education sciences

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Intersectional Disaggregated Data Practices and Leadership Interventions for Women in Higher Education: Evidence from Timor-Leste

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Abstract

Timor-Leste, Asia's youngest nation since its independence in 2002, has been making progress in its education sector. However, these gains have not translated into leadership representation as expected, with women remaining significantly underrepresented in senior academic and managerial roles in higher education. While existing studies highlight the potential of intersectional disaggregated data to enhance the visibility of layered inequalities and inform more targeted leadership interventions, its application in Timor-Leste remains at an early stage. This study examines respondents' perception of barriers and enablers influencing the collection and use of intersectional disaggregated data, and their association with perceived leadership interventions aimed at advancing women in higher education leadership in Timor-Leste. A survey design was employed, with questionnaires administered to purposively selected academic and non-academic staff across selected universities in Timor-Leste. Data were analysed using descriptive and inferential techniques, including the Kruskal–Wallis test, and Spearman's rank correlation (ρ). The findings suggest that respondents perceive key leadership interventions to include women's leadership development programmes, mentorship, mental health support, and establishment of dedicated equality and diversity units Respondents also identified key enablers and barriers influencing the collection and use of intersectional disaggregated data, including staff training in ethical data practices, the use of mixed-method approaches, and the provision of privacy protections, alongside constraints related to data systems, capacity, and leadership support. Spearman's analysis showed significant associations between perceived enablers and barriers influencing the collection and use of intersectional disaggregated data and perceived leadership interventions. This study contributes to the gender equity literature by providing empirical insights on perceived institutional conditions, reported barriers, enablers and perceived mechanisms through which intersectional data may inform leadership-related interventions in the context of Timor-Leste's higher education system.

Keywords: data for equality; educational leadership; leadership interventions; gender equity; higher education; intersectional data; women advancement

Academic Editors: Lydiah Nganga, John Kambutu and Sheng-Ju Chan

Received: 31 December 2025
Revised: 25 April 2026
Accepted: 12 May 2026
Published: 20 May 2026

1. Background to the Study

Gender Equity, Diversity, and Inclusion (GEDI) has become a growing priority within higher education institutions (HEIs) globally. Universities increasingly recognised that advancing gender equity, particularly in leadership, is essential for inclusive socio-economic development, improved institutional governance, and organisational resilience (Alshdiefat et al., 2024; Ghundol & Muthanna, 2025; T. Harrison & Freeman, 2025). Diverse leadership teams are associated with more effective decision-making, innovation, and adaptability. Despite these commitments, women remain significantly underrepresented in senior academic and managerial roles, including positions such as deans, directors, heads of department, vice-chancellors, and rectors.

GEDI is increasingly becoming a central organising principle within higher education systems globally, shaped by statutory requirements, regulatory expectations, and sector-led frameworks. Although many countries have established formal legal commitments to gender equality, implementation within higher education institutions remains uneven, and intersectional dimensions of inequality are often insufficiently addressed. In the United Kingdom, women's participation in higher education leadership has improved, supported by progressive legal frameworks such as the Equality Act 2010, Office for Students (OfS), and equality charters and institutional gender-equality initiatives. Recent reports indicate that women now comprise approximately one-third of vice-chancellors, many of whom have been appointed in the past five years (J. S. Harrison & Wicks, 2013). Nevertheless, gender disparities persist, particularly at the most senior leadership levels. Across Southeast Asia, progress has been uneven. Regional reports such as the ASEAN Gender Outlook (UN Women & The ASEAN Secretariat, 2024) and the ASEAN Higher Education GEDI Report (Asia Research Centre, Universitas Indonesia, 2022) indicate that while gender parity in enrolment is improving, women's representation in decision-making and leadership positions continues to lag. While countries like the Philippines, Thailand, Vietnam, and Malaysia have demonstrated notable progress, Timor-Leste continues to lag in achieving gender parity in higher education leadership (Ghundol & Muthanna, 2025).

Timor-Leste is currently classified as a lower-middle-income country but aims to achieve upper-middle-income status by 2030. Investment in human capital and promoting gender equity are key parts of the Strategic Development Plan, 2011–2030. Since gaining independence in 2002, Timor-Leste has expanded access to education and strengthened its higher education sector. Higher education in Timor-Leste consists of a small but growing system, including the National University of Timor Lorosa'e (UNTL), and a number of private institutions (Ministry of Education Youth and Sports, 2022). Governance is primarily overseen by the Ministry of Education, Youth, and Sports, initiating various policies in which individual higher education institutions take responsibility to implement. In Timor-Leste, gender equality is formally recognised within national legal and policy frameworks. The country has committed to key international agreements, including the Sustainable Development Goals (SDGs), the Beijing Declaration and Platform for Action, and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which was ratified in 2003. The Constitution further guarantees equality between men and women, while national policies such as the National Education Strategic Plan (2011–2030) position gender inclusion as a cross-cutting priority. Additional legislative measures, including the Law Against Domestic Violence and the Village (Suco) Law, reinforce this commitment (Niner & Loney, 2020). Institutional mechanisms, such as the Secretary of State for Equality, coordinate gender-responsive initiatives, including governance reform, gender-based violence prevention, and efforts to increase women's representation in leadership.

Despite these formal commitments, significant challenges remain. Women continue to face socio-cultural and political constraints shaped by historical legacies of colonialism,

conflict, and evolving customary practices (Niner & Loney, 2020). While gender equality is widely recognised as a principle, its translation into practice remains uneven. Women's representation in leadership roles remains limited, and institutional capacity to address intersectional inequalities is still developing. The absence of dedicated gender studies programmes in higher education institutions further reflects gaps in awareness, expertise, and leadership pathways for women. However, these advances have not translated into proportional representation of women in senior academic and managerial positions, as many of these initiatives seem to rely on aggregated gender metrics that risk reinforcing "one-size-fits-all" approaches and overlooking disparities among different groups of women. These contextual challenges are particularly relevant to this study as the evolving institutional landscape, limited data infrastructure, and emerging equity frameworks influence how intersectional disaggregated data can be collected and used to inform leadership interventions.

Women's underrepresentation in leadership is shaped by multiple intersecting barriers, including systemic challenges, discriminatory practices, and entrenched organisational cultures that limit career progression (Ghundol & Muthanna, 2025; World Economic Forum, 2024). Traditional approaches to gender equity in higher education have often relied on aggregated gender data, treating women as a homogeneous group (World Economic Forum, 2024). While such data can highlight broad disparities, it frequently obscures how inequities are distributed across different groups of women (Harari & Lee, 2021; Makhanya, 2024; Usmani, 2025). Evidence from studies in Southeast Asia (British Council, 2024) indicates that women in higher education encounter multiple layers of barriers that are not solely by gender but also by intersecting social categories such as caring responsibilities, qualifications, job roles, disability, age, and social class (Pranitasari & Sarmento, 2024). These intersecting factors often compound disadvantages and remain insufficiently captured within institutional data systems and interventions. Understanding these intersecting dynamics, more nuanced approaches to data collection and analysis.

Intersectional disaggregated data, as used in this study, refers to data systematically broken down across multiple, intersecting categories such as gender, disability, age, employment role, academic qualification and socio-economic status, to reveal patterns of inequality that are not visible through aggregated analysis. Such data can enhance visibility of underrepresentation across groups of women and how gender intersects with other dimensions, challenging interpretations of leadership inequality (Hariadi et al., 2024; Zeinali et al., 2021). It also enables a more targeted policy and intervention design, (Wulandari & Ahmad, 2025). Third, support accountability and monitoring, facilitating evaluation, benchmarking, (Gallifant et al., 2023; Mwanza, 2024) strengthening the legitimacy of equity interventions in HEIs through evidence-based decision making (Callender & Dougherty, 2018). Conversely, the absence or limitation of such data may constrain these processes and impact the effectiveness of leadership interventions. Despite this potential, the integration of intersectional disaggregated data into higher education decision-making remains inconsistent. Institutions often face structural, cultural, and technical challenges related to data governance, analytical capacity, ethical considerations, and organisational readiness (Acev et al., 2025; Adedokun et al., 2025; Bernardo et al., 2024; Heyes et al., 2023; Meda et al., 2025; Morales, 2019; Price, 2025; Richardson, 2021; Varsik & Gorochovskij, 2023).

Although intersectionality is well established as a theoretical framework for understanding overlapping forms of inequality, there remains a limited empirical understanding of enablers and barriers that influence how intersectional disaggregated data is collected and used to inform targeted interventions for advancing women in higher education leadership roles (Bhopal & Henderson, 2019; Hannan et al., 2025; Morley, 2014). This gap is particularly evident in contexts such as Timor-Leste, where institutional capacity and

data systems are still evolving. Addressing this gap, this study examines the respondents' perception of barriers and enablers influencing the collection and use of intersectional disaggregated data, and their association with perceived leadership interventions aimed at advancing women in higher education leadership in Timor-Leste. It does not directly assess women's leadership outcomes in higher education institutions. It will answer the research question:

What barriers and enablers are perceived to influence the collection and use of intersectional disaggregated data, and how are these associated with perceived leadership interventions aimed at advancing women into higher education leadership in Timor-Leste?

It will also examine associations between these perceived factors and leadership interventions by testing the following hypotheses:

H1. *Perceived enablers for collection and use of intersectional disaggregated data are associated with perceived leadership interventions aimed at advancing women in higher education leadership.*

H2. *Perceived barriers to the collection and use of intersectionally disaggregated data are associated with perceived leadership interventions aimed at advancing women in higher education leadership.*

By identifying perceived leadership interventions, alongside perceived barriers and enablers, the study contributes empirical insights into institutional conditions influencing operationalisation of intersectionality. These insights can help to inform the design of more inclusive, context-sensitive interventions by HEIs to support the advancement of women from diverse intersectional backgrounds into leadership roles in Timor-Leste.

1.1. Gender Equity and Intersectionality in Higher Education Leadership

Leadership in higher education is a multifaceted and context-dependent phenomenon shaped by the unique organisational, cultural and professional characteristics of universities. Within this context, gender equity is seen as a systematic effort to ensure equitable representation and participation across gender and other identity dimensions within institutional structures. It is not only a matter of fairness but also a driver of institutional excellence and innovation. However, gender equity in higher education continues to be shaped by historical exclusion, policy reforms, and evolving social norms (Gul et al., 2025; Hannan et al., 2025; Morley, 2010). Although women's participation in higher education has increased, particularly at the undergraduate level, this progress has not been matched by equitable representation in senior academic leadership positions, access to research funding, or pay equity (Correa et al., 2025; Meyer & Baogui, 2025; Qablan et al., 2025).

