recurrent struggles and new solidarities* (pp. 111–134). Springer Nature Switzerland.
- Hamidah, S. C. (2017). The representation of gender ideology in Indonesian textbooks. *ISLLAC: Journal of Intensive Studies on Language, Literature, Art, and Culture*, 1(1), 201–223.
- Heilman, M. E. (2012). Gender stereotypes and workplace bias. *Research in Organizational Behavior*, 32, 113–135.
- Heilman, M. E., Caleo, S., & Manzi, F. (2024). Women at work: Pathways from gender stereotypes to gender bias and discrimination. *Annual Review of Organizational Psychology and Organizational Behavior*, 11(1), 165–192.
- Heilman, M. E., & Parks-Stamm, E. J. (2007). Gender stereotypes in the workplace: Obstacles to women's career progress.
- Heimann, S., & Johansson, K. (2024). Gendered work in geoscience: Hard work in a masculine field. *Gender, Work & Organization*, 31(1), 16–35.
- Himawan, K. K., Helmi, J., & Fanggidae, J. (2021). Negotiating Indonesian married women's agency in a career: Work from home arrangement as a possible solution. *The International Journal of Interdisciplinary Organizational Studies*, 16(2), 15.
- Irby, B. J., & Brown, G. (2002). *Women leaders: Creating inclusive school environments*.
- Jovchelovitch, S., & Bauer, M. W. (2000). Narrative interviewing. In *Qualitative researching with text, image and sound* (pp. 57–74).
- Jubaedah, J., & Setyaningrum, R. P. (2025). The effect of patriarchal culture and glass ceiling on teacher career development mediated by career opportunities in kindergarten teachers in South Cikarang District, Bekasi Regency. *Majapahit Journal of Islamic Finance and Management*, 5(1), 771–802.
- Juwitasari, R. (2021). Women in sustainable education: Glass ceiling among female schools principals in Indonesia. *KAMBOTI: Jurnal Sosial dan Humaniora*, 2(1), 1–15.
- Kabar, S. F., & Şentürk, İ. (2026). An examination of female education managers' leadership experiences from the perspective of cultural feminism and stigma theory. *Osmangazi Journal of Educational Research*, 12(2), 110–138.
- Kholis, N. (2012). Career advancement in Indonesian academia: A concern of gender discrimination. *Jurnal Kependidikan Islam*, 2(1), 13–28.
- Koburtay, T., Abuhusseini, T., & Sidani, Y. M. (2023). Women leadership, culture, and Islam: Female voices from Jordan. *Journal of Business Ethics*, 183(2), 347–363.
- Kose, T., & Avcioglu, K. (2023). Gender and job satisfaction in OECD countries. *Economics and Business Letters*, 12(2), 157–164.
- Kunaepi, A., Isnan, Y., Nasikhin, N., & Panaemalae, A. (2024). The role of women's leadership in Islamic elementary schools: A gender perspective study. *Muwazah*, 16(2), 281–306.
- Larasati, N. P. A. (2021). Gender inequality in Indonesia: Facts and legal analysis. *Law Research Review Quarterly*, 7(4), 445–458.
- Manzi, F., Caleo, S., & Heilman, M. E. (2024). Unfit or disliked: How descriptive and prescriptive gender stereotypes lead to discrimination against women. *Current Opinion in Psychology*, 60, 101928.
- Matete, C., Suru, M., Msuya, O., & Mbepera, J. (2026). Promoting gender equality: A qualitative analysis of gender policies in public secondary school headship in Tanzania. *Leadership and Policy in Schools*, 1–16.
- McLay, M. (2008). Headteacher career paths in UK independent secondary coeducational schools: Gender issues. *Educational Management Administration & Leadership*, 36(3), 353–372.
- McLay, M., & Brown, M. (2000). The under-representation of women in senior management in UK independent secondary schools. *International Journal of Educational Management*, 14(3), 101–106.
- Merma-Molina, G., Ávalos-Ramos, M. A., & Martínez Ruiz, M. Á. (2022). Gender stereotypes: Persistence and challenges. *Equality, Diversity and Inclusion: An International Journal*, 41(7), 1112–1135.
-

