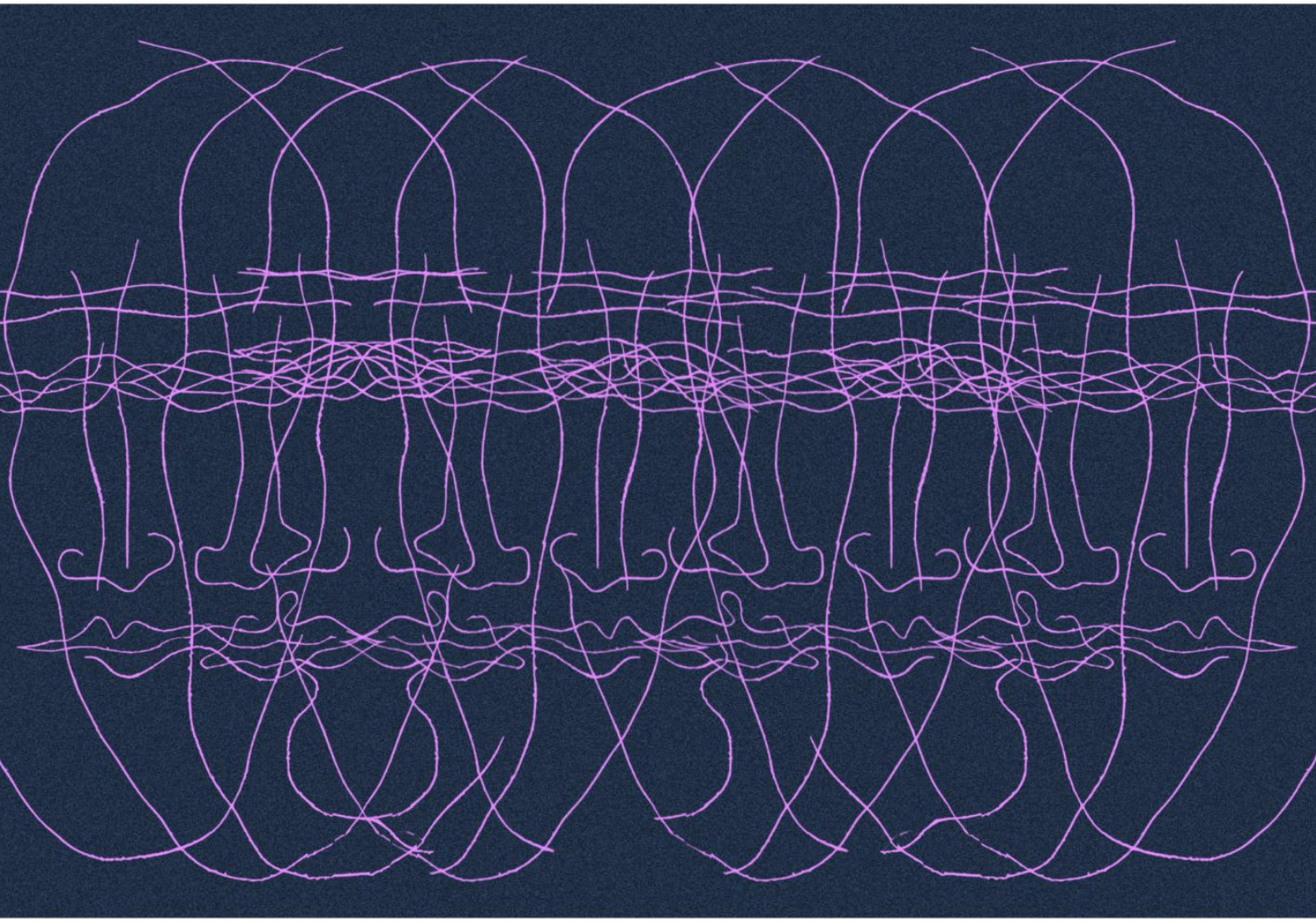
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The International Journal of Gender Knowledge and Social Futures (IJGKSF) is a peer reviewed, open-access journal dedicated to advancing high-quality interdisciplinary research on gender, social transformation, and inclusive development. Hosted by the Women Researchers Council (WRC) at the Azerbaijan State University of Economics (UNEC), the journal provides a platform for scholars, policymakers, and practitioners to explore how gender shapes institutions, policies, and societies in a rapidly changing world.

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Table of Contents

7 **Foreword**

8 **The Diploma Paradox: Highly Educated, Wrongly Employed — The Reality of Women in Azerbaijan**
Gunay Valiyeva, Vildan Rizayeva · Azerbaijan State University of Economics (UNEC), Azerbaijan
H. Valiyev · Istanbul University, Türkiye

20 **Development of the Gender Pay Gap in the Global Film Industry**
Viktoria Andrassy, Nina Adela Bartovicova, Maria Bartekova · Bratislava University of Economics and Business, Slovakia

31 **Below Replacement and Beyond: A Gendered Reading of Sri Lanka's 2024 Census Fertility, Marriage, and Labour Market Data**
Fahim Aslam · Management and Science University, Malaysia

41 **Sisters, Not Brothers: Gender and the Household Division of Educational Resources**
Dilek Sayedahmed · NYU Paris, France; Waterloo Institute for Social Innovation and Resilience, Canada

64 **Women Cooperatives in Artisanal and Small-Scale Mining in Zimbabwe: A Livelihood Perspective**
Cephas Mandirahwe · Midlands State University, Zimbabwe

75 **Gendered Labour, Survival and Identity: An Ethnographic Study of Indonesian Migrant Janitors in Malaysia's Cleaning Sector**
Nagasrivindran Jaya · Universiti Malaya, Malaysia

96 **Emotional Neglect and the Cumulative Profile of Childhood Trauma Among Adult Women Seeking Psychological Counselling: A Mixed-Methods Study in Kerala, India**
Theja P. · St. Teresa's College, India
Dr. Leena George · Mahatma Gandhi University, India

109 **Digital Gender-Based Violence Perpetrated by AI in Latin America: Between a Legal Vacuum and the Lack of Protection for Women in Public Life**
Viridiana Cuevas Orta · Instituto de Derechos Humanos Gregorio Peces-Barba, Universidad Carlos III de Madrid, Spain

126 **Gendered Visibility and Sacred Authority: A Thematic Analysis of the Oloolu Masquerade Controversy in Ibadan**
Ridwan Olamilekan Mustapha · University of Alberta, Canada

142 **Painted Prayers: Kolam as a Global South Indian Indigenous Method for Research with Indian Immigrant Women**
Dr. Lydia VK Pandian · University of New Brunswick Saint John, Canada

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Foreword

The publication of the first volume of the International Journal of Gender, Knowledge, and Social Features represents an important institutional and intellectual milestone for the Women Researchers Council (WRC) of the Azerbaijan State University of Economics (UNEC). As the first international academic journal in Azerbaijan dedicated specifically to gender studies and their socio-economic and cultural dimensions, this volume establishes a structured scholarly platform for critical inquiry into the role of women in contemporary society.

This inaugural issue is devoted to the theme of sustainable socio-economic development of women within the community and the nation-state. The focus reflects a central premise: sustainable development cannot be achieved without the full and effective participation of women in economic, academic, scientific, and social life. Gender equality is not treated here as a symbolic objective, but as a structural component of national development, institutional transformation, and community resilience. In this regard, the journal aims to move beyond descriptive accounts and instead encourage analytical, evidence-based research that examines the mechanisms, policies, and socio-cultural frameworks shaping women's participation and leadership.

The core idea of the journal is grounded in transformation - scientific, economic, cultural, and social. Gender studies today require interdisciplinary and context-sensitive approaches capable of addressing complex societal transitions. The journal therefore welcomes contributions from diverse fields including economics, sociology, political science, education, management, public policy, and cultural studies.

A key analytical concern of this publication is the relationship between knowledge production and social transformation. Universities and research institutions play a decisive role in shaping discourse, policy, and practice. Strengthening women's representation and leadership within these institutions is not only a matter of equity, but also a determinant of innovation capacity and sustainable growth. The journal seeks to contribute to this process by fostering high-quality scholarship that connects theoretical reflection with empirical evidence and policy implications.

The first volume was presented during the I Women Researchers Council International Symposium – WRCIS2026 on 05 March, 2026 at Azerbaijan State University of Economics (UNEC) reflecting its broader mission to serve as a platform for academic dialogue and international cooperation. Through this initiative, the Women Researchers Council (WRC) affirms its commitment to expanding research networks, enhancing scholarly visibility, and promoting rigorous gender-focused research within Azerbaijan and beyond.

As an inaugural publication, this volume represents both an institutional beginning and a strategic direction. It establishes a foundation for sustained academic engagement with gender as a critical dimension of socio-economic development and community transformation.

The Editorial Team expresses its appreciation to all authors, reviewers, and contributors whose scholarly efforts have shaped this first issue. We anticipate that the journal will continue to evolve as a dynamic forum for interdisciplinary research, contributing meaningfully to national and international debates on gender, knowledge, and social change.