Research on gender and leadership further underscores the persistence of structural and cultural barriers that limit women's progression into senior leadership roles across sectors, including higher education (Alharthi, 2024; Chanda & Ngulube, 2024; Crimmins et al., 2023; Gander & Sharafizad, 2025; Kray et al., 2025; Rocha et al., 2025). These barriers include gendered expectations, stereotypes, biased promotion criteria and limited mentoring or sponsorship, and biased organisational practices (Eagly et al., 2007; Fitzgerald, 2013; Winchester & Browning, 2015). While women are often associated with enhancing organisational effectiveness, they continue to face barriers such as glass ceilings, biased evaluations, and exclusion from informal power networks, limiting their contributions and trajectories (Ayenalem & Taye, 2025; Barling & Barling, 2014; Gaikwad & Pandey, 2026; Galsanjigmed & Sekiguchi, 2023; Laki & Badon, 2024; Paustian-Underdahl et al., 2024; Shen & Joseph, 2020; Silva & Mendis, 2017).

However, these barriers are not experienced uniformly. Gender intersects with other identities such as race, ethnicity, disability, socio-economic status, sexuality, employment roles and nationality, producing differentiated and cumulative forms of advantage and

disadvantage across academic careers (Hannan et al., 2025; Ivanov, 2024; Potter et al., 2019). Accordingly, interventions informed by data analyses that rely solely on aggregated gender data risk masking structural inequities and reinforcing exclusionary practices (Yumarni, 2025). Applying an intersectionality informed approach to data collection and analysis is therefore critical to ensure that frameworks and interventions do not inadvertently reproduce inequalities by ignoring these layered identities (Rosa & Clavero, 2022).

Intersectional disaggregated data provides a critical mechanism for identifying these often hidden patterns of inequality by revealing how intersecting identities shape access, progression, and outcomes within higher education (Ivanov, 2024; Yumarni, 2025). When systematically collected and analysed, such data enables institutions to move beyond descriptive indicators towards evidence-based policy design, targeted interventions, and strengthened accountability mechanisms (Bentley et al., 2023; Mbachu et al., 2024; Okonta & Nkedishu, 2024). For example, intersectional analyses can illuminate disparities in professorial representation, retention, promotion pathways, and the gendered impacts of caregiving responsibilities that would remain obscured within single-axis analyses (Bentley et al., 2023; Yumarni, 2025). Despite its potential, the effective use of intersectionally disaggregated data in higher education remains challenging. Barriers include limited data infrastructure, inconsistent data standards, privacy and ethical concerns, and resistance to confronting structural inequalities (Adedokun et al., 2025; Crimmins et al., 2023; Heyes et al., 2023; Rocha et al., 2025). Such challenges are often compounded by limited data literacy among staff and a tendency to treat equity-related data as a compliance requirement rather than a resource for organisational learning and transformation (Acev et al., 2025; Bernardo et al., 2024).

At the same time, there are enablers that can potentially support the meaningful integration of intersectional data to better inform gender equity strategies and interventions for women. These include robust governance frameworks, investment in data systems capable of nuanced disaggregation, and cross-functional collaboration among institutional research, human resources, and equity units, which are particularly important (Dawson et al., 2023; Liani et al., 2021; Nikghadam-Hojjati et al., 2025). Clear policy mandates, national reporting requirements, and alignment with institutional strategic priorities further reinforce the legitimacy and sustainability of intersectional approaches (Dawson et al., 2023; Hankivsky et al., 2014). Equally critical is the development of institutional cultures that value transparency, reflexivity, and social justice, ensuring that data meaningfully informs decision-making, resource allocation, and leadership development (Alshdiefat et al., 2024; Ghundol & Muthanna, 2025; T. Harrison & Freeman, 2025).

Leadership plays a pivotal role in shaping whether intersectional data is meaningfully collected, interpreted, and used. When senior leaders actively support intersectional data practices, they can embed equity considerations into strategic planning, accountability mechanisms, and institutional performance frameworks. Conversely, weak or inconsistent leadership commitment can limit the use of data, reducing it to a symbolic or compliance-driven exercise (Alshdiefat et al., 2024; Collins, 2019; Crenshaw, 1989). Effective leadership interventions may include the establishment of intersectional equity targets, the allocation of resources to long-term change initiatives, and the incorporation of equity metrics into performance management and promotion frameworks (Asriati, 2025; Gander & Sharafizad, 2025; Mousa et al., 2022; Rocha et al., 2025). By fostering data-informed dialogue and shared ownership of equity goals, leaders can move institutions beyond symbolic commitments toward sustained structural reform. Against this backdrop, this study examines the perceived barriers and enablers influencing the collection and use of intersectional disaggregated data in the design and implementation of interventions aimed at advancing women in higher education leadership, particularly in developing contexts such as Timor-Leste. Such insight

advances understanding of how intersectional data practices are perceived to support context-sensitive interventions to GEDI in higher education leadership.

Intersectionality Theory

Intersectionality theory provides a critical analytical lens for understanding how multiple, overlapping social identities, such as gender, race, ethnicity, class, disability, sexuality, and nationality, interact with institutional structures to produce differentiated experiences of privilege and disadvantage (Collins, 2019; Harris & Leonardo, 2018). It foregrounds the importance of epistemic justice, recognising whose experiences are counted, whose knowledge is valued, and whose voices inform decision-making (Hannan et al., 2025; Mügge et al., 2018; Zembylas, 2025). In the context of higher education, this theory is particularly relevant for examining why gender inequities persist despite formal equality policies. Intersectionality challenges single-axis approaches to gender equity by rejecting the treatment of women as a homogeneous group and emphasising instead that barriers to participation, advancement, and leadership are unevenly distributed (Okoronta & Kylymnyuk, 2024). For example, the structural and cultural obstacles faced by women of colour, migrant women, or women with disabilities in academia are often different from those faced by white, middle-class women (Crimmins et al., 2023; Hussain & Hussein, 2025; Okoronta & Kylymnyuk, 2024; Showunmi, 2023).

From this perspective, intersectional data becomes essential for revealing hidden patterns of exclusion that are aggregated in gender analyses. Such data enables a more nuanced understanding of how institutional practices, including recruitment, promotion, workload allocation, research, funding and leadership pathways, may differentially affect groups of women (Mweha, 2025). Leaders informed by intersectionality are better equipped to design targeted, context-sensitive strategies that address both structural barriers and cultural norms, thereby enabling more inclusive and sustainable approaches to gender equity in higher education (Showunmi, 2020; Zhao et al., 2024). Rather than serving as a predictive or testing framework, this study draws on intersectionality theory as a lens to highlight the need for intersectional disaggregated data in capturing differentiated experiences of inequality. It also informs how such data can be effectively collected and their perceived association with leadership interventions. In doing so, intersectionality frames leadership interventions not only as technical responses but as shaped by broader institutional commitments to equity.

2. Materials and Methods

This study does not aim to conduct an intersectional analysis of women in higher education institutions nor to directly measure women's leadership outcomes. Rather, it examines the respondents' perception of barriers and enablers influencing the collection and use of intersectional disaggregated data, and their association with perceived leadership interventions aimed at advancing women in higher education leadership in Timor-Leste. A narrative review of the literature was conducted using multiple scholarly databases (e.g., Scopus, ScienceDirect, Web of Science, and Google Scholar), along with relevant industry and policy reports. A pilot study with selected key stakeholders, including members of senior management teams, academic and non-academic staff within three higher education institutions in Timor-Leste, was also conducted. Pilot studies are commonly conducted to evaluate the feasibility and effectiveness of research instruments, examine how research methods function within a specific context, and identify potential practical or ethical issues that may hinder the achievement of research objectives (Fraser et al., 2018). The findings from the literature review and pilot study helped identify nine key barriers, nine key

enablers, and thirteen leadership interventions (as shown in Figure 1) used to develop the questionnaire.

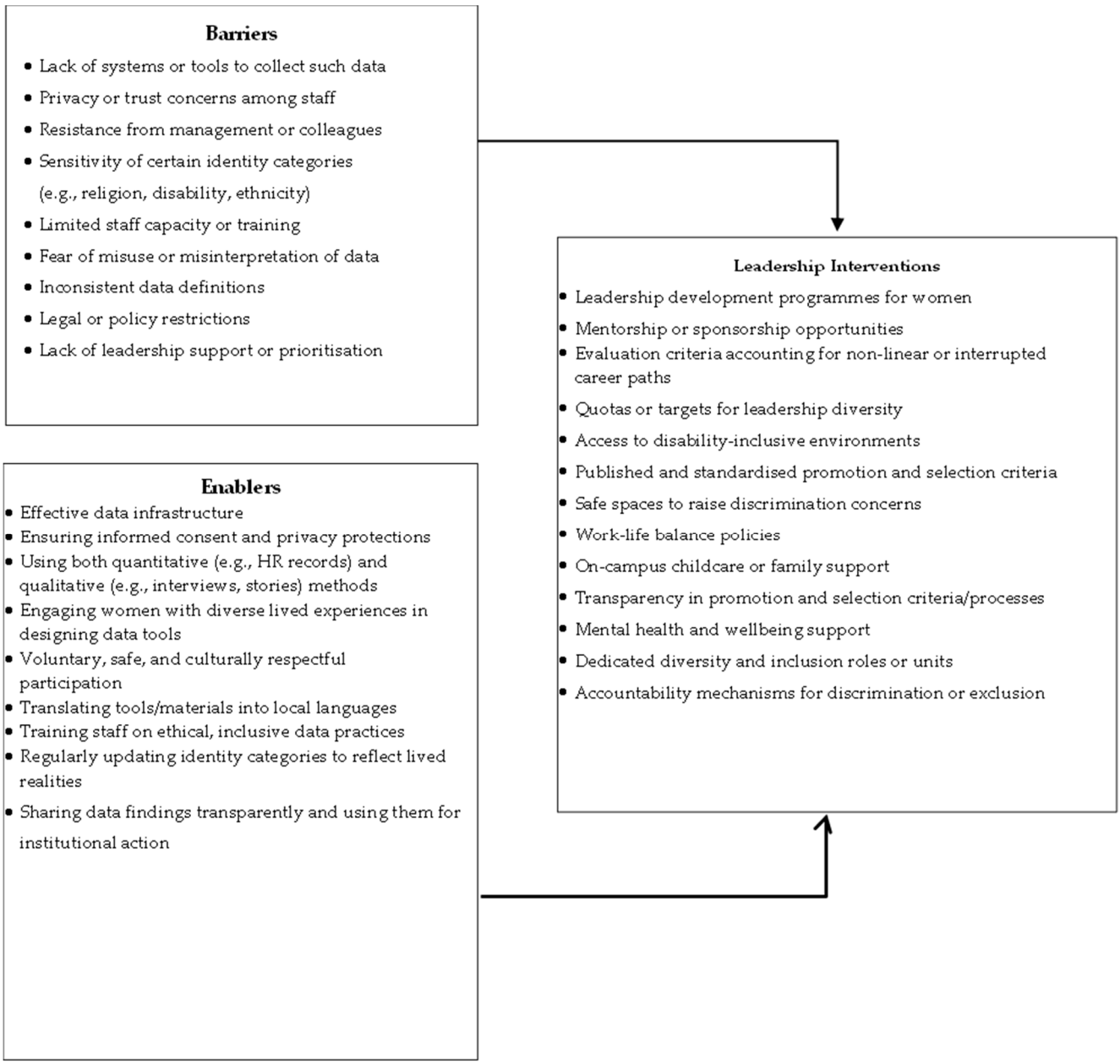

Figure 1. Conceptual framework for analysing associations between perceived barriers, enablers and leadership interventions.