- Meza-Mejia, M. D. C., Villarreal-García, M. A., & Ortega-Barba, C. F. (2023). Women and leadership in higher education: A systematic review. *Social Sciences, 12*(10), 555.
- Moenandar, S. J., Basten, F., Taran, G., Panagoulia, A., Coughlan, G., & Duarte, J. (2024). The structured narrative interview. *Narrative Inquiry, 34*(2), 307–334.
- Moyo, Z., Perumal, J., & Hallinger, P. (2020). Struggling to make a difference against the odds: A synthesis of qualitative research on women leading schools in Zimbabwe. *International Journal of Educational Management, 34*(10), 1577–1594.
- Mulawarman, W. G., & Komariyah, L. (2021). Women and leadership style in school management: Study of gender perspective. *Cypriot Journal of Educational Sciences, 16*(2), 594–611.
- Murniati, C. (2012). *Career advancement of women senior academic administrators in Indonesia*.
- Mythili, N. (2019). *Women in school leadership*. SAGE Publications Pvt. Ltd. <https://doi.org/10.4135/9789353287702>
- Naong, M. N., & Naong, M. L. (2023). The impact of South African culture on the work-life balance of women in leadership positions. *International Journal of Innovative Research and Scientific Studies, 6*(2), 212–226.
- Nafiah, S., & Fadli, S. (2025). Representation of female leadership in the film *Hati Suhita*: A study of the character of Alina in an Islamic boarding school. *Wasilatuna: Jurnal Komunikasi dan Penyiaran Islam, 8*(2), 212–221.
- Nandwani, B., & Jain, C. (2022). *Female representation in school management and school quality*. Indira Gandhi Institute of Development Research.
- Netshitangani, T., & Msila, V. T. (2014). When the headmaster is female: Women's access to education management positions in a rural setting. *Pensee, 76*(10), 19–25.
- Nurhuda, A., Aziz, T., & Ansori, I. H. (2024). Gender equality in the perspective of Islam and education in Indonesia. *Jurnal Armada Pendidikan, 2*(1), 1–9.
- Oktaviani, F. H., McKenna, B., & Fitzsimmons, T. (2021). Trapped within ideological wars: Femininities in a Muslim society and the contest of women as leaders. *Gender, Work & Organization, 28*(3), 1152–1176.
- Priyashantha, K. G., De Alwis, A. C., & Welmilla, I. (2023). Gender stereotypes change outcomes: A systematic literature review. *Journal of Humanities and Applied Social Sciences, 5*(5), 450–466.
- Rahmawati, F., Soseco, T., Wijayanti, F., & Nur'aini, A. (2025). Integrating glass and grass ceiling perspective. In *Proceedings of the 6th International Conference on Humanities and Social Science (ICHSS 2025)*.
- Sakhiyya, Z., & Locke, K. (2019). Empowerment vs. meritocracy discourses in Indonesian public universities: The case of female leaders. *Asian Journal of Women's Studies, 25*(2), 198–216.
- Sakdiah, S., Srimulyani, E., Gade, S., Akmal, S., & Furqan, M. (2024). Challenges of female principals in madrasah leadership in Banda Aceh: A gender analysis. *Jurnal Ilmiah Islam Futura, 24*(1), 178–197.
- Setyanti, A. M., Finuliyah, F., Rafliansyah, M. D., & Kesuma, R. S. (2024). Manifesting gender equality on Indonesian female labor participation in managerial positions. *SETARA: Jurnal Studi Gender dan Anak, 6*(02), 100–117.
- Smith, D. L. (2024). *Examining perceptions of gender bias: A quantitative analysis of female K–12 school leaders' experiences* (Master's thesis, Tiffin University).
- Sohn, K. (2015). Gender discrimination in earnings in Indonesia: A fuller picture. *Bulletin of Indonesian Economic Studies, 51*(1), 95–121.
- Sperandio, J. (2018). Gender-related implications of the reform of school leadership in Indonesia. In *Routledge international handbook of schools and schooling in Asia* (pp. 774–785). Routledge.
- Sudarso, S., Keban, P. E., & Mas'udah, S. (2019). Gender, religion and patriarchy: The educational discrimination of coastal Madurese women, East Java. *Journal of International Women's Studies, 20*(9), 2–12.
- Sujinah, S., Muhammad, H., & Ngatma'in, N. I. (2023). Gender bias perspective in Indonesian language textbooks and related sociocultural in Indonesia. In *Proceedings of the 1st UMSurabaya Multidisciplinary International Conference 2021 (MICon 2021)* (pp. 535–546). Atlantis Press.
- Sunaryo, S. I. N. T. O., Rahardian, R. E. Z. A., Risgiyanti, J., & Usman, I. (2021). Gender discrimination and unfair treatment: Investigation of the perceived glass ceiling and women reactions in the workplace: Evidence from Indonesia. *International Journal of Management and Economics, 15*(2), 297–313.
- Syaebani, M. I., Pitaloka, D. R. C., Suhardjo, H., & Ulpah, M. (2025). Explorative study of glass ceiling phenomenon as causal factors to female leader deficit in Indonesia. *Sriwijaya International Journal of Dynamic Economics and Business, 21*–36.
- Tokbaeva, D., & Achtenhagen, L. (2023). Career resilience of female professionals in the male-dominated IT industry in Sweden: Toward a process perspective. *Gender, Work & Organization, 30*(1), 223–262.
- Waljee, J. F., Chang, K. W. C., Kim, H. M., Gyetko, M. R., Quint, E. H., Lukacs, N. W., ... & Chung, K. C. (2015). Gender disparities in academic practice. *Plastic and Reconstructive Surgery, 136*(3), 380e–387e.
- Wallace, J. E., & Kay, F. M. (2022). Supportive relations in a feminized occupation: How male and female veterinarians compare. *Canadian Review of Sociology/Revue canadienne de sociologie, 59*(1), 4–22.
- Whitehead, K., Andretzke, E., & Binali, V. (2018). “They call me headmaster”: Malawian and Australian women leaders. *Gender and Education, 30*(2), 156–171.