Editorial Team
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ORIGINAL ARTICLE

The Diploma Paradox: Highly Educated, Wrongly Employed — The Reality of Women in Azerbaijan

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ABSTRACT

Azerbaijan presents a macroeconomic puzzle that this paper terms the diploma paradox: between 2006 and 2024, female gross tertiary enrolment more than doubled — from 20.2% to 46.9% — overtaking male enrolment by roughly ten percentage points, yet female labor force participation stagnated near 61%, the gender gap in wage employment persisted at roughly nine percentage points, and nearly 39% of employed women remained concentrated in agriculture, the economy's lowest-productivity, lowest-skill sector. Drawing on World Bank, ILO, and national statistical data for 2000–2025, the study applies descriptive decomposition, a synthetic education–employment mismatch index, and an extended Mincerian interpretive framework to quantify the divergence between women's educational attainment and their labor market absorption. The results indicate that the private returns to female education in Azerbaijan are systematically discounted through three channels: horizontal and vertical overeducation, sectoral segregation into low-wage care and agrarian employment, and a wage penalty of approximately 35–46% documented by national and World Bank estimates. The paper contributes a country-level operationalization of the diploma paradox concept and derives policy implications for skills signaling, childcare infrastructure, and the reform of occupational licensing. Limitations include the absence of micro-level panel data on individual mismatch; future research directions are proposed.

Keywords *Azerbaijan, gender wage gap, overeducation, human capital, post-Soviet labor markets*

1. Introduction

The canonical prediction of human capital theory is elegantly simple: investments in education raise productivity, and productivity raises wages and employment quality (Becker, 1993; Mincer, 1974). Cross-country evidence overwhelmingly confirms positive private returns to schooling, with tertiary education yielding the highest premia (Montenegro & Patrinos, 2014; Psacharopoulos & Patrinos, 2018). Yet a growing body of evidence from transition and emerging economies documents systematic deviations from this prediction, particularly for women (Kupets, 2015; Sloane & Mavromaras, 2020). When educational expansion outpaces the economy's capacity to generate skill-appropriate jobs, the result is overeducation—a persistent mismatch between workers' qualifications and job requirements—which carries measurable wage penalties and discouragement effects (Didier, 2024; Passaretta, 2023).

Azerbaijan constitutes an unusually sharp case of this phenomenon. As an upper-middle-income, oil-dependent post-Soviet economy with a GDP per capita of approximately USD 7,411 in 2025 (World Bank,

2026a), the country has experienced a dramatic expansion of female higher education over the past two decades. Female gross tertiary enrolment rose from 20.2% in 2006 to 46.9% in 2024, exceeding the male rate (36.6%) by more than ten percentage points (World Bank, 2026a). By conventional human capital logic, this cohort of highly educated women should be transforming the structure of the Azerbaijani labor market.

The empirical record shows the opposite. Female labor force participation, which stood at 72.2% in 2000, fell to approximately 61% by 2025, and the participation gap relative to men remained stuck at roughly five to six percentage points (World Bank, 2026a). Female unemployment exceeded male unemployment in every observed year, and the gender wage gap — estimated at 35–46% depending on methodology — is among the widest in the Europe and Central Asia region (Ismayilov et al., 2022; Pastore et al., 2016; World Bank, 2022). Most strikingly, 38.7% of employed women in 2025 worked in agriculture, a sector characterized by informality, low productivity, and minimal skill requirements — this at a time when nearly half of the female student-age cohort was enrolled in tertiary education.

1.1 Problem Statement

The coexistence of rapidly rising female educational attainment with stagnant female labor market outcomes constitutes what this paper calls the diploma paradox: women in Azerbaijan are highly educated but wrongly employed — channelled into sectors and occupations that neither utilize nor reward their qualifications. The paradox is not merely a matter of individual welfare. Underutilized female human capital represents a measurable macroeconomic loss: the World Bank (2022) estimates that closing gender employment gaps in Azerbaijan could raise long-run GDP per capita by double-digit percentages, a magnitude consistent with global estimates of the output cost of gender misallocation (Cuberes & Teignier, 2016; Hsieh et al., 2019).

1.2 Gap Analysis

Three gaps in the literature motivate this study. First, the extensive literature on overeducation is dominated by OECD and EU cases (Didier, 2024; Passaretta, 2023; Sloane & Mavromaras, 2020); evidence from the South Caucasus remains fragmentary (Khitarishvili, 2019; Kupets, 2015). Second, existing Azerbaijan-focused studies examine either the wage gap (Ismayilov et al., 2022; Pastore et al., 2016) or employment barriers (World Bank, 2022) but do not integrate the education-expansion dimension into a unified analytical framework. Third, no study to date has constructed a time-series, indicator-based quantification of the divergence between female educational supply and labor market absorption in Azerbaijan. This paper fills these gaps by (i) assembling a consistent 2000–2025 macro-panel from World Bank and ILO sources, (ii) proposing and computing an Education–Employment Divergence Index (EEDI), and (iii) situating the Azerbaijani case within the comparative literature on gendered skill mismatch.

1.3 Research Questions and Hypotheses

> **RQ1.** To what extent has the expansion of female tertiary education in Azerbaijan (2006–2024) been matched by commensurate improvements in female labor force participation, employment quality, and sectoral allocation?
>
> **RQ2.** Through which observable mechanisms — sectoral segregation, agricultural concentration, unemployment differentials — is female human capital discounted in the Azerbaijani labor market?
>
> **RQ3.** What is the magnitude and trend of the education–employment divergence, and what policy levers does the evidence prioritize?
>
> **H1 (Diploma Paradox Hypothesis):** Female educational attainment in Azerbaijan has grown substantially faster than female labor market absorption, producing a widening education–employment divergence.

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> **H2 (Segregation Channel Hypothesis):** The divergence operates primarily through horizontal segregation into low-return sectors (agriculture, education, health) rather than through outright exclusion from employment.
>
> **H3 (Wage Discount Hypothesis):** The returns to female education are significantly lower than the returns to male education, consistent with demand-side discrimination and statistical signaling failures.

2. Literature Review

2.1 Human Capital Theory and Its Gendered Fractures

The human capital framework (Becker, 1993; Mincer, 1974) treats education as an investment whose returns materialize in earnings. Global meta-analyses confirm average private returns of roughly 9–10% per additional year of schooling, with higher returns for women in many samples (Psacharopoulos & Patrinos, 2018; Montenegro & Patrinos, 2014). However, this literature also acknowledges that realized returns depend on labor market institutions, demand conditions, and discrimination (Card, 1999; Patrinos et al., 2021). The feminist economics literature has long argued that human capital models understate the role of occupational crowding (Bergmann, 1974) and statistical discrimination (Arrow, 1973) in depressing female returns — arguments that have regained empirical traction in recent decomposition studies (Blau & Kahn, 2017; Ñopo et al., 2012).

2.2 Overeducation and Skill Mismatch

Overeducation — employment in jobs requiring less education than the worker possesses — is estimated to affect 20–35% of tertiary graduates across advanced economies, with wage penalties of 10–15% (Sloane & Mavromaras, 2020). Recent work distinguishes vertical mismatch (overqualification) from horizontal mismatch (field-of-study misalignment) and finds both to be gendered: women are more likely to be horizontally mismatched and to experience compounding penalties when mismatch interacts with motherhood or care responsibilities (Didier, 2024; Passaretta, 2023). Cross-country evidence links mismatch to incomplete labor markets and discrimination: where employers can discriminate cheaply, women's qualifications are more readily discounted (Birgier, 2025; Didier, 2024). For transition economies, Kupets (2015, 2016) documents that rapid higher-education expansion without concomitant job restructuring produces persistent graduate overeducation, and that the incidence of overeducation rises with age among women — a pattern she attributes to interrupted careers and occupational downgrading after family-related exits.

2.3 Gender Gaps in Post-Soviet Labor Markets

The post-Soviet literature establishes a distinctive regional pattern: high female educational attainment inherited from the Soviet system, combined with rising gender wage gaps and re-traditionalization of gender roles after 1991 (Ishkanian, 2003; Khitarishvili, 2019). Khitarishvili's (2019) review of gender pay gaps across the former Soviet Union finds that gaps widened most where market reforms were combined with weak anti-discrimination enforcement and where female employment re-concentrated in low-wage public services. Studies of the South Caucasus confirm strong occupational gender segregation in Azerbaijan, Georgia, and Armenia, with women dominating education, health, and social services while being nearly absent from high-productivity industrial and extractive sectors (Gebel et al., 2021; Saifnazarov & Saifnazarova, 2023).

2.4 Azerbaijan-Specific Evidence

Azerbaijan-specific scholarship, though limited in volume, is remarkably consistent in its findings. Pastore et al. (2016), using household survey data, show that the gender wage gap in Azerbaijan emerges abruptly around age 20–22 — coinciding with family formation — and reaches roughly 20 percentage points within two years, suggesting a child-penalty mechanism rather than pre-market human capital differences.

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Ismayilov et al. (2022) estimate Mincerian returns to education in Azerbaijan and find that while returns are positive overall, women receive systematically lower returns to educational attainment than men, with the differential concentrated at the tertiary level. The World Bank's (2022) Breaking Barriers to Women's Employment in Azerbaijan report documents that men earn on average 46% more than women, identifies legal restrictions on female employment (674 job restrictions, subsequently reformed with Women, Business and the Law support) as a binding constraint, and shows that women's employment is concentrated in low-productivity agriculture and low-wage public services (World Bank, 2022, 2026b). Alasgarova (2025) documents that girls outperform boys throughout general and higher education in Azerbaijan, reinforcing the paradox: superior educational performance does not translate into superior labor market outcomes. Complementary institutional analysis shows that women constitute roughly 75% of employees in education and 76% in health and social services — sectors with compressed wage structures (Economic Policy Research Center [EPRC], 2021).

2.5 Macroeconomic Costs of Gender Misallocation

The macro-development literature quantifies the aggregate cost of gendered misallocation of talent. Hsieh et al. (2019) estimate that removing occupational misallocation explains a substantial share of U.S. productivity growth; Cuberes and Teignier (2016) compute that closing gender gaps in employment and entrepreneurship would raise GDP by 5–15% in typical developing economies; and the World Bank (2023) estimates that gender employment gaps cost economies roughly 20% of GDP per capita on average globally. For Azerbaijan specifically, the World Bank (2022) argues that the combination of low female participation and sectoral misallocation constitutes one of the country's largest unexploited growth reserves — a claim this paper's divergence analysis directly supports.