A questionnaire survey is a widely used method for collecting quantitative data in a standardised manner, ensuring internal consistency and enabling the application of appropriate analytical techniques (Aithal & Aithal, 2020). The survey was designed to capture respondents' perceptions of leadership interventions, key barriers, as well as enablers, influencing the collection and use of intersectional disaggregated data in advancing women in higher education leadership in Timor-Leste. A purposive sampling technique was employed to ensure respondents possessed relevant knowledge and experience related to the study focus. This non-probability sampling method allows for the selection of respondents with specific knowledge and experience thereby enhancing the relevance and validity of the data collected (Campbell et al., 2020). Staff from across three universities in Dili,

Timor-Leste, were contacted to participate in the survey. A total of 129 responses were received, of which 107 questionnaires were retained after data screening.

The questionnaire collected demographic information and measured respondents' perceptions across three key areas: (i) the perceived influence of intersectional identities on leadership advancement; (ii) the perceived relevance of identified leadership interventions; and (iii) respondents' perceptions of the barriers and enabling conditions affecting the collection and use of intersectional disaggregated data. Responses were recorded using a five-point Likert scale to indicate levels of agreement or perceived influence. Data collection commenced in July 2025 and was completed in November 2025. A minimum Cronbach's alpha value of 0.60 is considered acceptable for pilot studies (Fraser et al., 2018), while values of 0.70 and above indicate satisfactory internal consistency (Fraser et al., 2018). The pilot study yielded Cronbach's alpha coefficients above 0.90 for the respective scales used in the study, indicating a high level of reliability and strong internal consistency.

3. Results

This section of the paper presents the background characteristics of the survey participants, followed by the analysis of respondents' perceptions of leadership interventions and the key enablers and barriers to the collection and use of intersectional data for designing and implementing interventions aimed at advancing women in higher education leadership in Timor-Leste.

3.1. Participants' Background Information

Table 1 presents the demographic and professional profiles of the 107 respondents. The sample is predominantly female (70.1%), reflecting the strong participation of women in the study and aligning with the study's focus on advancing women in higher education leadership. In terms of educational attainment, most respondents (95.3%) hold at least a bachelor's or master's degree, suggesting a high level of academic qualification among participants, while a smaller proportion (4.7%) hold doctoral qualifications. Respondents occupy a wide range of institutional roles, with early career academics representing the largest group (30.8%), followed by academic leaders (17.8%), administrative or professional staff (16.8%), and mid-career academics (15.9%). This distribution captures perspectives from both academic and professional roles including individuals in leadership and non-leadership positions. Regarding experience, 28.0% of respondents have between 6 and 10 years of experience in higher education, while others are spread across lower and higher experience categories, indicating a mix of early career and experienced university staff. In relation to career progression, over one-third of respondents (37.4%) reported not yet having been promoted, whereas the remainder have received a promotion, with most attaining their first promotion between 3 and 5 years.

Table 1. Participants' background information.

Characteristics	Categories	Frequency	Percentage (%)
Gender	Male	32	29.9
	Female	75	70.1
	Total	107	100.0
Highest Educational Qualification	Bachelors	50	46.7
	Masters	52	48.6
	Doctorate	5	4.7
	Total	107	100.0

Table 1. *Cont.*

Characteristics	Categories	Frequency	Percentage (%)
Current Role	Administrative or professional staff (e.g., HR officer, finance officer, librarian, technicians)	18	16.8
	Administrative senior/executive leadership (e.g., director, secretary general, registrar-general)	8	7.5
	Early career academic (e.g., lecturer, assistant lecturer, researcher)	33	30.8
	Mid-career academic (e.g., senior lecturer, associate professor)	17	15.9
	Academic leader (e.g., Professor, head of department, dean)	19	17.8
	Technical or operational support staff (e.g., IT, logistics, facilities)	10	9.3
	Administrative middle management (e.g., office manager, unit head, program coordinator)	2	1.9
	Total	107	100.0
Years of Experience in Higher Education	Less than 2 years	22	20.6
	2–5 years	20	18.7
	6–10 years	30	28.0
	11–15 years	18	16.8
	More than 15 years	17	15.9
	Total	107	100.0
Years prior to attaining first promotion in higher education	Not yet	40	37.4
	Less than 3 years	19	17.8
	3–5 years	34	31.8
	6–10 years	10	9.3
	More than 10 years	4	3.7
	Total	107	100.0

3.2. Intersectional Data Identified for Data-Informed Leadership Intervention

In addition to educational attainment and employment roles, the study examined other intersectional identities perceived to influence leadership advancement. Figure 2 presents respondents' perceptions of the influence of various intersectional identities alongside academic qualifications and employment roles on leadership advancement in higher education. These findings highlight factors that may be important to consider when analysing and designing targeted leadership interventions aimed at advancing women in higher education leadership. Gender received the highest mean rating (3.79), indicating respondents perceived it as the most influential factor. However, respondents also identified additional dimensions such as disability, caregiving responsibilities and language, amongst others. These findings suggest that respondents recognise the importance of considering intersectional dimensions beyond just gender to design inclusive leadership interventions. This finding highlights the perceived relevance of using intersectional disaggregated data to inform leadership interventions that reflect differences among women within the institutional workforce.

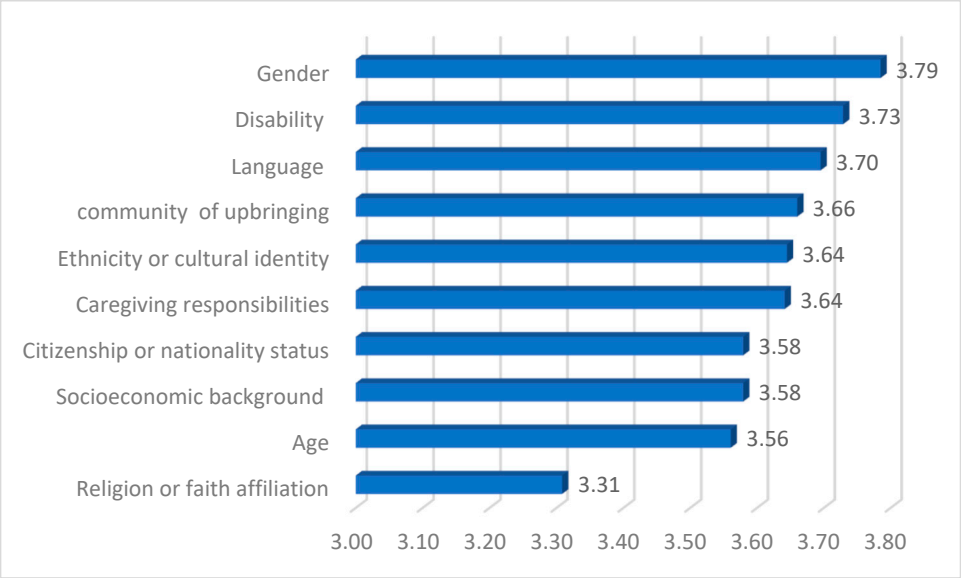

Figure 2. Intersectional data identified for data-informed leadership intervention. Source: Authors' fieldwork.

3.3. Leadership Interventions for Advancing Women in Higher Education Leadership in Timor-Leste

Table 2 presents respondents' perceptions of leadership interventions for advancing women in higher education leadership. Overall, all interventions received relatively high mean scores, indicating a general consensus among respondents regarding their perceived importance. Leadership development programmes for women (mean = 4.50) and mentorship or sponsorship opportunities (mean = 4.40) were ranked highest, suggesting respondents placed value on targeted capacity-building and career support. Interventions such as mental health and wellbeing support and dedicated diversity and inclusion roles or units also received high ratings, underscoring the perceived importance of institutional support structures. Formal mechanisms promoting fairness and accountability, including diversity quotas, standardised promotion criteria, and transparent selection processes, receive strong endorsement. Moderately ranked interventions include safe spaces for reporting discrimination, disability-inclusive environments, and work–life balance policies. Although on-campus childcare, evaluation of non-linear career paths, and accountability mechanisms received lower rankings, their mean values remained relatively high, suggesting recognition of their perceived relevance. Overall, the results suggest that respondents perceive leadership capacity-building, institutional support, and transparent governance as important interventions for advancing women in higher education leadership.

In addition, the Kruskal–Wallis test results presented in Table 2 examine whether perceptions of leadership interventions for advancing women in higher education leadership differ significantly across respondents' highest educational qualifications or employment roles. The results show that none of the leadership interventions exhibit statistically significant differences among staff academic qualifications (bachelor's, master's, and doctoral degree holders) at the 0.05 significance level, as all Asymp. Sig. values exceed the threshold. Although interventions such as leadership development programmes for women (LI1; KWH = 5.458, p = 0.065), mentorship or sponsorship opportunities (LI2; KWH = 4.788, p = 0.091), and accountability mechanisms for discrimination or exclusion (LI13; KWH = 4.967, p = 0.083) show relatively higher test statistics, these differences remain non-significant.

Table 2. Results on interventions for advancing women in higher education leadership.