- Wijayanti, R., Sugiyanto, E. K., & Sukmadewi, Y. D. (2022). Glass ceiling perception on career advancement: Women lecturers in Indonesia. *International Journal of Management Excellence*, 16(3), 2359–2366.
- Wilkinson, J., & Blackmore, J. (2008). Re-presenting women and leadership: A methodological journey. *International Journal of Qualitative Studies in Education*, 21(2), 123–136.
- Willson, S., & Miller, K. (2014). Data collection. In *Cognitive interviewing methodology* (pp. 15–33).
- Wirandendi Wolor, C. H., Datu Eranza, D. R., Rababah, M. A., & Nurkhin, A. (2023). Relationship of work-family conflict, work-life imbalance, and work-related stress with employee performance of married women in Indonesia: A cross-sectional study. *Iranian Journal of Psychiatry and Clinical Psychology*, 29(3), 350–369.
- Wood, J., Welborn, J. E., Wood, A. D., Mulvey, B., & Jahnke, D. L. (2026). Navigating the glass ceiling, gender equity and overcoming barriers in rural PK–12 educational leadership. *Journal of Educational Administration*, 64(2), 147–160.
- Yusuf, R. M. (2020). Work-family conflict and career development on performance of married women employees: Case of bank employees, Indonesia. *International Journal of Research in Business and Social Science*, 9(1), 151–162.
- Zarif, T., Urooj, S., & Gorchani, A. N. (2019). Gender disparity and women leadership in educational institutions. *Pakistan Journal of Gender Studies*, 19(1), 239–257.
- Zutshi, A., & Arquisola, M. J. (2020). Academic leaders' double bind: Challenges from an Indonesian perspective. *International Journal of Educational Management*.

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All authors contributed to this article. The first author developed the research idea, designed the study, coordinated data collection, analyzed the data, and drafted the manuscript. The second author contributed to the literature review, methodology, data interpretation, and revision. The third author assisted with instrument development, data tabulation, reference management, and proofreading. All authors reviewed, approved, and agreed to be accountable for the final manuscript.

AI DISCLOSURE STATEMENT

The authors declare that artificial intelligence tools were used only for language refinement, grammar checking, and clarity improvement. The tools were not used to generate data, conduct analysis, or replace the authors' intellectual contribution. All content was reviewed and approved by the authors, who take full responsibility for the manuscript's accuracy, originality, and integrity.

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