2.6 Synthesis and Positioning

Taken together, the literature establishes three building blocks: (i) overeducation is gendered and costly (Didier, 2024; Passaretta, 2023); (ii) post-Soviet institutions amplify the discounting of female credentials (Khitarishvili, 2019; Kupets, 2015); and (iii) Azerbaijan exhibits extreme values on the relevant margins — educational expansion, agricultural concentration of female labor, and wage gaps (Ismayilov et al., 2022; World Bank, 2022). What is missing is an integrated, time-series quantification of the paradox. That is the contribution of the present study.

3. Methodology

3.1 Research Design

The study employs a quantitative, descriptive-econometric research design combining (i) secondary macro-data analysis of a 2000–2025 time series for Azerbaijan, (ii) construction of a composite divergence index, and (iii) an interpretive decomposition framed by an extended Mincerian model. The design is appropriate for the research questions because harmonized micro-data on individual-level mismatch (e.g., a national labor force survey with occupation-by-education cross-tabulations) are not publicly available for Azerbaijan; macro-indicator triangulation is the standard alternative in the transition-economy literature (Khitarishvili, 2019; Kupets, 2015).

3.2 Data Sources

All quantitative data are drawn from primary international statistical sources. First, the World Bank World Development Indicators (WDI) and the World Bank Gender Data Portal supplied 15 indicator series for Azerbaijan covering 2000–2025, retrieved programmatically via the World Bank API v2 in September 2026. Second, ILO modeled estimates embedded in WDI labor indicators provide labor force participation, unemployment, and sectoral employment by sex. Third, the World Bank (2022) country report supplies the national wage-gap estimate (46%) and employment-barrier diagnostics. Fourth, figures from the State

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Statistical Committee of the Republic of Azerbaijan are used as reported in Ismayilov et al. (2022) and in secondary compilations. Fifth, the World Bank Women, Business and the Law database supplies legal-framework indicators, including the reform eliminating 674 occupational restrictions on women (World Bank, 2026b).

3.3 Analytical Tools

Descriptive trend analysis. Gender gaps are computed as male-minus-female differences and female-to-male ratios for each year; pre-2010 and post-2015 sub-periods are compared to test the temporal structure of H1.

Education–Employment Divergence Index (EEDI). The paper's principal constructed measure is defined as

$$\mathrm{EEDI}(t) = \frac{\mathrm{TER}_F(t)}{\mathrm{TER}_F(t_0)} - \frac{\mathrm{LFPR}_F(t)}{\mathrm{LFPR}_F(t_0)}, \qquad t_0 = 2006.$$

where TER_F is female tertiary enrolment and LFPR_F is female labor force participation, each normalized to its base-year value. $\mathrm{EEDI} > 0$ indicates that educational supply is growing faster than labor market absorption; the index's slope is interpreted as the annual pace of divergence. This construction parallels normalization approaches in mismatch measurement (Kupets, 2016) while remaining transparent and reproducible.

Extended Mincerian interpretive framework. Following Ismayilov et al. (2022) and Montenegro and Patrinos (2014), observed gender differentials in the returns to education are interpreted through the identity $\ln(\mathrm{wage}) = \beta_0 + \beta_1 \mathrm{Educ} + \beta_2 \mathrm{Exp} + \beta_3 \mathrm{Exp}^2 + \beta_4 (\mathrm{Female} \times \mathrm{Educ}) + \varepsilon$, where H3 predicts $\beta_4 < 0$. Because micro-data for re-estimation are unavailable, the paper triangulates published β_4 estimates (Ismayilov et al., 2022; Pastore et al., 2016) with macro-level wage-gap figures (World Bank, 2022).

Robustness and limitations. ILO modeled estimates embed smoothing; thus year-to-year changes are interpreted cautiously, and emphasis is placed on multi-year trends. Sensitivity is assessed by comparing base years 2006 and 2010 for the EEDI and by cross-checking WDI figures against national statistics where reported (Ismayilov et al., 2022).

4. Results

4.1 The Educational Expansion

Table 1 documents the expansion of tertiary enrolment by sex. Female enrolment more than doubled between 2006 (20.2%) and 2024 (46.9%), while male enrolment grew from 19.3% to 36.6%. The female-to-male enrolment ratio crossed parity around 2009 and reached 1.28 by 2024 — women are now enrolled at a rate 28% above men.

Table 1. Gross Tertiary Enrolment Ratio by Sex, Azerbaijan, Selected Years (2006–2024)

Year	Female (%)	Male (%)	F/M ratio
2006	20.2	19.3	1.05
2010	19.2	19.4	0.99
2014	24.8	21.7	1.14
2018	31.2	27.0	1.16
2020	39.2	33.8	1.16
2022	44.9	37.6	1.19
2024	46.9	36.6	1.28

Note. Values are gross enrolment ratios (%).
Source: World Bank WDI, indicators SE.TER.ENRR.FE and SE.TER.ENRR.MA, retrieved September 2026. F/M = female-to-male ratio.

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The trajectory in Table 1 is the supply side of the diploma paradox. Between 2019 and 2024 alone, female enrolment rose by 11.1 percentage points — an acceleration consistent with cohort effects, rising household demand for female credentials, and expanded university capacity documented by Alasgarova (2025). Under H1, this surge should mechanically raise the skill intensity of female employment within five to ten years, as educated cohorts enter working age. The fact that the F/M enrolment ratio reached 1.28 — a level associated in OECD economies with female dominance of professional and managerial occupations — sets a benchmark against which Azerbaijan's absorption performance can be judged. The divergence between this educational trajectory and the labor market outcomes documented in Tables 2 and 3 constitutes the paper's central empirical finding and directly supports the Diploma Paradox Hypothesis.

4.2 Stagnant Participation, Persistent Unemployment Penalty

Table 2. Female Versus Male Labor Market Outcomes, Azerbaijan, Selected Years (2000–2025)

Year	LFPR F (%)	LFPR M (%)	Unemp. F (%)	Unemp. M (%)	Youth unemp. F (%)
2000	72.2	82.2	12.7	10.9	25.3
2005	63.0	70.7	7.3	7.2	16.3
2010	59.8	62.1	6.8	4.3	14.8
2015	61.1	66.3	5.8	4.1	15.6
2020	64.4	70.3	8.4	6.1	17.6
2023	61.7	67.2	6.5	4.8	15.3
2025	60.8	66.0	6.3	4.7	14.7

Note. LFPR = labor force participation rate (%, ILO modeled estimate, ages 15+); Unemp. = unemployment rate (% of labor force); Youth unemp. F = female unemployment, ages 15–24.

Source: World Bank WDI / ILO modeled estimates (SL.TLF.CACT.FE.ZS, SL.TLF.CACT.MA.ZS, SL.UEM.TOTL.FE.ZS, SL.UEM.TOTL.MA.ZS, SL.UEM.1524.FE.ZS).

Table 2 establishes that the labor market has not absorbed the expanding supply of educated women. Female LFPR in 2025 (60.8%) remains more than eleven percentage points below its 2000 level and roughly five points below male LFPR, despite female enrolment having more than doubled over the same window. The female unemployment penalty is persistent and structural rather than cyclical: in every year since 2010, female unemployment exceeded male unemployment by 1.6–2.6 percentage points, and youth female unemployment (14.7% in 2025) remains nearly triple the headline male rate — precisely the margin where tertiary-educated entrants should appear. The COVID-19 shock (2020) widened both the participation and unemployment gaps, consistent with global evidence that women absorbed disproportionate labor market damage (International Labour Organization [ILO], 2024, 2025). These patterns reject the absorption mechanism required by standard human capital predictions and corroborate H1; the fact that exclusion coexists with segregation (Table 3) refines the mechanism toward H2.

4.3 Sectoral Misallocation: Where Educated Women Actually Work

Table 3. Female Employment Structure and Wage Employment by Sex, Azerbaijan, Selected Years (%)

Year	F in agriculture	F in industry	F in services	Wage empl. F	Wage empl. M
2000	45.9	7.6	46.5	28.8	34.4
2010	44.2	6.4	49.5	27.4	36.9
2015	41.9	6.0	52.1	28.1	36.5
2020	40.6	6.8	52.6	27.6	36.2
2024	39.2	7.1	53.7	28.2	37.4
2025	38.7	7.1	54.1	28.4	37.6

Note. Columns show the sectoral distribution of female employment and the share of wage and salaried employment in total employment, by sex.

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Source: World Bank WDI / ILO modeled estimates (SL.AGR.EMPL.FE.ZS, SL.IND.EMPL.FE.ZS, SL.SRV.EMPL.FE.ZS, SL.EMP.WORK.FE.ZS, SL.EMP.WORK.MA.ZS).

Table 3 reveals the structural core of the paradox. Almost four in ten employed Azerbaijani women (38.7% in 2025) work in agriculture — overwhelmingly informal, own-account, and subsistence employment where a tertiary diploma yields negligible returns — while only 7.1% work in industry, the economy's highest-productivity, oil-linked sector. Over a quarter-century, the agricultural share of female employment declined by merely 7.2 percentage points, a glacial pace relative to the 26.6-point surge in tertiary enrolment over a shorter window. The wage-employment gap is equally telling: 28.4% of employed women hold wage jobs versus 37.6% of men, a nine-point gap that has not narrowed since 2000. Services absorb the majority of women, but EPRC (2021) sectoral data show this concentration is skewed toward education (75.2% female) and health (76.2% female) — low-wage, feminized public services. This configuration confirms H2: the discounting of female credentials operates through where women work, not only whether they work.