Code	Leadership Interventions	Mean Value	Rank	Employment Role	DF	Asymp. Sig (*p*)	Qualification KWH	DF	Asymp. Sig (*p*)
LI1	Leadership development programmes for women	4.50	1	2.074	6	0.913	5.458	2	0.065
LI2	Mentorship or sponsorship opportunities	4.40	2	5.057	6	0.537	4.788	2	0.091
LI3	Evaluation criteria accounting for non-linear or interrupted career paths	4.14	11	6.381	6	0.382	1.927	2	0.382
LI4	Quotas or targets for leadership diversity	4.28	5	9.407	6	0.152	1.583	2	0.453
LI5	Access to disability-inclusive environments	4.25	8	4.652	6	0.589	2.154	2	0.341
LI6	Published and standardised promotion and selection criteria	4.27	6	9.903	6	0.129	1.379	2	0.502
LI7	Safe spaces to raise discrimination concerns	4.26	7	10.812	6	0.094	2.907	2	0.234
LI8	Work–life balance policies (e.g., flexible hours, parental leave arrangements)	4.23	9	9.177	6	0.164	1.751	2	0.417
LI9	On-campus childcare or family support services	4.04	13	6.193	6	0.402	2.059	2	0.357
LI10	Transparency in promotion and selection criteria/processes	4.21	10	6.312	6	0.389	1.914	2	0.384
LI11	Mental health and wellbeing support	4.30	3	11.413	6	0.076	4.098	2	0.129
LI12	Dedicated diversity and inclusion roles or units	4.29	4	8.575	6	0.199	3.471	2	0.176
LI13	Accountability mechanisms for discrimination or exclusion	4.12	12	16.711	6	0.010	4.967	2	0.083
			N	107					
			Kendall's Wa	0.038					
			Chi-Square (χ^2)	49.254					
			df	12					
			Asymp. Sig. (*p*)	0.000					

Note: Kruskal–Wallis H = KWH, DF = degrees of freedom, Asymp. Sig = significance level, Wa = Kendall's Coefficient of Concordance, N = Sample size.

Similarly, most leadership interventions do not exhibit statistically significant differences across employment roles. However, accountability mechanisms for discrimination or exclusion (LI13; KWH = 16.711, $p = 0.01$) demonstrate statistically significant differences across staff employment roles. This suggests that respondents in different institutional roles may perceive issues of institutional accountability differently, potentially reflecting variations associated with organisational experience or hierarchical positioning within the university structure. These findings suggest a high degree of consensus across respondents' perceptions of leadership interventions across both employment roles and academic qualifications. This suggests that perceptions of effective leadership intervention are largely shared irrespective of respondents' educational backgrounds or institutional roles.

Furthermore, Table 2 presents the results of Kendall's Coefficient of Concordance assessing the level of agreement among respondents regarding the ranking of leadership interventions. Based on 107 valid responses, Kendall's W value of 0.038 indicates a low level of agreement among respondents in their rankings of the leadership interventions. Despite this low concordance, the chi-square statistic is statistically significant ($\chi^2 = 49.254$, df = 12, $p < 0.001$), indicating that the observed agreement is not attributable to chance. This suggests that although respondents differ in how they prioritise specific leadership interventions, there remains a statistically meaningful pattern in their assessments. These

likely reflect variation in respondents' roles, experiences, and institutional contexts, highlighting the complexity of designing leadership interventions that respond to diverse and intersecting needs and the need for context-relevant interventions.

3.4. Barriers to the Collection and Use of Intersectional Disaggregated Data

Table 3 summarises respondents' perceptions of barriers to collecting and using intersectional disaggregated data for supporting the design and implementation of interventions in advancing women in higher education leadership in Timor-Leste. The highest-ranked barrier is the perceived lack of systems or tools for collecting intersectional data (mean = 4.07), followed closely by limited staff capacity or training (mean = 4.05), indicating that respondents perceive infrastructure and human capability constraints as important. Inconsistent data definitions and lack of leadership support or prioritisation share the third rank (mean = 3.93), suggesting that respondents perceive both clear standards and strong institutional commitment as important factors. Barriers related to concerns about data misuse, privacy and trust issues, and resistance from colleagues are moderately ranked, suggesting that respondents recognise the relevance of ethical and cultural considerations. Barriers related to the sensitivity of identity categories and legal or policy restrictions were ranked lowest, suggesting that respondents perceive these as less restrictive. Overall, the results suggest that respondents perceive limitations in data systems, staff capacity, and leadership support as key barriers affecting the collection and use of intersectional disaggregated data in informing the design and implementation of interventions aimed at advancing women in leadership roles. These constraints may limit an HEI's ability to capture differences across the groups of women to reflect the intersecting identities.

In addition, the Kruskal–Wallis test results presented in Table 3 examine whether respondents' perceptions of barriers to the collection and use of intersectional disaggregated data in informing the design and implementation of interventions for advancing women in higher education leadership differ significantly across educational qualification and employment roles. The results indicate that none of the barriers show statistically significant differences across groups based on educational qualifications at the 0.05 significance level. This finding suggests a general consensus in respondents' perceptions across respondents with varying academic qualifications.

Similarly, most barriers do not exhibit statistically significant differences across employment roles except for the barrier related to the lack of leadership support (B9; KWH = 13.625, $p = 0.03$) that showed a statistically significant difference across roles. This indicates that respondents in different institutional positions may perceive a lack of leadership support differently, potentially reflecting variation in their responsibility, organisational experiences, and hierarchical positioning. This suggests that perceptions of key barriers, including lack of systems, staff capacity, leadership support, and ethical concerns, are broadly shared across qualification levels and employment roles. Overall, the results suggest that respondents' perceptions of key barriers are broadly shared across educational backgrounds and employment roles, with some variations in perceptions of leadership support.

Table 3. Results on barriers to intersectional disaggregated data collection and use in designing and implementing leadership interventions.

Code	Barriers	Mean Value	Rank	Employment Role KWH	DF	Asymp. Sig (p)	Qualification KWH	DF	Asymp. Sig (p)
B1	Lack of systems or tools to collect such data	4.07	1	6.183	6	0.403	2.218	2	0.330
B2	Privacy or trust concerns among staff	3.82	6	8.460	6	0.206	1.914	2	0.384
B3	Resistance from management or colleagues	3.77	7	11.609	6	0.071	3.932	2	0.140
B4	Sensitivity of certain identity categories (e.g., religion, disability, ethnicity)	3.74	8	3.093	6	0.797	1.861	2	0.394
B5	Limited staff capacity or training	4.05	2	11.471	6	0.075	0.929	2	0.628
B6	Fear of misuse or misinterpretation of data	3.84	5	9.570	6	0.144	1.283	2	0.527
B7	Inconsistent data definitions	3.93	3	5.781	6	0.448	1.990	2	0.370
B8	Legal or policy restrictions	3.74	8	6.753	6	0.344	4.808	2	0.090
B9	Lack of leadership support	3.93	3	13.625	6	0.034	3.343	2	0.188
			N	107					
			Kendall's Wa	0.036					
			Chi-Square (χ^2)	30.169					
			df	8					
			Asymp. Sig. (p)	0.000					

Note: Kruskal-Wallis H = KWH, DF = degrees of freedom, Asymp. Sig = significance level, Wa = Kendall's Coefficient of Concordance, N = Sample size.

Furthermore, Table 3 presents the results of Kendall's Coefficient of Concordance(W), which was used to assess the level of agreement among respondents regarding the ranking of barriers. Kendall's W value of 0.036 indicates a low level of agreement among respondents in their rankings of the identified barriers. However, the associated chi-square statistic is statistically significant ($\chi^2 = 30.169$, df = 8, $p < 0.001$), suggesting that the observed level of agreement, although weak, is unlikely to have occurred by chance. This implies that although respondents vary in how they prioritise specific barriers, there is still a statistically meaningful pattern in their assessments. These variations may reflect the diverse perspectives of respondents from different roles, experiences, and institutional contexts, reinforcing the perceived complexity of the challenges associated with the use of intersectional disaggregated data to advance gender equity.

3.5. Enablers of Effective Collection and Use of Intersectional Disaggregated Data

Table 4 summarises respondents' perceptions of the key enablers of the collection and use of intersectional disaggregated data in informing the design and implementation of interventions aimed at advancing women in higher education leadership in Timor-Leste. The highest-ranked enabler is training staff in ethical and inclusive data practices (mean = 4.18), indicating that respondents perceive staff competence and awareness as particularly important. This is followed by using mixed quantitative and qualitative methods (mean = 4.16), suggesting that respondents place value on approaches that capture both statistical trends and lived experiences. Respondents also perceive ethical considerations, including informed consent and privacy protections, and engaging women with diverse lived experiences in tool design as important. Moderately ranked enablers include effective data infrastructure and regular updating of identity categories to reflect lived realities, indicating respondents' recognition of the need for nuanced data structures.

Lower-ranked enablers, such as translating tools into local languages and transparent data sharing, are perceived as less influential, although their mean values remain relatively high. Overall, the results suggest that respondents perceive staff capacity and inclusive methodological approaches and ethical data practices as important factors influencing effective collection and use of intersectional disaggregated data. These enablers may support HEI's ability to capture diverse and overlapping identities of women in their workforce, thereby supporting a more nuanced understanding of inequalities and informing targeted leadership interventions.

Table 4. Enablers of intersectional disaggregated data collection and use in the design and implementation of interventions for advancing women in educational leadership.

Code	Enablers	Mean Value	Rank	Employment Role KWH	DF	Asymp. Sig (*p*)	Qualification KWH	DF	Asymp. Sig (*p*)
E1	Effective data infrastructure	4.02	6	3.866	6	0.695	3.719	2	0.156
E2	Ensuring informed consent and privacy protections	4.10	3	3.011	6	0.807	4.633	2	0.099
E3	Using both quantitative (e.g., HR records) and qualitative (e.g., interviews, stories) methods	4.16	2	1.025	6	0.985	4.266	2	0.118
E4	Engaging women with diverse lived experiences in designing data tools	4.09	4	7.454	6	0.281	4.956	2	0.084
E5	Voluntary, safe, and culturally respectful participation	4.07	5	7.328	6	0.292	7.922	2	0.019
E6	Translating tools/materials into local languages	3.59	9	5.553	6	0.475	14.739	2	0.001
E7	Training staff on ethical, inclusive data practices	4.18	1	2.765	6	0.838	4.019	2	0.134
E8	Regularly updating identity categories to reflect lived realities	3.97	7	5.777	6	0.449	5.281	2	0.071
E9	Sharing data findings transparently and using them for institutional action	3.96	8	7.615	6	0.268	5.086	2	0.079
			N	107					
			Kendall's Wa	0.049					
			Chi-Square (χ^2)	41.905					
			df	8					
			Asymp. Sig.	0.000					

Note: Kruskal-Wallis H = KWH, DF = degrees of freedom, Asymp. Sig = significance level, Wa = Kendall's Coefficient of Concordance, N = Sample size.

In addition, the Kruskal–Wallis test results presented in Table 4 examine whether respondents' perceptions of the enablers differ significantly across respondents' educational qualifications and employment roles. The results indicate that most enablers do not show statistically significant differences across employment roles, suggesting a general consistency in how these factors are perceived across institutional positions.

Similarly, most perceived enablers do not show statistically significant differences across academic qualifications, as their Asymp. Sig. values exceed the 0.05 threshold. However, two enablers demonstrate statistically significant differences across educational groups: voluntary, safe, and culturally respectful participation (E5; KWH = 7.922, $p = 0.019$) and translating tools and materials into local languages (E6; KWH = 14.739, $p = 0.001$). These results suggest that respondents' educational backgrounds may influence how certain enablers are perceived. This variation may reflect differences in experiences, awareness, or engagement, which may shape how inclusivity and accessibility in data practices are understood. Overall, the findings indicate a broad level of consistency across respondents'

perceptions of most enablers, indicating shared views on their importance, with variations emerging primarily for culturally sensitive and context-specific practices.

Furthermore, Table 4 reports the results of Kendall's W test, which assesses the degree of agreement among respondents regarding the ranking of enablers. Kendall's W value of 0.049 indicates a low level of agreement among respondents in their rankings of the enablers. However, the chi-square statistic is statistically significant ($\chi^2 = 41.905$, df = 8, $p < 0.001$), indicating that the observed agreement is unlikely to be due to chance. This suggests that although respondents differ in how they prioritise specific enablers, there is still a statistically meaningful pattern in their assessments. These variations may reflect the diverse perspectives of respondents from different roles, experiences, and institutional contexts, reinforcing the perceived complexity of enabling the effective collection and use of intersectional disaggregated data.

3.6. Correlation Analysis and Hypothesis Validation

Spearman's rank correlation analysis reveals statistically significant and predominantly positive associations between respondents' perceptions of enablers and barriers of intersectional data practices and leadership interventions (see Table 5).

Many leadership interventions show moderate to strong positive correlations with key enablers, indicating that respondents who report higher ratings for enablers for the collection and use of intersectional disaggregated data also tend to report stronger agreement with interventions aimed at advancing women in higher educational leadership (Table 5). Several of these correlations are statistically significant at the 0.01 and 0.05 levels, suggesting the observed associations are unlikely to be due to chance. Similarly, perceived barriers (such as limited capacity, system constraints, or resistance) to the collection and use of intersectional disaggregated data also showed positive though more selective moderate association with leadership interventions. This suggests that respondents who report a high level of barriers tend to report stronger support for leadership interventions aimed at advancing women's leadership in higher education. This pattern may reflect respondents' recognition of the need for interventions where challenges are perceived to be greater.

These results indicate that both perceived enablers and barriers are associated with how respondents perceive the relevance of leadership interventions, underscoring the role of institutional capacity, governance, and organisational context in supporting the collection and use of intersectional disaggregated data to meaningfully inform the design and implementation of interventions to advance women in higher education leadership. Overall, the results provide support for H1, indicating that perceived enablers are associated with perceived leadership interventions, and support H2, indicating that perceived barriers are likewise associated with perceived leadership interventions.

Table 5. Spearman's rank correlations between barriers, enablers and leadership interventions for advancing women in higher education leadership.

	LI1	LI2	LI3	LI4	LI5	LI6	LI7	LI8	LI9	LI10	LI11	LI12	LI13
E1	0.336 **	0.282 **	0.333 **	0.262 **	0.280 **	0.278 **	0.292 **	0.189	0.380 **	0.263 **	0.426 **	0.535 **	0.370 **
E2	0.340 **	0.423 **	0.276 **	0.243 *	0.432 **	0.372 **	0.412 **	0.303 **	0.355 **	0.354 **	0.464 **	0.384 **	0.325 **
E3	0.483 **	0.422 **	0.389 **	0.311 **	0.350 **	0.290 **	0.369 **	0.279 **	0.399 **	0.346 **	0.414 **	0.550 **	0.310 **
E4	0.431 **	0.421 **	0.335 **	0.310 **	0.448 **	0.392 **	0.426 **	0.307 **	0.407 **	0.368 **	0.322 **	0.460 **	0.340 **
E5	0.452 **	0.369 **	0.274 **	0.314 **	0.354 **	0.302 **	0.384 **	0.223 *	0.276 **	00.179	0.416 **	0.441 **	0.254 **
E6	0.123	0.158	0.269 **	0.301 **	0.117	0.236 *	0.284 **	0.232 *	0.176	0.343 **	0.098	0.242 *	0.372 **
E7	0.516 **	0.447 **	0.324 **	0.374 **	0.360 **	0.348 **	0.458 **	0.372 **	0.235 *	0.428 **	0.457 **	0.481 **	0.338 **
E8	0.346 **	0.321 **	0.249 **	0.233 *	0.283 **	0.378 **	0.430 **	0.221 *	0.264 **	0.333 **	0.277 **	0.341 **	0.318 **
E9	0.297 **	0.423 **	0.246 *	0.330 **	0.378 **	0.470 **	0.533 **	0.322 **	0.244 *	0.386 **	0.384 **	0.341 **	0.414 **
B1	0.283 **	0.270 **	0.215 *	0.268 **	0.313 **	0.262 **	0.339 **	0.206 *	0.274 **	0.206 *	0.387 **	0.331 **	0.179
B2	0.227 *	0.292 **	0.230 *	0.213 *	0.252 **	0.465 **	0.404 **	0.164	0.375 **	0.276 **	0.253 **	0.284 **	0.270 **
B3	0.230 *	0.229 *	0.235 *	0.199 *	0.208 *	0.425 **	0.354 **	0.183	0.300 **	0.296 **	0.130	0.338 **	0.244 *
B4	0.171	0.157	0.323 **	0.220 *	0.281 **	0.348 **	0.285 **	0.129	0.375 **	0.208 *	0.300 **	0.341 **	0.298 **
B5	0.318 **	0.357 **	0.181	0.283 **	0.340 **	0.309 **	0.370 **	0.326 **	0.407 **	0.323 **	0.392 **	0.425 **	0.305 **
B6	0.253 **	0.197 *	0.051	0.135	0.255 **	0.320 **	0.287 **	0.017	0.304 **	0.023	0.164	0.261 **	0.080
B7	0.101	0.153	0.150	0.187	0.289 **	0.273 **	0.313 **	0.193 *	0.305 **	0.274 **	0.241 *	0.291 **	0.139
B8	0.093	0.156	0.126	0.252 **	0.273 **	0.326 **	0.202 *	0.192 *	0.282 **	0.352 **	0.200 *	0.269 **	0.267 **
B9	0.327 **	0.371 **	0.127	0.232 *	0.289 **	0.339 **	0.300 **	0.258 **	0.425 **	00.183	0.321 **	0.441 **	0.158

Note: N = 107; ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

4. Discussion

The study suggests that gender disaggregated data alone may be insufficient to inform effective leadership interventions aimed at advancing women in higher education leadership. Respondents perceive that interventions for advancing women in higher education leadership should consider additional dimensions such as disability, caregiving responsibilities, language, alongside academic qualifications and employment roles, thereby highlighting the relevance of intersectional disaggregated data in capturing these differences (Collins, 2019; Harris & Leonardo, 2018). In line with intersectionality theory, these findings highlight the importance of recognising that women are not a homogeneous group, and that leadership interventions may need to account for multiple, intersecting identities (Collins, 2019; Harris & Leonardo, 2018). Such an approach, however, requires the availability of intersectional disaggregated data. This study thus examined respondents' perception of barriers and enablers influencing the collection and use of intersectional disaggregated data, and their association with perceived leadership interventions aimed at advancing women in higher education leadership in Timor-Leste. By capturing perspectives from respondents of different genders, academic qualifications, career stages/employment roles, and leadership trajectories, the study reflects a range of the HEIs' experiences in Timor-Leste. However, these findings should be interpreted as perceptions rather than objective measures of institutional practice.

The results highlight that respondents place particular importance on leadership development programmes and mentorship and sponsorship opportunities for women. This aligns with existing literature highlighting the continuing gender gap in leadership positions across sectors, including higher education (Gallegos et al., 2025; Meza-Mejia et al., 2023). Previous studies suggest that leadership development programmes designed specifically for women may enhance their leadership competencies, confidence, and access to career advancement, opportunities which could help to address structural and cultural barriers that often impede women's progression into senior roles (Chanda & Ngulube, 2024; Clarke, 2011). Mentorship and sponsorship opportunities have been associated with increased visibility and access to opportunities, especially for underrepresented groups (Bishop, 2024; Mbatha et al., 2025; Seibert et al., 2001). These interventions are perceived as important because they can be tailored to address the diverse and context-specific needs of different groups of women in the Timor Leste HEI workforce.

Beyond capacity building interventions, respondents also perceive mental health, wellbeing support, and the presence of dedicated diversity and inclusion roles or units as important. These findings are consistent with previous studies highlighting the role of organisational climates and psychological safety and institutional commitment in supporting gender equity-oriented practice (Adanlawo et al., 2025; Pandey et al., 2025). Similarly, the establishment of dedicated diversity and inclusion roles or units may support embedding equity considerations into institutional structures, processes and data governance and accountability systems (Gidage, 2025; Moreno et al., 2024). These units often serve as institutional anchors for monitoring equity outcomes, facilitating training, and ensuring accountability, thereby reinforcing the embedding of intersectional data practices into policy and governance systems (Abdu Suleiman & Saxena, 2024). Such institutional structures may be important in supporting the systematic collection and use of data that reflects diverse identities and experiences, informing the design and implementation of context-relevant interventions aimed at advancing women in higher education leadership.

With respect to barriers, respondents identified the lack of systems or tools for collecting intersectional data, limited staff capacity or training, inconsistent data definitions, and lack of leadership support or prioritisation as key constraints. These findings align with existing literature documenting the challenges in operationalising intersectional data prac-

tices (Crimmins et al., 2023; Dawson et al., 2023; Hankivsky et al., 2014). Traditional data systems often lack the infrastructure needed to capture multi-dimensional identity markers that intersectional analysis requires (Hannan et al., 2025; Rocha et al., 2025) Moreover, scholars have highlighted that data gaps persist not only because of technical limitations but also because organisations often lack standardised frameworks for collecting intersectional data, leading to inconsistent definitions and metrics across contexts (Acev et al., 2025; Bernardo et al., 2024).