4.4 The Education–Employment Divergence Index

Figure 1 plots female tertiary enrolment and female labor force participation, each indexed to its 2006 value, together with the shaded EEDI divergence gap between them.

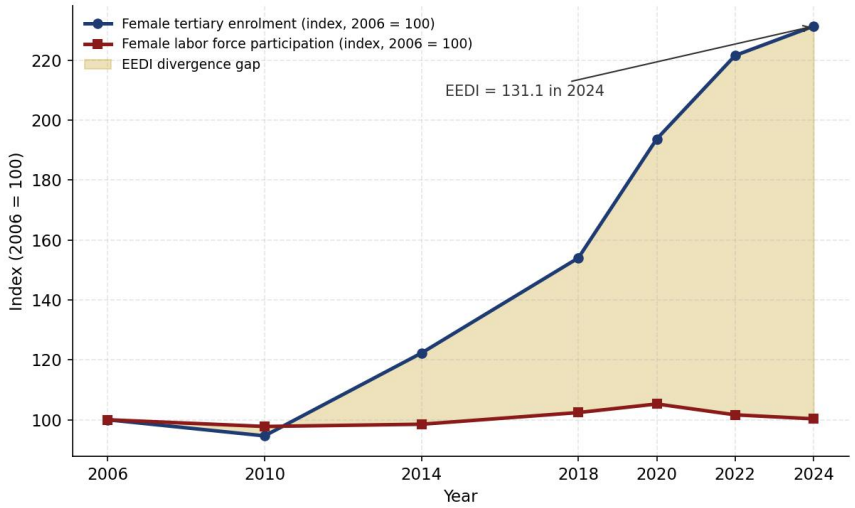


Figure 1. Female Tertiary Enrolment Versus Female Labor Force Participation, Indexed to 2006 = 100

Note. EEDI = Education–Employment Divergence Index, computed as the difference between the two indexed series.
Source: authors' calculations from World Bank WDI (SE.TER.ENRR.FE; SL.TLF.CACT.FE.ZS

Figure 1 makes the paradox visible: by 2024 the female educational supply index stood at 231 while the absorption index remained essentially flat at 100, yielding an EEDI of 131 points. The divergence is monotonic after 2010 and accelerates after 2018, when enrolment growth steepened while participation stagnated. This pattern is inconsistent with a lag-adjustment story alone: even allowing a five-year cohort-entry lag, the 2015–2019 enrolment cohort (index approximately 135–175) entered a labor market whose female participation fell during 2020–2025. The EEDI therefore captures a genuine structural failure of absorption, not a transitional delay. In comparative terms, Kupets (2015) finds qualitatively similar divergence in Ukraine and Georgia, but Azerbaijan's index magnitude — a 131-point gap in eighteen years — is at the extreme end of documented transition-economy experience, reinforcing the country's status as a limiting case of gendered skill misallocation and strongly supporting H1.

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4.5 Wage Discount: The Returns Penalty

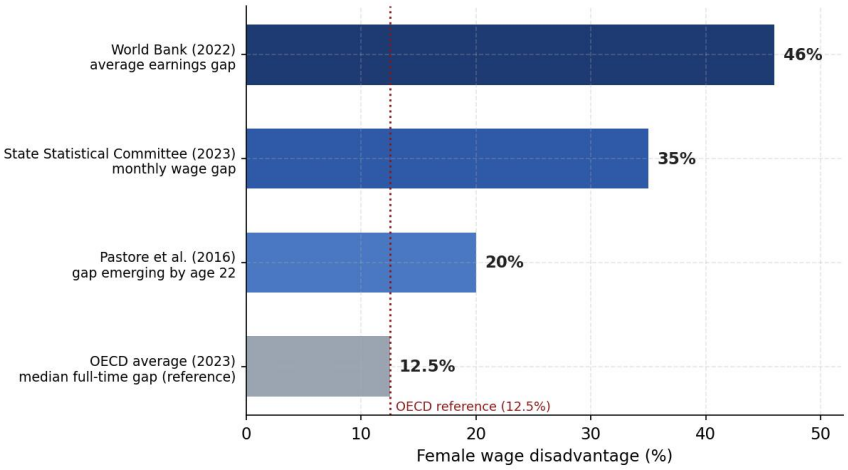


Figure 2. The Gender Wage Penalty in Azerbaijan Across Data Sources, With OECD Reference

Note. Estimates are not strictly commensurable across methodologies and are presented as a triangulation band. *Sources*: World Bank (2022); State Statistical Committee of Azerbaijan as reported in 2023 compilations; Pastore et al. (2016); OECD (2023).

Figure 2 consolidates the demand-side evidence for H3. Three independent estimates converge on an exceptionally wide female wage penalty: the World Bank's (2022) headline estimate of a 46% average male-over-female earnings advantage, the State Statistical Committee's roughly 35% monthly wage gap for 2023, and Pastore et al.'s (2016) finding that an approximately 20-point gap materializes within two years of age 20 — before substantial human capital divergence can occur. Against the OECD median gap of roughly 12–13% (OECD, 2023), Azerbaijan's penalty is three- to four-fold. Critically for the diploma paradox, Ismayilov et al. (2022) show that the Azerbaijani gap is largest at the tertiary level: education narrows the gap less for women than for men, implying a negative Female × Education interaction in the extended Mincerian specification. The wage evidence thus closes the logical loop: educational expansion without return equalization produces exactly the observed outcome — highly educated women crowded into low-wage sectors or informal agricultural work, where credentials cannot be monetized.

4.6 Institutional Context: Legal Reform Without Labor Market Response

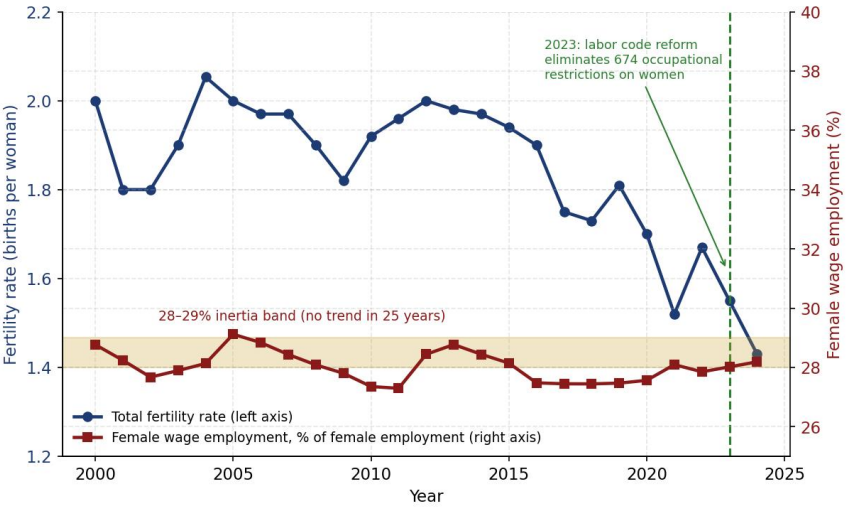


Figure 3. Fertility Decline and Occupational Liberalization Versus the Inertia of Female Wage Employment, Azerbaijan, 2000–2024

Note. Left axis: total fertility rate (births per woman). Right axis: wage and salaried employment as a share of female employment (%). The vertical line marks the 2023 labor code reform that eliminated 674 occupational restrictions on women.

Source: World Bank WDI (SP.DYN.TFRT.IN; SL.EMP.WORK.FE.ZS); World Bank (2026b).

Figure 3 juxtaposes two forces that should, in theory, have raised female employment quality: fertility fell from 2.0 (2000) to 1.43 (2024), reducing the care constraint emphasized by Pastore et al. (2016), and the Women, Business and the Law-supported labor code reform eliminated 674 legal restrictions on women's

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occupations (World Bank, 2026b) — among the most consequential de-jure liberalizations in the region. Yet female wage employment moved less than one percentage point across the entire quarter-century. This inertia indicates that legal and demographic constraints are no longer the binding margin; the constraint has migrated to demand-side institutions — hiring discrimination, sectoral wage structures, childcare infrastructure deficits, and weak signaling of female credentials to employers (Didier, 2024; World Bank, 2022). The policy implication is direct: further de jure reform will underdeliver unless paired with active labor market instruments targeting the placement and remuneration of tertiary-educated women.

5. Discussion

5.1 Synthesis of Findings

The evidence assembled in the Results section supports all three hypotheses. The diploma paradox is empirically real and quantitatively large: an eighteen-year window in which female tertiary enrolment grew by 131 index points relative to female labor market absorption (Figure 1) has no precedent in the advanced-economy overeducation literature, where mismatch typically manifests as a level problem within employment rather than as a growth divergence between education and participation (Passaretta, 2023; Sloane & Mavromaras, 2020). Azerbaijan thus extends the mismatch literature: in institutional environments where discrimination is cheap and feminized sectors are wage-compressed, overeducation manifests not only as graduates in sub-graduate jobs but as graduates absent from the graduate labor market altogether.

5.2 Comparison With Existing Literature

The findings are consistent with, and sharpen, three literatures. First, they corroborate the post-Soviet pattern documented by Khitarishvili (2019) and Kupets (2015, 2016) — educational advantage decoupled from labor market advantage — while showing Azerbaijan to be an extreme realization of that pattern. Second, they align with the micro-evidence of Pastore et al. (2016) and Ismayilov et al. (2022): the abrupt emergence of the wage gap at family-formation age and the negative Female × Education interaction jointly imply that the credential discount is imposed by employers and institutions, not produced by differential pre-market investment — indeed, Alasgarova (2025) shows girls outperform boys educationally at every level. Third, the sectoral findings extend Didier's (2024) mechanism linking mismatch to discrimination: Azerbaijan's combination of 38.7% agricultural female employment with 75–76% feminization of education and health employment (EPRC, 2021) instantiates Bergmann's (1974) crowding model in a contemporary transition economy — women are crowded into a narrow band of sectors whose excess supply of labor depresses the wages of all women, educated or not.