These structural and capacity-related barriers appear to be closely associated with leadership commitment. Respondents' perceptions suggest that without leadership prioritisation, efforts to improve data systems and staff capacity may remain limited. This resonates with literature in higher education research indicating that institutional commitment is essential for central to embedding intersectionality within organisational practices and policies (Bentley et al., 2023; Gul et al., 2025; Harris & Leonardo, 2018; Mbachu et al., 2024; Price, 2025; Silva & Mendis, 2017). Furthermore, quantitative research on intersectionality consistently underscores difficulties in operationalising intersectional frameworks due to limitations in data collection and methodology, which often stem from a lack of organisational emphasis on intersectional equity as a priority (Dawson et al., 2023; Harari & Lee, 2021). These findings suggest that technical, organisational, and leadership-related factors are interconnected in shaping the use of intersectionally disaggregated data.

For enablers, respondents perceive staff training on ethical, inclusive data practices, the use of mixed methods approaches, and the implementation of ethical safeguards such as informed consent and privacy protections as particularly important. The findings align with previous research emphasising the need for methodological and ethical approaches capable of capturing complex and sensitive identity data (Alghamdi et al., 2023; Bauer et al., 2021; Michali et al., 2025). The use of mixed methods approaches, combining quantitative (e.g., HR records) and qualitative (e.g., interviews, stories) data, also reflects established best practices in intersectional research. Quantitative data alone may fail to capture the lived experiences and nuanced mechanisms through which intersecting identities influence outcomes; qualitative methods provide contextual depth that enriches statistical patterns (Alghamdi et al., 2023). This combined approach has been recommended in intersectional data guides to validate and deepen insights drawn from disaggregated quantitative data, helping to ensure that minority or under-represented groups are not rendered invisible in analysis (Evans et al., 2024). Moreover, ensuring informed consent and privacy protections is critical in intersectional research, where sensitive identity markers may expose individuals to harm or re-identification if mishandled (Budin-Ljøsne et al., 2017; Pascale et al., 2022). Dynamic consent models and ethical safeguards have been proposed to support participant autonomy and trust, enabling richer data collection while upholding rights and ethical standards (Budin-Ljøsne et al., 2017).

The statistical analyses further reinforce these findings. The Kendall and Kruskal–Wallis test results suggest general consistency in respondents' perception across different groups, including some variation in how specific barriers and enablers are prioritized. Spearman's correlation analysis results indicate that respondents' perceptions of enablers are associated with leadership interventions. Specifically, respondents who report higher ratings of enablers and barriers also tend to report stronger agreement with leadership interventions. These associations reflect perceived relationships. The findings highlight the importance of institutional conditions in shaping how data practices are understood and valued within higher education contexts. The results suggest that strengthening intersectional disaggregated data practices may help to inform more context-sensitive leadership interventions aimed at achieving meaningful and sustainable advancement of women in higher education leadership in Timor-Leste.

Implications of Study

The findings have implications for higher education policy and institutional governance in Timor-Leste in relation to how they approach the collection and use of intersectional disaggregated data in informing the design and implementation of leadership interventions. The results suggest that institutions may need to move beyond reliance on aggregated gender data and consider strengthening systems for collecting and using intersectionally disaggregated data. The study findings must be understood within the Timor-Leste higher education context, where leadership pathways, qualification requirements and data infrastructure are still developing. Respondents' perceptions of barriers, including the lack of systems or tools for intersectional data collection, limited staff capacity, inconsistent data definitions, and the absence of leadership prioritisation, indicate potential gaps in institutional readiness to support such practices. These barriers may limit the collection and analysis of intersectional data and highlight deeper structural gaps in organisational infrastructure and human resource capabilities.

From a policy perspective, this suggests that strategies to advance women in higher education leadership may benefit from investments in data infrastructure, staff training, and frameworks that support ethical and inclusive data practices. Without such infrastructure leadership interventions, institutions risk undermining efforts to identify and respond to intersecting inequities affecting women's advancement in leadership. Leadership commitment appears to be particularly important in signalling institutional priorities and supporting the integration of intersectional approaches into strategic planning and decision-making processes.

Furthermore, design and implementation of leadership interventions such as training programmes, mentorship and sponsorship schemes, and diversity and inclusion roles/units may be more effective when informed by data that captures differences across groups of women. This implies a need for institutions to develop the capacity to collect, analyse, and use such data responsibly. The identified enablers, such as training staff on ethical, inclusive data practices, adopting mixed methods approaches, ensuring informed consent and privacy protections, offer potential pathways for strengthening organisational culture and practice in intersectional data use. Staff training, mixed method approaches and data infrastructure may enhance how intersectional data is collected and used, offering nuanced contextual insights towards effective leadership interventions. Training on ethical practices is crucial for building trust and enabling inclusive data collection processes among staff, particularly when sensitive identity categories are involved. Importantly, the prominence of leadership development programmes, mentorship and sponsorship, wellbeing support, and dedicated diversity and inclusion roles underscores the necessity of embedding intersectional data within broader leadership and wellbeing strategies.

These interventions suggest a shift from "one size fits all" to robust pragmatic and tailor-made strategies, where leadership plays an active role in framing gender equity as an institutional priority. These approaches may contribute to more inclusive and context-sensitive strategies for advancing women's leadership. Collectively, these results suggest that advancing women in higher education leadership through intersectional data may require integrated approaches that combine improvement in systems, enhancing capability, and cultivating inclusive leadership commitment. These findings reflect respondents' perceptions of factors influencing the collection and use of intersectional disaggregated data, including leadership interventions, barriers, and enablers within higher education institutions.

5. Conclusions

This study examined the respondents' perception of the barriers and enablers influencing the collection and use of intersectional disaggregated data and their association with perceived leadership interventions aimed at advancing women in higher education leadership. Focusing on Timor-Leste, the study provides empirical insights into perceived barriers, enablers, and leadership interventions within HEIs. The findings suggest that respondents perceive effective leadership interventions for women as requiring consideration of multiple dimensions, such as disability, language, caregiving responsibilities, in addition to academic qualifications and employment roles. This highlights the perceived relevance of intersectional disaggregated data in capturing differences across groups of women. Respondents identified key barriers to the collection and use of such data, including the perceived lack of systems or tools for collecting intersectional data, limited staff capacity or training, inconsistent data definitions, and lack of leadership support or prioritisation. These findings suggest that challenges related to infrastructure, capacity, and institutional commitment may constrain the collection and use of intersectional disaggregated data in informing leadership interventions for advancing women in higher education leadership.

Furthermore, the study highlights the critical role of enablers, including staff training in ethical and inclusive data practices, the use of mixed quantitative and qualitative methods, and robust consent and privacy protections. These factors were perceived by respondents to support the quality and credibility of intersectional data and more inclusive and context-sensitive data practices. Leadership development programmes, mentorship and sponsorship opportunities, mental health and wellbeing support, and dedicated diversity and inclusion roles or units were perceived as important interventions for advancing women in leadership. Ultimately, advancing women in higher education leadership towards achieving gender equity in universities requires coordinated investments in data systems, human capacity, and leadership commitment to ensure that women and their intersecting identities are recognised, valued, and supported. The study also identified statistically significant associations between respondents' perceptions of enablers, barriers, and leadership interventions. These findings suggest that institutional conditions and practices may shape how respondents perceive the relevance of leadership interventions and the use of intersectional data. This underscores the importance of organisational capacity, governance structures, and institutional context in supporting data practices that reflect diverse and intersecting identities. This study also contributes to the literature by identifying perceived institutional conditions, reported barriers and enablers and perceived mechanisms through which intersectional data may inform leadership-related interventions in the HEI context. It also provided empirical insights into the perceived associations between enablers and barriers affecting intersectional disaggregated data practices and leadership interventions within a higher education context.

While the study has several contributions, it also has its limitations. The study is situated within the context of Timor-Leste; the findings may offer relevant insights for other contexts with similar institutional and policy environments, particularly where gender equity in leadership remains an ongoing challenge. It will also be relevant to countries where there is near or equal representation of women in higher education leadership, yet a lack of meaningful responsibilities at leadership levels in higher education institutions. However, the transferability of these findings should be considered cautiously, given contextual differences across higher education systems. Furthermore, the study is based on self-reported survey data and therefore findings reflect respondents' perceptions rather than objective measures of institutional practice. It also does not measure women's leadership outcomes. The analysis is correlational, identifying perceived associations rather than causal effects.

Building on the results of this study, future research could extend the study by examining how intersectional data practices are implemented within institutional governance structures and by exploring how different intersectional dimensions shape leadership experiences and interventions. Comparative studies across countries or institution types may further provide insights into how contextual factors such as political, cultural, or governance environments shape intersectional data practices. Additionally, qualitative research could provide deepen understanding into how leadership commitment, trust, ethics, and power dynamics influence engagement with intersectional data practices. Together, these directions would further strengthen theoretical development and provide more actionable evidence for operationalizing intersectionality as a strategy for advancing women in higher education leadership.

Author Contributions: Conceptualization, L.I.O. and H.B.d.S.; methodology, L.I.O., E.D., N.U., E.F.P. and H.B.d.S.; software, H.B.d.S. and E.F.P.; validation, L.I.O., H.B.d.S. and E.F.P.; formal analysis, H.B.d.S., E.F.P. and E.D.; investigation, H.B.d.S. and E.F.P.; writing—original draft preparation, L.I.O., N.U. and H.B.d.S.; writing—review and editing, L.I.O., N.U., E.D. and H.B.d.S.; visualisation, N.U., H.B.d.S., E.F.P. and E.D.; supervision, L.I.O. and N.U.; project administration, L.I.O.; funding acquisition, L.I.O. and H.B.d.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by British Council and SEAMEO RIHED grant number 06/2025.

Institutional Review Board Statement: The research discussed in this paper received ethical approval from Leeds Trinity University ethics and Integrity approval committee. Approval number: (2024-FBCDI-STA-0193 18 July 2025) and Dili Institute of Technology Ethics Committee.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data available upon request due to restrictions placed on participant privacy; however, segments of the data can be requested by contacting the corresponding author.

Acknowledgments: During the preparation of this manuscript, the authors used ChatGPT (OpenAI) GPT-4o for the purposes of language editing grammar, structure, spelling, punctuation, formatting and improving clarity. The authors have reviewed and edited the output and take full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest.

References

Abdu Suleiman, U., & Saxena, P. (2024). The influence of cultural diversity on core HR functions within nigeria public sector. *International Journal of Religion*, *5*, 69–89. [CrossRef]

Acev, D., Biyani, S., Rieder, F., Aldenhoff, T. T., Blazevic, M., Riehle, D. M., & Wimmer, M. A. (2025). Systematic analysis of data governance frameworks and their relevance to data trusts. *Management Review Quarterly*. Advanced online publication. [CrossRef]

Adanlawo, E. F., Nkomo-Asare, N. Y., & Xaba, F. (2025). The influence of psychological safety on employee engagement: Sustainable development goals (SDGs) context. *Journal of Lifestyle and SDGs Review*, *5*(8), e7282. [CrossRef]

Adedokun, T., Awung, F. N., Usadolo, S. E., & Mheta, G. (2025). Language teaching and inequality issues in the use of technology in higher education: A sociological approach. *Journal of African Languages & Literary Studies (JoALLS)*, *6*(3), 71–96.

Aithal, A., & Aithal, P. (2020). Development and validation of survey questionnaire & experimental data—A systematical review-based statistical approach. *International Journal of Management, Technology, and Social Sciences (IJMTS)*, *5*(2), 233–251.

Alghamdi, N. A., Dunn, K., Cairns, D., & Melville, C. (2023). Utilising quantitative methods to study the intersectionality of multiple social disadvantages in women with common mental disorders: A systematic review. *International Journal for Equity in Health*, *22*(1), 264. [CrossRef]

Alharthi, F. B. (2024). Gender differences in perceptions of leadership and their influence on motivation among faculty members of Taif University. *Frontiers in Psychology*, *15*, 1476526. [CrossRef]

Alshdiefat, A. a. S., Lee, A., Sharif, A. A., Rana, M. Q., & Abu Ghunmi, N. A. (2024). Women in leadership of higher education: Critical barriers in Jordanian universities. *Cogent Education*, *11*(1), 2357900. [CrossRef]

Asia Research Centre, Universitas Indonesia. (2022). *Gender equality, diversity & inclusion in higher education in ASEAN*. Available online: https://arc.ui.ac.id/publikasi/gender-equality-diversity-and-inclusion-in-higher-education-in-asean/ (accessed on 16 December 2025).

Asriati, A. (2025). The role of leadership in fostering diversity and inclusion: Insights from existing literature. *Golden Ratio of Data in Summary*, *5*(2), 217–228. [CrossRef]

Ayenalem, K. A., & Taye, M. T. (2025). Women leadership in higher education: A comparative systematic review of participation and barriers in Ethiopia and beyond. *Discover Education*, *4*(1), 378. [CrossRef]

Barling, J., & Barling, J. (2014). Gender and leadership. In *The science of leadership: Lessons from research for organizational leaders*. Oxford University Press.

Bauer, G. R., Churchill, S. M., Mahendran, M., Walwyn, C., Lizotte, D., & Villa-Rueda, A. A. (2021). Intersectionality in quantitative research: A systematic review of its emergence and applications of theory and methods. *SSM-Population Health*, *14*, 100798. [CrossRef]

Bentley, C., Muyoya, C., Vannini, S., Oman, S., & Jimenez, A. (2023). Intersectional approaches to data: The importance of an articulation mindset for intersectional data science. *Big Data & Society*, *10*(2), 20539517231203667. [CrossRef]

Bernardo, B. M. V., São Mamede, H., Barroso, J. M. P., & Dos Santos, V. M. P. D. (2024). Data governance & quality management—Innovation and breakthroughs across different fields. *Journal of Innovation & Knowledge*, *9*(4), 100598. [CrossRef]

Bhopal, K., & Henderson, H. (2019). *Advancing equality in higher education: An exploratory study of the Athena SWAN and Race equality charters*. British Academy/Leverhulme Research Report. Centre for Research in Race and Education (CRRE).

Bishop, J. R. (2024). The impact of social capital on overcoming systemic barriers and lack of benefit of the doubt for black women in leadership: Insights from Kamala Harris's presidential campaign. *Business Ethics and Leadership*, *8*(4), 123–136. [CrossRef]

British Council. (2024). *Status of gender equality in higher education sector: An East Asia scoping study*. Available online: https://www.britishcouncil.org/research-insight/gender-scoping-study-east-asia (accessed on 24 April 2026).

Budin-Ljøsne, I., Teare, H. J., Kaye, J., Beck, S., Bentzen, H. B., Caenazzo, L., Collett, C., D'Abramo, F., Felzmann, H., Finlay, T., Javaid, M. K., Jones, E., Katić, V., Simpson, A., & Mascalzoni, D. (2017). Dynamic consent: A potential solution to some of the challenges of modern biomedical research. *BMC Medical Ethics*, *18*(1), 4. [CrossRef]

Callender, C., & Dougherty, K. J. (2018). Student choice in higher education—Reducing or reproducing social inequalities? *Social Sciences*, *7*(10), 189. [CrossRef]

Campbell, S., Greenwood, M., Prior, S., Shearer, T., Walkem, K., Young, S., Bywaters, D., & Walker, K. (2020). Purposive sampling: Complex or simple? Research case examples. *Journal of Research in Nursing*, *25*(8), 652–661. [PubMed]

Chanda, T., & Ngulube, L. (2024). Women in leadership: Examining barriers to women's advancement in leadership positions. *Asian Journal of Advanced Research and Reports*, *18*, 273–290. [CrossRef]

Clarke, M. (2011). Advancing women's careers through leadership development programs. *Employee Relations*, *33*(5), 498–515.

Collins, P. H. (2019). Intersectionality as critical social theory. In *The Cambridge handbook of social theory*. Duke University Press.

Correa, A., Glas, M. G., & Opara, J. (2025). Females in higher education and leadership: Insights from a multi-method approach. *Frontiers in Education*, *9*, 1485395. [CrossRef]

Crenshaw, K. W. (1989). *Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine* (pp. 139–168). University of Chicago Legal Forum.

Crimmins, G., Casey, S., & Tsouroufli, M. (2023). Intersectional barriers to women's advancement in higher education institutions rewarded for their gender equity plans. *Gender and Education*, *35*(6–7), 653–670. [CrossRef]

Dawson, H., Lybcg, I., Mhlana, S., & Mokhema, S. (2023). *Intersectionality in action: Learnings, challenges & recommendations from IDRC-supported research in the global south*. Intersectionality Synthesis Report. Southern Centre for Inequality Studies, University of the Witwatersrand. Available online: https://hdl.handle.net/10539/41458 (accessed on 12 January 2026).

Eagly, A. H., Carli, L. L., & Carli, L. L. (2007). *Through the labyrinth: The truth about how women become leaders* (Vol. 11). Harvard Business School Press.

Evans, C. R., Leckie, G., Subramanian, S. V., Bell, A., & Merlo, J. (2024). A tutorial for conducting intersectional multilevel analysis of individual heterogeneity and discriminatory accuracy (MAIHDA). *SSM-Population Health*, *26*, 101664. [CrossRef] [PubMed]

Fitzgerald, T. (2013). *Women leaders in higher education: Shattering the myths*. Routledge.

Fraser, J., Fahlman, D., Arscott, J., & Guillot, I. (2018). Pilot testing for feasibility in a study of student retention and attrition in online undergraduate programs. *International Review of Research in Open and Distributed Learning*, *19*(1), 260–278. [CrossRef]

Gaikwad, H., & Pandey, S. (2026). From management to leadership: A comparative analysis of leadership styles among women in academic hierarchies. *Cogent Business & Management*, *13*(1), 2597708. [CrossRef]

Gallegos, A., Londoño-Celis, W., Rodríguez Zavala, L., Mendiaz, M. G., & Teodori de la Puente, R. (2025). Analysis of female leadership trends in the context of higher education. *Cogent Education*, *12*(1), 2486667. [CrossRef]

Gallifant, J., Kistler, E. A., Nakayama, L. F., Zera, C., Kripalani, S., Ntatin, A., Fernandez, L., Bates, D., Dankwa-Mullan, I., & Celi, L. A. (2023). Disparity dashboards: An evaluation of the literature and framework for health equity improvement. *The Lancet Digital Health*, *5*(11), e831–e839. [CrossRef]

Galsanjigmed, E., & Sekiguchi, T. (2023). Challenges women experience in leadership careers: An integrative review. *Merits*, *3*(2), 366–389. [CrossRef]

Gander, M., & Sharafizad, F. (2025). Progressing gender equity in senior leadership: A systematic literature review. *Gender in Management*, *40*(2), 352–369. [CrossRef]

Ghundol, B., & Muthanna, A. (2025). Perceptions and experiences of female academics on barriers in obtaining and continuing leadership roles at higher education. *International Journal of Educational Research*, *130*, 102534. [CrossRef]

Gidage, M. (2025). Exploring the impact of diversity, equity and inclusion on ESG performance: Evidence from Indian organizations. *Benchmarking: An International Journal*, 1–36. [CrossRef]

Gul, S., Fatima, B., & Akhtar, N. (2025). Gender equality in education: Addressing structural barriers and social norms Asian context. *The Critical Review of Social Sciences Studies*, *3*(1), 2839–2854.

Hankivsky, O., Grace, D., Hunting, G., Giesbrecht, M., Fridkin, A., Rudrum, S., Ferlatte, O., & Clark, N. (2014). An intersectionality-based policy analysis framework: Critical reflections on a methodology for advancing equity. *International Journal for Equity in Health*, *13*(1), 119. [CrossRef] [PubMed]

Hannan, R., Lafferty, N., & Mannix-McNamara, P. (2025). Gendered perceptions of diversity in educational leadership promotions in Irish schools: A quantitative study. *Education Sciences*, *15*(10), 1323. [CrossRef]

Harari, L., & Lee, C. (2021). Intersectionality in quantitative health disparities research: A systematic review of challenges and limitations in empirical studies. *Social Science & Medicine*, *277*, 113876. [CrossRef]

Hariadi, H., Alamsyah, N., & Yayat, Y. (2024). Intersectional Barriers to Gender Inequality in the Workplace across Race and Disability. *Journal Social Civilecial*, *2*(1), 44–52. [CrossRef]

Harris, A., & Leonardo, Z. (2018). Intersectionality, race-gender subordination, and education. *Review of Research in Education*, *42*(1), 1–27. [CrossRef]

Harrison, J. S., & Wicks, A. C. (2013). Stakeholder theory, value, and firm performance. *Business Ethics Quarterly*, *23*(1), 97–124. [CrossRef]

Harrison, T., & Freeman, J. (2025). *Who leads our universities? Inside the recruitment of vice-chancellors*. HEPI Policy Note 63. Higher Education Policy Institute.