5.3 Macroeconomic Interpretation

From a macro-analytical standpoint, the paradox represents a structural misallocation of the economy's fastest-growing asset. With GDP per capita of USD 7,411 (2025) and oil-dependent growth under diversification pressure, Azerbaijan's failure to deploy tertiary-educated women into productive wage employment constitutes a measurable drag on potential output. Applying the conservative lower bound of Cuberes and Teignier's (2016) and the World Bank's (2023) cross-country estimates to Azerbaijan's participation and sectoral gaps suggests a long-run output cost on the order of 10–20% of GDP — consistent with the World Bank's (2022) country-specific assessment. The diploma paradox is therefore not a distributional footnote; it is a first-order macroeconomic inefficiency.

5.4 Alternative Explanations and Limitations

Three rival explanations deserve acknowledgment. First, cohort lag: the enrolment surge is recent, and absorption may materialize in the 2030s. Figure 1's post-2018 acceleration of the EEDI despite the entry of earlier educated cohorts weakens this account, but only future micro-data can fully exclude it. Second,

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measurement: ILO modeled estimates smooth informal employment; if educated women increasingly occupy unmeasured gig or remote work, the paradox is partly statistical. The wage evidence (Figure 2), which derives from administrative and survey sources independent of the modeled series, argues against a purely statistical artifact. Third, preference-based sorting: women may freely choose agricultural or public-service work. The abrupt, age-20-linked emergence of the wage gap (Pastore et al., 2016) and the documented legal restrictions on female occupations until recently (World Bank, 2026b) are difficult to reconcile with a pure preferences account. The study's principal limitations follow from its macro design: no individual-level mismatch measurement, no causal identification, and reliance on modeled estimates for some series. These are mitigated by triangulation across independent sources but should discipline interpretation.

6. Conclusion

6.1 Summary

This paper has identified, operationalized, and quantified the diploma paradox in Azerbaijan: between 2006 and 2024, female tertiary enrolment rose by a factor of 2.3 while female labor force participation stagnated, female unemployment maintained a structural premium over male unemployment, 38.7% of employed women remained in agriculture, and the female wage-employment share froze in a 28–29% band. The constructed Education–Employment Divergence Index reached 131 points by 2024. The evidence indicates that female credentials are discounted through sectoral crowding and demand-side discrimination rather than through educational deficits — girls and women outperform men educationally at every level of the system.

6.2 Policy Implications

Four policy priorities follow. First, childcare and care infrastructure: the child-penalty mechanism (Pastore et al., 2016) and the fertility decline without employment response (Figure 3) imply that affordable early-childhood care is the highest-yield activation instrument. Second, active labor market policies for tertiary-educated women, including wage subsidies for first private-sector placements, apprenticeship quotas in industry and ICT, and enforcement follow-through on the post-2023 occupational liberalization (World Bank, 2026b). Third, pay transparency and anti-discrimination enforcement, modeled on OECD pay-transparency instruments (OECD, 2023), to compress the 35–46% wage penalty. Fourth, education-to-employment signaling reform: mandatory career services and labor market information systems linking universities to employers, addressing the signaling failure that Didier (2024) identifies as the channel through which discrimination converts education into mismatch. The World Bank (2022) estimates that measures of this kind rank among the highest-return growth policies available to Azerbaijan.

6.3 Future Research

Three directions are proposed. First, acquisition of unit-record labor force survey data to estimate individual-level overeducation incidence and the extended Mincerian interaction directly, replacing macro triangulation with micro econometrics. Second, comparative EEDI construction across the South Caucasus and Central Asia, testing whether the paradox's magnitude correlates with oil dependence and institutional quality. Third, longitudinal tracking of the post-2023 occupational-liberalization cohort — a natural experiment in whether de-jure reform alone can close the divergence, or whether, as this paper's inertia evidence suggests, demand-side instruments are indispensable.

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ORIGINAL ARTICLE

Development of the Gender Pay Gap in the Global Film Industry

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ABSTRACT

This study examines the existence and determinants of the gender pay gap in the global film industry. Drawing on labour economics theory and the concept of superstar markets, the research investigates whether gender significantly influences actor earnings after controlling for key economic and market-related factors. The empirical analysis is based on a dataset of 40 top-paid actors between 2018 and 2023, combining data from Forbes rankings, IMDb, and Box Office Mojo. Using ordinary least squares regression, the study evaluates the impact of gender, actor productivity, box-office performance, and audience ratings on income. The results reveal a substantial and statistically significant gender pay gap, with male actors earning considerably more than female actors even after controlling for observable characteristics. Box-office success and the number of film appearances are found to be significant positive determinants of earnings, while audience ratings do not have a significant effect. The findings suggest that commercial performance plays a dominant role in compensation, but also indicate the presence of persistent structural inequalities affecting female actors. The study contributes to the literature on gender inequality in creative industries and highlights the need for further research into institutional and market-based drivers of wage disparities.

Keywords *Gender Pay Gap; Film Industry; Labour Economics; Wage Inequality*

1. Introduction

Creative industries have become an increasingly important component of the global economy, generating significant economic value, employment opportunities and cultural influence. Among these industries, the film sector represents one of the most visible and economically significant creative markets worldwide. The global film industry generates billions of US dollars annually and relies heavily on highly skilled creative labour, including actors, directors and production professionals. Despite the dynamic growth of the sector, concerns about inequality in compensation and opportunities remain widely discussed, particularly with regard to gender disparities (Milana, 2018; Lincoln & Allen, 2004).

Gender pay inequality has long been a topic of economic and social research across multiple labour markets. In many industries, empirical studies have documented persistent wage differences between male and female employees even after controlling for factors such as education, experience and productivity (Blau & Kahn, 2017). Similar concerns have emerged within the film industry, where actors' compensation is often determined by complex factors including star power, box-office performance, negotiation power and market demand. Recent empirical evidence suggests that gender also plays a significant role in determining earnings (De Pater, Judge & Scott, 2014; Sanchez, 2019).

Several studies indicate that female actors tend to earn significantly less than their male counterparts in comparable roles. For example, research examining earnings in Hollywood has shown that male actors earn, on average, more than one million dollars per film more than female actors, even when controlling for key variables such as experience, popularity and film performance (Sanchez, 2019). This gap persists despite increasing public awareness and industry initiatives aimed at promoting gender equality. Analyses of the earnings of top-paid actors have also revealed substantial disparities in annual income rankings, where male actors consistently dominate the highest-earning positions (Elsesser, 2018; Robehmed, 2017).

The existence of such disparities raises important economic and social questions regarding the determinants of compensation within creative industries. Unlike many traditional labour markets, the film industry operates under a “superstar” system in which a small number of highly successful individuals capture a disproportionate share of total earnings (Rosen, 1981; Ravid, 1999). While this structure may partially explain income inequality, it does not fully account for systematic gender differences in earnings observed across multiple studies.

Recent academic research has therefore focused on identifying the underlying factors that contribute to gender-based wage disparities in the film industry. These factors may include differences in bargaining power, representation in high-budget productions, genre specialisation and structural inequalities within casting and production practices (Bielby & Bielby, 1996; Lauzen, 2022). Empirical analyses suggest that a substantial unexplained wage gap remains between male and female actors even after controlling for film characteristics and actor productivity, indicating the presence of structural inequalities within the industry (Milana, 2018).

Despite the growing number of studies examining gender inequality in the film industry, several aspects of this issue remain insufficiently explored. In particular, the extent to which observable factors such as film budget, actor productivity and market success explain income differences between male and female actors remains a subject of ongoing debate. Addressing this gap is important not only for understanding labour-market dynamics in creative industries, but also for informing policy discussions regarding equality and fair compensation (Graf, Brown & Patten, 2019).

The aim of this study is therefore to analyse the existence and determinants of the gender pay gap in the global film industry. Specifically, the research seeks to examine whether gender significantly influences actor earnings after accounting for key economic and market-related variables. By combining publicly available data on actor earnings, film performance and actor productivity, this study contributes to the broader discussion of gender inequality in creative labour markets.

The original contribution of this study lies in its focus on the period of 2018–2023 and on the upper segment of the global film labour market, where superstar effects are strongest and compensation is most visible. Previous empirical studies have mainly examined longer historical samples, the Hollywood market, or specific career-stage effects. This paper updates the evidence by testing whether a gender earnings premium persists among top-paid actors after controlling for recent box-office performance, actor productivity and audience evaluation. The study therefore extends existing research by linking contemporary earnings rankings with market-performance indicators and by showing that gender remains a significant predictor even within a highly commercialised and internationally visible segment of the film industry.

Section 2 presents the theoretical background and reviews the relevant literature on gender inequality and labour markets in the film industry. Section 3 describes the research methodology and data used in the analysis. Section 4 presents the empirical results and discusses their implications in relation to existing international research. Finally, Section 5 concludes the paper and outlines potential directions for future research.

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2. Literature Review

Creative industries represent an important sector of modern economies, contributing significantly to employment, cultural development and economic growth (UNESCO, 2022). These industries include activities such as film production, music, design, advertising and digital media, all of which rely heavily on creativity, intellectual property and cultural production. Among these sectors, the global film industry occupies a particularly prominent position due to its economic scale and global reach (Eliashberg, Elberse & Leenders, 2006).