Heyes, K., Brahic, B., Ramnund-Mansingh, A., Ingram, N., Arun, S., & Seedat-Khan, M. (2023). "I cannot fall pregnant!": Unequal bodies in South African higher education. *Girlhood Studies*, *16*(1), 71–86. [CrossRef]

Hussain, S., & Hussein, N. (2025). Minoritised migrant women in academia as translocational outsiders within: An analysis of four structures of exhaustion. *Educational Review*. Advanced online publication. [CrossRef]

Ivanov, B. (2024). Intersectionality of gender, race, class, sexuality, disability and other social identities in shaping the experiences and opportunities of marginalized groups in Ukraine. *International Journal of Gender Studies*, *9*, 61–74. [CrossRef]

Kray, L. J., Mishra, S., Townsend, C. H., & Kennedy, J. A. (2025). Psychological drivers of gender disparities in leadership paths. *Trends in Cognitive Sciences*. Advanced online publication. [CrossRef]

Laki, R. C., & Badon, B. O. (2024). A systematic review on the impact of gender equity on educational leadership. *European Journal of Science, Innovation and Technology*, *4*(3), 58–67. [CrossRef]

Liani, M. L., Nyamongo, I. K., Pulford, J., & Tolhurst, R. (2021). Enablers of gender equitable scientific career progression in Sub-Saharan Africa: Insights from the DELTAS Africa Initiative. *AAS Open Research*, *4*, 42. [CrossRef]

Makhanya, M. T. B. (2024). Perspective chapter: Examining the intersecting connections between intersectionality and socioeconomic inequality. In *Bridging social inequality gaps-concepts, theories, methods, and tools*. IntechOpen.

Mbachu, C., Agwu, P., Obi, F., & Onwujekwe, O. (2024). Understanding and bridging gaps in the use of evidence from modeling for evidence-based policy making in Nigeria's health system. *MDM Policy & Practice*, *9*(1), 23814683231225658.

Mbatha, T., van Rensburg, N. J., & Morris-Eyton, H. (2025). A systematic review investigating mentorship programmes for women in coaching and leadership roles in sport. *International Journal of Sports Science & Coaching*, *20*(4), 1731–1748.

Meda, R., Yusof, M. M., & Azman, A. (2025). Organisational frameworks and intersectional obstacles: Investigating gender inequality in higher education. *Research Square*. [CrossRef]

Meyer, C., & Baogui, D. (2025). Examining the gender gap in STI policy: Addressing factors contributing to women's underrepresentation. *Sage Open*, *15*(1), 21582440251320769. [CrossRef]

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. [CrossRef]

Michali, M., Ampatzoglou, A., Karachaliou, E., Malerou, K., Karamanidis, S., Argyropoulou, L., Hadjipavlou-Litina, D., & Vakali, A. (2025). The challenges of diversity and equality data in academic and research organisations. In *Scientific excellence and equality at university* (pp. 110–126). Routledge.

Ministry of Education Youth and Sports. (2022). *Annual report on gender representation in higher education institutions*. Government of Timor-Leste.

Morales, C. J. (2019). *Intersectionality: Engaging the epistemology of leadership theory*. Antioch University.

Moreno, J. V., Marshall, D. R., Girard, A., Mitchell, N. M., Minissian, M. B., & Coleman, B. (2024). An organizational commitment to diversity, equity, inclusion, and justice: A multipronged strategic approach. *Nursing Administration Quarterly*, *48*(1), 33–48. [CrossRef]

Morley, L. (2010). Gender equity in higher education: Challenges and celebrations. *International Encyclopedia of Education*, *2*(3), 629–635.

Morley, L. (2014). Lost leaders: Women in the global academy. *Higher Education Research & Development*, *33*(1), 114–128. [CrossRef]

Mousa, M., Skouteris, H., Boyle, J. A., Currie, G., Riach, K., & Teede, H. J. (2022). Factors that influence the implementation of organisational interventions for advancing women in healthcare leadership: A meta-ethnographic study. *eClinicalMedicine*, *51*, 101514. [CrossRef]

Mügge, L., Montoya, C., Emejulu, A., & Weldon, S. (2018). Intersectionality and the politics of knowledge production. *European Journal of Politics and Gender*, *1*, 17–36. [CrossRef]

Mwanza, P. M. (2024). A Equity-focused monitoring and evaluation and performance of school-based health projects. *The African Journal of Monitoring and Evaluation*, *2*(1), 99–121. [CrossRef]

Mweha, M. (2025). Breaking barriers or reinforcing inequalities? A systematic review of women's economic empowerment and financial inclusion initiatives in Zimbabwe (2020–2025): Policy gaps, feminist perspectives, and pathways to inclusive growth. *International Journal of Latest Technology in Engineering Management & Applied Science*, *14*, 462–482. [CrossRef]

Nikghadam-Hojjati, S., Marchetti, E., Gustavsson, M., Ferrada, F., Oliveira, A. I., Halvarsson Lundqvist, A., Eriksson, A. F., Matei, O., Barata, J., Kalateh, S., Božić, N., Stojanova, S., Daoudagh, S., & Kalateh, S. (2025). Gender-responsive research and innovation: Issues and initiatives. *Sustainability*, *17*(13), 6215. [CrossRef]

Niner, S. L., & Loney, H. (2020). The women's movement in Timor-Leste and potential for social change. *Politics & Gender*, *16*(3), 874–902.

Okonta, V., & Nkedishu, V. (2024). Gender disparity in principal officers' positions in Nigerian universities: Implications for educational planners and administrators. *International Journal of Education, Learning and Development*, *12*(4), 16–37. [CrossRef]

Okoronta, I., & Kylymnyuk, D. (2024). Workplace gender inequality: Assessing intersectional barriers experienced by women of colour in reaching upper management positions in the workplace. *International Studies Journal*, *8*, 126–135.

Pandey, A., Maheshwari, M., & Malik, N. (2025). A systematic literature review on employee well-being: Mapping multi-level antecedents, moderators, mediators and future research agenda. *Acta Psychologica*, *258*, 105080. [CrossRef]

Pascale, J., Lineback, J. F., Bates, N., & Beatty, P. (2022). Protecting the identity of participants in qualitative research. *Journal of Survey Statistics and Methodology*, *10*(3), 549–567. [CrossRef]

Paustian-Underdahl, S., Sockbeson, C., Hall, A., & Halliday, C. (2024). Gender and evaluations of leadership behaviors: A meta-analytic review of 50 years of research. *The Leadership Quarterly*, *35*, 101822. [CrossRef]

Potter, L., Zawadzki, M. J., Eccleston, C. P., Cook, J. E., Snipes, S. A., Sliwinski, M. J., & Smyth, J. M. (2019). The intersections of race, gender, age, and socioeconomic status: Implications for reporting discrimination and attributions to discrimination. *Stigma and Health*, *4*(3), 264. [CrossRef]

Pranitasari, D., & Sarmento, M. A. L. (2024). Analysis of women's behavior and work ethic at the national level in Timor-Leste: Achieving leadership and gender equality. *Jurnal Ecoment Global*, *9*(3), 209–226. [CrossRef]

Price, C. (2025). Bringing intersectionality to the forefront: A call for transformation in UK inclusive education. *International Journal of Inclusive Education*. Advanced online publication. [CrossRef]

Qablan, A., Tairab, H., Alkaabi, A., Opoku, M., & Takriti, R. (2025). Student attraction, persistence and retention in university STEM fields: Successes and challenges. *Cogent Education*, *12*(1), 2498636. [CrossRef]

Richardson, A. (2021). *The impact of interlocking systems of oppression on the leadership and decision-making experiences of Black women in executive-level leadership positions at predominantly white public research institutions in the United States* [Ph.D. thesis, Clemson University].

Rocha, M., Abreu, S., & Baptista, N. (2025). Gender inequality in leadership positions: A literature review. In M. Saremi (Ed.), *Proceedings book of the world women studies conference-VIII, Antalya, Türkiye, 7–8 March 2025*. Liberty Academic Publishers.

Rosa, R., & Clavero, S. (2022). Gender equality in higher education and research. *Journal of Gender Studies*, *31*, 1–7. [CrossRef]

Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal*, *44*(2), 219–237. [CrossRef]

Shen, W., & Joseph, D. (2020). Gender and leadership: A criterion-focused review and research agenda. *Human Resource Management Review*, *31*, 100765. [CrossRef]

Showunmi, V. (2020). The Importance of intersectionality in higher education and educational leadership research. *Journal of Higher Education Policy And Leadership Studies*, *1*, 46–63. [CrossRef]

Showunmi, V. (2023). Visible, invisible: Black women in higher education. *Frontiers in Sociology*, *8*, 974617. [CrossRef]

Silva, D. A. C., & Mendis, K. (2017). Male vs. female leaders: Analysis of transformational, transactional & laissez-faire women leadership styles. *European Journal of Business and Management*, *9*, 19–26.

UN Women & The ASEAN Secretariat. (2024). *ASEAN gender outlook*. Available online: https://data.unwomen.org/publications/asean-gender-outlook-2024 (accessed on 29 December 2025).

Usmani, U. (2025). Education policy and social equity analyzing: The right to education act among marginalized communities. *International Journal of Research Publication and Reviews*, *6*, 1283–11291. [CrossRef]

Varsik, S., & Gorochovskij, J. (2023). *Intersectionality in education: Rationale and practices to address the needs of students' intersecting identities* (pp. 1–95). OECD Education Working Papers No. 302. OECD. [CrossRef]

Winchester, H. P., & Browning, L. (2015). Gender equality in academia: A critical reflection. *Journal of Higher Education Policy and Management*, *37*(3), 269–281. [CrossRef]

World Economic Forum. (2024). *The global gender gap report 2024*. Available online: https://www.weforum.org/publications/global-gender-gap-report-2024/ (accessed on 11 May 2026).

Wulandari, W. R., & Ahmad, N. (2025). The influence of women's leadership policy on challenges and opportunities in the digital age. *Journal of Human Rights, Culture and Legal System*, *5*(1), 124–157. [CrossRef]

Yumarni, T. (2025). Gender equality and social inclusion twin-track approach: Institutional weaknesses and promising practices for post-eruption recovery in Lumajang, Indonesia. *Journal of Contemporary Governance and Public Policy*, *6*(2), 157–188. [CrossRef]

Zeinali, Z., Muraya, K., Molyneux, S., & Morgan, R. (2021). The use of intersectional analysis in assessing women's leadership progress in the health workforce in LMICs: A review. *International Journal of Health Policy and Management*, *11*(8), 1262. [CrossRef] [PubMed]

Zembylas, M. (2025). Bringing intersectionality and (De)Coloniality into dialogue: Theoretical insights and political pathways for decolonizing higher education. *Social Sciences & Humanities Open*, *12*, 101772. [CrossRef]

Zhao, X., Wider, W., Jiang, L., Fauzi, M. A., Tanucan, J. C. M., Lin, J., & Udang, L. N. (2024). Transforming higher education institutions through EDI leadership: A bibliometric exploration. *Heliyon*, *10*(4), e26241. [CrossRef]