The film industry generates billions of US dollars in annual revenue and employs a wide range of creative professionals, including actors, directors, producers and technical specialists. Due to its project-based nature, employment relationships in the film industry differ from those in traditional labour markets (Caves, 2000). Actors typically work on short-term contracts tied to individual productions, and their compensation is influenced by multiple factors such as experience, reputation, negotiation power and the commercial success of films.

Economic research often describes the film industry as a "superstar market", where a small number of highly successful actors capture a disproportionate share of industry income (Rosen, 1981; Adler, 1985). This phenomenon occurs because audiences tend to concentrate their attention on a limited number of highly recognisable performers, allowing top actors to command extremely high salaries. As a result, earnings in the film industry are highly unequal and strongly influenced by market demand and star popularity (Ravid, 1999).

2.2 Labour Markets in Creative Industries

Labour markets in creative industries differ significantly from traditional sectors due to their project-based structure and high levels of income volatility (Caves, 2000; Menger, 2017). Unlike conventional employment relationships characterised by stable contracts and predictable wages, creative professionals often rely on temporary engagements linked to specific projects. This structure creates substantial income variability and increases competition among workers.

In addition, success in creative industries is often influenced by factors that extend beyond measurable productivity. Reputation, public recognition and media exposure play an important role in determining career opportunities and earnings (Lincoln & Allen, 2004). The presence of superstar dynamics means that small differences in perceived talent or popularity can result in large differences in income.

These characteristics contribute to a highly stratified labour market in which a limited number of top performers earn extremely high incomes, while the majority of workers receive significantly lower compensation. Such structural features can amplify existing inequalities and may also contribute to gender disparities in earnings and career opportunities (Bielby & Bielby, 1996; Lauzen, 2022).

2.3 Gender Inequality in the Film Industry

Gender inequality has been widely documented across many sectors of the global economy, including the entertainment industry (Blau & Kahn, 2017). In the context of the film industry, numerous studies have highlighted persistent disparities in both representation and compensation between male and female actors. Although female participation in the industry has increased over time, significant inequalities remain in terms of access to leading roles, screen time and financial rewards (Smith, Choueiti & Pieper, 2020; Lauzen, 2022).

Empirical research has shown that male actors frequently receive higher compensation than female actors even when controlling for comparable levels of experience, popularity and film performance. For example, studies examining actor earnings in Hollywood have found that male actors earn, on average, more than one million dollars more per film than female actors in similar positions (Sanchez, 2019; Milana, 2018).

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These differences persist despite growing public attention to gender-equality issues within the entertainment industry.

The persistence of gender disparities in Hollywood has also been widely discussed in the media and academic literature. Analyses of earnings among the highest-paid actors reveal that male actors consistently dominate the top positions in annual income rankings, while female actors remain underrepresented among the highest earners (Elsesser, 2018; Robehmed, 2017). Such patterns suggest that structural factors within the industry may contribute to gender-based inequalities.

2.4 Empirical studies on the gender pay gap

Recent empirical research has increasingly focused on identifying the determinants of the gender pay gap within the film industry. Several studies have attempted to quantify the extent of wage disparities and examine the role of observable factors such as film budgets, actor productivity and box-office performance (De Pater et al., 2014; Milana, 2018).

A study published in the Journal of Management Inquiry found that female Hollywood actors experience an earlier peak in annual earnings than their male counterparts, with compensation declining significantly after the age of 34, while male earnings continue to grow until approximately age 51 (De Pater et al., 2014). More recent econometric evidence from Milana (2018), based on 203 observations from 1984 to 2018, estimates an unexplained gender wage gap equivalent to roughly 45 % of male earnings even after controlling for role importance, critical acclaim and film budget.

Other studies have also highlighted the role of film genre and production characteristics in shaping actor compensation. Actors appearing in high-budget action films often receive substantially higher salaries than those working in smaller productions (Ravid, 1999). However, female actors are historically underrepresented in these high-budget genres, which may contribute to differences in average earnings (Lauzen, 2022; Smith et al., 2020).

Research also suggests that bargaining power and negotiation dynamics may influence actor compensation. Because salaries in the film industry are often negotiated individually rather than determined by standardised pay structures, actors with stronger industry influence or more established reputations may be able to secure more favourable contracts (Pires, 2017). This negotiation-based system may unintentionally reinforce existing inequalities within the industry.

Although previous studies have provided important insights into gender inequality in the film industry, several questions remain unresolved. There is ongoing debate regarding the extent to which observable economic factors such as film success, actor productivity and market demand can explain differences in actor earnings.

While some studies attribute wage disparities primarily to differences in experience, popularity and film performance, others argue that a substantial unexplained gap remains even after accounting for these variables. This suggests that structural characteristics of the film industry continue to perpetuate gender-based income differences (Milana, 2018; Lauzen, 2022). Further empirical analysis based on recent data is therefore needed to better understand the relationship between gender and actor earnings in the modern film industry.

3. Data and Methods

3.1 Research objective

The aim of this study is to analyse the existence and determinants of the gender pay gap in the global film industry. Specifically, the research examines whether gender significantly influences actor earnings after controlling for selected economic and market-related variables. To address this objective, the study

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formulates the following research question: Does gender significantly affect the earnings of actors in the film industry?

In order to examine this question, three research hypotheses were tested:

> **H1:** Female actors earn significantly less than male actors in the global film industry.
>
> **H2:** Actor earnings are positively associated with the cumulative box-office success of their films.
>
> **H3:** Actor productivity, measured by the number of films in the analysed period, positively affects actor earnings.

3.2 Data

The empirical analysis is based on secondary data obtained from publicly available sources related to the global film industry. Information on actor earnings was collected from the Forbes annual rankings of the highest-paid actors and actresses, which provide estimates of pre-tax income for leading performers in the entertainment industry (Robehmed, 2017; Berg, 2020). Additional data on film performance and actor productivity were obtained from publicly accessible film-industry databases, specifically the Internet Movie Database (IMDb) and Box Office Mojo.

The dataset includes 40 actors (25 male, 15 female) who appeared in major international film productions between 2018 and 2023. The sample was selected purposively from publicly reported annual rankings of the highest-paid actors and actresses, because the objective of the study is to analyse gender disparities at the top of the film-income distribution rather than to describe the entire acting profession. This group is particularly relevant for the research question because top-paid actors have the strongest bargaining power, the greatest market visibility and the highest probability of appearing in commercially significant productions. If a gender pay gap is observable even among this highly visible elite segment, it may indicate the persistence of structural mechanisms that are not limited to lower-paid or less recognised performers.

The final dataset contains information on annual actor earnings, gender, number of films released during the analysed period, the cumulative worldwide box-office revenue associated with those films and the average IMDb rating of the actor's five most recent leading roles. All monetary variables are expressed in millions of USD and adjusted to 2023 prices using the U.S. CPI (FRED, 2024). The main variables used in the analysis are summarised in Tab.1.

The relatively small sample size reflects both the exclusivity of the top-paid actor category and the limited availability of consistent public income data. The use of 40 observations enables an exploratory regression analysis, but it also restricts the statistical power of the model and the generalisability of the findings. The results should therefore be interpreted as evidence for the upper tier of the global film industry rather than as estimates applicable to all actors, supporting roles, national film markets or non-English-language productions. This limitation is explicitly acknowledged when interpreting the regression coefficients and policy implications.

Tab. 1. Variables used in the empirical analysis

Variable	Type	Description
Income	Continuous (USD m, log)	Annual pre-tax earnings of the actor as reported by Forbes
Gender	Dummy (1 = male, 0 = female)	Binary indicator of actor gender
Movies	Count	Number of feature films released in the analysed period
BoxOffice	Continuous (USD m)	Cumulative worldwide box-office revenue of the actor's films
Rating	Continuous (0–10)	Average IMDb user rating of the actor's five most recent leading roles

Source: Own processing based on Forbes (2023), IMDb and Box Office Mojo.

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3.3 Methodology

To analyse the determinants of actor earnings, this study applies ordinary least squares (OLS) regression analysis, which allows the relationship between actor income and selected explanatory variables to be estimated while controlling for other factors. The dependent variable is expressed as the natural logarithm of annual income in order to reduce skewness and to allow the coefficients to be interpreted approximately as percentage changes, in line with standard practice in labour economics (Blau & Kahn, 2017; Milana, 2018).

The estimated regression model has the following form:

$$\ln(\text{Income}_i) = \beta_0 + \beta_1 \text{Gender}_i + \beta_2 \text{Movies}_i + \beta_3 \ln(\text{BoxOffice}_i) + \beta_4 \text{Rating}_i + \varepsilon_i. \quad (1)$$

where Gender captures the gender of the actor (1 = male, 0 = female), Movies measures actor productivity, ln(BoxOffice) represents the commercial success of the actor's films, Rating reflects audience evaluation of those films, and ε is an idiosyncratic error term assumed to be normally distributed with zero mean and constant variance.

Several potentially relevant variables were considered but were not included in the final regression model due to data availability, comparability and sample-size constraints. Actor age was excluded because the income data are aggregated annually and do not consistently distinguish whether earnings originate from newly released films, back-end payments, streaming contracts or previous projects; including age without detailed career-stage information could therefore introduce measurement noise. Film budget and genre were not included because the analysed income variable refers to actor-level annual earnings, while budgets and genres are film-level characteristics and many actors in the sample appeared in multiple films or franchise-related projects within the period. A reliable actor-level aggregation would require detailed contract information that is not publicly available. Awards were also omitted because awards may be both a determinant and an outcome of actor visibility, creating potential endogeneity. Finally, agency representation and contract structures were excluded because comparable information on agents, management contracts, back-end participation and negotiation clauses is not systematically disclosed for all actors. To avoid overfitting in a sample of 40 observations, the model therefore focuses on the most consistently observable variables: gender, productivity, box-office performance and audience rating.

Before estimation, the key OLS assumptions were verified. Multicollinearity was assessed using variance inflation factors (VIF), with all values below 3.0 – well under the commonly accepted threshold of 10. Heteroskedasticity was tested using the Breusch–Pagan test ($p = 0.214$), which did not indicate a violation of the homoskedasticity assumption. The normality of residuals was confirmed using the Jarque–Bera test ($p = 0.387$). Descriptive statistics (means, standard deviations, minima and maxima) were additionally computed to provide an initial overview of income differences between male and female actors. All statistical analyses were performed in Microsoft Excel and in the open-source statistical environment R (version 4.3.2).

4. Results and Discussion

4.1 Earning of Male and Female Actors

The initial descriptive analysis indicates a substantial difference in average earnings between male and female actors in the sample. Male actors earned on average USD 57.8 million per year, compared with USD 24.3 million for female actors. This corresponds to a female-to-male earnings ratio of 0.42, which is considerably lower than both the overall U.S. gender earnings ratio of 0.82 reported by the U.S. Bureau of Labor Statistics (2023) and the Hollywood-specific ratio of 0.55 reported by Milana (2018).

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Tab. 2. Descriptive statistics of the analysed variables

Variable	Group	Mean	Std. dev.	Min	Max
Income (USD m)	All (n = 40)	45.24	29.81	8.20	122.50
Income (USD m)	Male (n = 25)	57.80	28.72	15.00	122.50
Income (USD m)	Female (n = 15)	24.34	13.47	8.20	58.50
Movies	All	5.48	2.14	2	11
BoxOffice (USD m)	All	1 612.75	948.12	182.40	3 874.00
Rating (IMDb)	All	7.12	0.58	5.90	8.40

Source: Own processing based on Forbes (2023), IMDb and Box Office Mojo.

Figure 1 indicates that men's mean real earnings remained consistently higher than women's earnings throughout the observed period. This general pattern supports the relevance of examining whether similar inequalities are also present within high-income creative labour markets, such as the film industry.

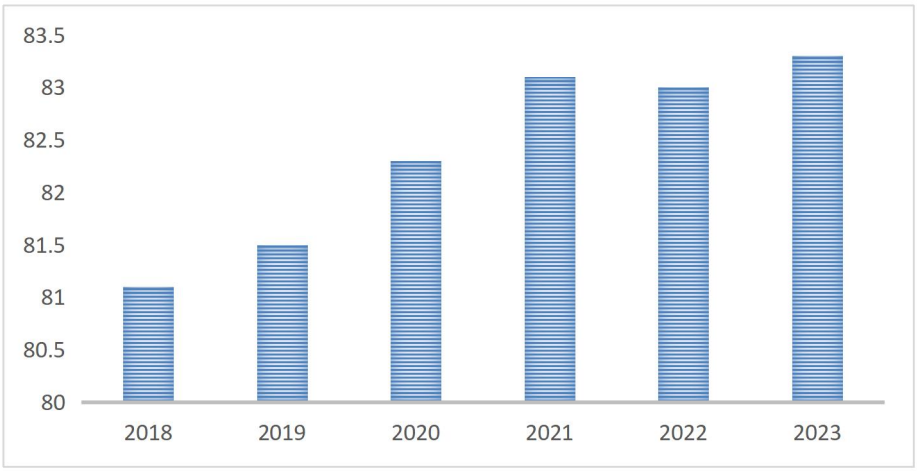


Fig. 1. Women's earnings as a percentage of men's (2018-2023)

Source: U.S. Bureau of Labor Statistics, 2023.

4.2 Results of Regression Analysis

The estimated OLS regression of the logarithm of annual income on gender, productivity, box-office performance and average IMDb rating is presented in Tab. 3. The model explains 62.4 % of the variation in log income (adjusted $R^2 = 0.582$) and the overall F-statistic ($F = 14.52$, $p < 0.001$) confirms that the explanatory variables jointly have a statistically significant effect on actor earnings (see Tab. 3).

Tab. 3. Regression results — dependent variable: ln(Income)

Variable	Coefficient (β)	Std. error	t-stat	p-value
Intercept	1.284	0.612	2.098	0.043
Gender (male = 1) * **	**0.478**	0.128	3.734	0.001
Movies **	0.061	0.027	2.259	0.030
ln(BoxOffice) ***	0.324	0.091	3.560	0.001
Rating (IMDb) ns	0.042	0.128	0.328	0.745
Observations	40			
R^2 / Adj. R^2	0.624 / 0.582			
F-statistic (p-value)	14.52 (<0.001)			

Source: Own processing

The coefficient on Gender is positive and highly significant ($\beta = 0.478$, $p = 0.001$), indicating that, after controlling for productivity and film performance, being male is associated with approximately 48 % higher expected annual income than being female. Given that the dependent variable is in logarithmic form,

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the semi-elasticity can be approximated as (e^β − 1) × 100 %, which yields an income premium of about 61 % for male actors. This magnitude is remarkably close to the estimate reported by Milana (2018), who found a male premium of 61 % for the U.S. market between 1984 and 2018, suggesting that the unexplained gender pay gap has remained persistent despite a decade of public debate.

The coefficient on ln(BoxOffice) is also highly significant (β = 0.324, p = 0.001), implying that a 10 % increase in cumulative box-office revenue is associated with a 3.2 % increase in annual earnings. This confirms the theoretical expectation that commercial success is rewarded in the form of higher compensation, in line with the superstar-market hypothesis (Rosen, 1981; Ravid, 1999). The productivity variable Movies is significant at the 5 % level (β = 0.061, p = 0.030), indicating that each additional feature film adds approximately 6 % to annual income on average. Conversely, the IMDb rating is not statistically significant (p = 0.745), suggesting that critical or audience acclaim, in isolation, is not a primary determinant of actor earnings in this sample.

The findings of this study provide strong empirical support for the existence of a persistent gender pay gap in the global film industry. The regression results clearly indicate that gender remains a statistically significant determinant of actor earnings even after controlling for key economic variables such as productivity and box-office performance. Specifically, the estimated income premium associated with being male suggests that male actors earn substantially more than their female counterparts, which confirms hypothesis H1 and aligns with prior empirical research (e.g., Milana, 2018; Sanchez, 2019).

This result is particularly important because it demonstrates that observable market-based factors alone do not fully explain income differences. While variables such as box-office revenue and number of film appearances were found to significantly influence earnings, the persistence of a strong gender coefficient suggests the presence of structural inequalities within the industry. This supports the argument in the literature that discrimination, unequal bargaining power, and institutional barriers continue to disadvantage female actors (Bielby & Bielby, 1996; Lauzen, 2022).

The positive and significant effect of box-office performance (H2) confirms the relevance of the superstar market theory in the film industry. Actors associated with commercially successful films are rewarded with higher compensation, reflecting the industry's strong reliance on financial performance as a key determinant of value. This finding is consistent with Rosen's (1981) theory of superstars and empirical studies such as Ravid (1999), which emphasize the role of market demand and audience concentration in driving income inequality.

Similarly, the positive relationship between actor productivity and earnings (H3) suggests that more active actors benefit from increased visibility and greater opportunities, which translate into higher income. This aligns with expectations from labour economics, where experience and output are typically rewarded. However, the magnitude of this effect is relatively modest compared to the impact of box-office success and gender, indicating that simply increasing the number of film appearances may not be sufficient to close the gender pay gap.

In contrast, the lack of statistical significance for IMDb ratings suggests that critical or audience appreciation does not play a decisive role in determining actor earnings. This implies that the film industry prioritizes commercial outcomes over qualitative evaluations when determining compensation. Such a finding highlights a potential disconnect between artistic merit and financial reward, reinforcing the idea that the industry operates primarily as a market-driven system rather than a purely merit-based one.

When compared with previous studies, the results of this analysis are remarkably consistent. The estimated gender pay gap is similar in magnitude to earlier findings, suggesting that little progress has been made in reducing income inequality over time. Despite increased public awareness and industry initiatives promoting gender equality, the structural dynamics of the film industry appear to remain largely unchanged. This persistence may be linked to factors such as unequal access to high-budget productions, typecasting,

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and differences in career longevity, particularly the earlier earnings peak observed among female actors (De Pater et al., 2014).

At a broader level, these findings contribute to the understanding of labour market dynamics in creative industries. The combination of superstar effects, project-based employment, and individualized salary negotiations creates an environment where inequalities can be amplified. In such a context, even small initial differences in opportunities or representation can lead to substantial long-term disparities in earnings.

However, the study also has several limitations that should be acknowledged. First, the sample consists of 40 top-paid actors, which limits the statistical power of the regression and restricts the generalisability of the findings. The results are most relevant for the elite segment of the film labour market and should not be interpreted as representative of all actors, supporting performers or national film industries. Second, the analysis relies on publicly available income estimates reported by Forbes and related industry sources. Although these rankings are widely used in media and academic discussions, they are estimates of pre-tax earnings and may not capture all contractual components, including deferred payments, profit participation, streaming bonuses, endorsements, agency fees or non-disclosed compensation arrangements. Third, the exclusive focus on top-paid actors may underestimate or overestimate gender inequality in the wider industry: elite performers have greater bargaining power than average actors, but superstar markets may also amplify gender differences because small differences in access to high-budget projects can generate large income effects. Fourth, the model does not include actor age, film budget, genre, awards, agency representation or contract structure, mainly due to limited comparability and the risk of overfitting. Future research should therefore use larger datasets, actor-level panel data, contract-level information and film-level controls to distinguish more precisely between market-based, institutional and discriminatory explanations of the gender pay gap.

In summary, the discussion highlights that while market-based factors such as box-office success and productivity are important drivers of earnings, they do not fully account for the observed gender disparities. The persistence of a significant gender effect points to deeper structural issues within the film industry, emphasizing the need for continued research and targeted policy interventions aimed at promoting greater equality.

5. Conclusions

This study examined the existence and determinants of the gender pay gap in the global film industry. The findings confirm that gender remains a significant factor influencing actor earnings, even after controlling for productivity, box-office success, and audience ratings. Male actors earn substantially more than female actors, highlighting the persistence of structural income inequality within the industry.

The results further indicate that commercial success and the number of film appearances positively affect earnings, while audience ratings do not play a significant role. This suggests that financial performance and market visibility are the primary drivers of compensation, reinforcing the “superstar” nature of the industry. However, the persistence of a significant gender coefficient points to underlying structural and institutional barriers that disadvantage female actors.

From a policy perspective, these findings call for more concrete action by industry regulators, producers’ associations, unions, streaming platforms, funding agencies and professional guilds. First, pay transparency should be improved through standardised salary bands for comparable leading roles, confidential pay audits by studios and platforms, and annual gender-disaggregated reporting of remuneration in publicly funded or publicly supported productions. Such reporting does not necessarily require full public disclosure of individual salaries, but it should enable independent monitoring of whether comparable roles, screen time, contractual status and revenue expectations are rewarded in an equitable way.

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Second, equality measures should address access to high-budget productions and commercially visible genres, because box-office performance is a significant determinant of earnings. Film funds, tax incentives and public co-production schemes could require applicants to provide gender-balance plans for leading roles, transparent casting criteria and evidence that remuneration structures were reviewed for gender bias. Studios and production companies could also adopt inclusion targets for lead and co-lead roles in major productions, while monitoring whether women are equally represented in franchises, action films and other high-revenue genres.

Third, institutional support for fair negotiation should be strengthened. Professional guilds and unions could provide model contract clauses, salary-benchmarking tools, negotiation training and confidential advisory services, particularly for actors who lack strong representation. The industry should also consider independent ombudspersons or equality officers who can review complaints about unequal pay, monitor repeated disparities across productions and support dispute resolution without exposing individual actors to reputational risks.

Finally, reducing gender-based inequalities requires long-term organisational change. Funding bodies and industry awards could incorporate equality indicators into evaluation criteria, while production companies could publish aggregate diversity and pay-equity metrics as part of sustainability or ESG reporting. Streaming platforms and studios should also improve data collection on gender, role type, screen time, budget category and compensation structure. These measures would help move the industry from voluntary statements of support for gender equality toward measurable accountability.

In conclusion, while market-based factors explain a significant portion of earnings variation, the persistence of a gender pay gap suggests the need for targeted policy interventions. Addressing these disparities will not only improve fairness within the industry but also contribute to more inclusive and sustainable development of global creative markets.

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ORIGINAL ARTICLE

Below Replacement and Beyond: A Gendered Reading of Sri Lanka's 2024 Census Fertility, Marriage, and Labour Market Data

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ABSTRACT

Sri Lanka's 15th Census of Population and Housing (2024) indicates that fertility rates have declined significantly, with a Total Fertility Rate (TFR) recorded at 1.3 births per woman and a Total Marital Fertility Rate of 2.7. This paper interprets these findings through a gender perspective rather than as an impartial demographic statistic. Utilising secondary data from the Department of Census and Statistics (DCS) alongside supplementary evidence from the International Labour Organization and the World Bank, this paper delineates four interconnected trends: (i) a significant decline in fertility rates since 1981, accompanied by a postponement of marriage, as evidenced by the Singulate Mean Age at Marriage increasing to 29.2 years for men and 25.6 years for women; (ii) a swift progression towards an ageing population, indicated by an ageing index of 87 and a nearing parity between old-age dependency and child dependency; (iii) a persistent disparity in labour force participation rates, with men at 67.4% and women at 28.9%, despite women's increasing dominance in tertiary education; and (iv) an escalation in the feminisation of vulnerability in old age, as demonstrated by the widowhood gap among the elderly, where 44.2% of women aged 65 and above are widowed compared to 10.5% of men. The paper contextualises these findings within the frameworks of gender-equity theories related to fertility transition, positing that Sri Lanka's low fertility is indicative of an incomplete transition. It suggests that the advancement of individual-level gender equality has surpassed the development of institutional-level gender equity in areas such as labour markets, care infrastructure, and marriage norms. It concludes with considerations for policies that are responsive to gender in relation to population and care.

Keywords *Fertility decline; Gender equity; Labour force participation; Population ageing; Sri Lanka; Census 2024*

1. Introduction

Fertility decline represents a significant characteristic of modern Asia; however, the rate and framework of this decline differ markedly among various nations. Sri Lanka has experienced a decline in fertility rates that occurred earlier than that of many of its South Asian counterparts. The final report of the 15th Census of Population and Housing, published by the Department of Census and Statistics (DCS) in partnership with the United Nations Population Fund, indicates a significant and structural decrease in fertility rates: a Total Fertility Rate (TFR) of 1.3 births per woman, coupled with a Total Marital Fertility Rate of 2.7 (DCS, 2026). The 2024 exercise marked a significant milestone as the inaugural Sri Lankan census to incorporate information and communication technology for the purpose of national-scale data collection. Its release has sparked extensive public discourse regarding the issues of population ageing and dependency.

Much of this discourse has approached the decline in fertility as an external demographic event, to be addressed mainly through reforms in pension systems or economic incentives aimed at encouraging higher birth rates. This paper contends that this framing is insufficient. The census data indicate a series of interconnected and gender-specific dynamics: the postponement of marriage, the lack of alignment between women's educational advancements and their participation in the labour market, and the disproportionate impact of an ageing population on women, who often serve as unpaid carers during their working years and as widowed dependents in later life. Examining the 2024 Census from a gender perspective is crucial not only for analytical purposes but also for informing the development of effective policy responses.

The objectives of this paper are threefold: (i) to document the findings related to fertility, nuptiality, and age structure from the 2024 Census in comparison to those from 2012; (ii) to contextualise these findings within the framework of existing evidence regarding gender disparities in Sri Lanka's labour market; and (iii) to elucidate the implications for population and social policy that is responsive to gender considerations. The subsequent sections of the paper are structured as follows. Section 2 provides a comprehensive review of both theoretical and empirical literature concerning gender and fertility transition, with a specific focus on the South Asian context. Section 3 delineates the data and analytical methodology employed. Section 4 delineates the empirical findings, structured around the themes of fertility and marriage, population ageing, gender disparities in the labour force, and the feminisation of vulnerability in old age. Section 5 examines these findings through the lens of gender equity, while Section 6 provides a conclusion that addresses the implications for policy.

2. Literature Review

2.1 Fertility Transition and Gender-Equity Theory

Classical demographic transition theory elucidates the decline in fertility rates primarily as a consequence of decreasing mortality rates, increased urbanisation, and the escalating costs associated with raising children. Van de Kaa (1987) expanded upon this framework by introducing the notion of a "second demographic transition," wherein sub-replacement fertility is associated with individualisation, the separation of marriage from childbearing, and evolving values regarding family formation. McDonald (2000) introduced a distinctly gendered perspective, contending that extremely low fertility rates arise in contexts where advancements in gender equity within individual-oriented institutions, like education, outpace progress in gender equity within family-oriented institutions, including the labour market, marriage, and the domestic division of care responsibilities. In this context, women who experience a significant disparity between the independence granted to them as individuals and the limitations placed upon them as wives and mothers tend to respond, to some extent, by postponing marriage and childbearing or opting to forgo these roles entirely.

This theoretical lens serves as a valuable foundation for understanding Sri Lanka, a nation recognised for its profile of "reproductive health without economic wealth." The country exhibits strong indicators in female education and health, attained at relatively modest income levels, yet this progress has not led to a significant transformation in women's status within the labour market.

A related but distinct strand of demographic theory examines not the reasons for fertility rates falling below replacement levels, but rather the factors that may hinder recovery once these rates decline to very low levels. Lutz, Skirbekk, and Testa (2006) introduce the "low-fertility trap" hypothesis, which posits that demographic factors (a declining cohort of potential parents), sociological influences (the normalisation of smaller family-size norms), and economic conditions (increased relative income aspirations) interact in a reinforcing manner once fertility rates drop below approximately 1.5 births per woman. With a total fertility rate of 1.3 births per woman, Sri Lanka's 2024 figure falls within the range that historical literature identifies as susceptible to self-reinforcing decline. This underscores the importance of comprehending the gendered mechanisms outlined in this paper, rather than viewing the current rate as merely a temporary dip.

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2.2 Marriage Delay and the "Flight from Marriage" in Asia

Sri Lanka's increasing Singulate Mean Age at Marriage and the expanding proportion of never-married individuals are situated within a wider regional context. Jones (2005) records a prevalent "flight from marriage" throughout East and Southeast Asia, where the previously dominant norm of marriage has been replaced by a gradual increase in the number of women, and increasingly men, who remain unmarried into their thirties and forties. Jones and Gubhaju (2009) demonstrate that this trend is only partially accounted for by compositional shifts toward higher education. Even within specific educational categories, the delay in marriage and the prevalence of non-marriage have continued to increase, especially among women in the more economically developed societies of the region. Historically, South Asian countries, including Sri Lanka, exhibited less pronounced variations of this pattern compared to East Asia, with marriage occurring at an earlier age and being more universally practiced. The findings from the 2024 Census indicate a significant increase in the proportion of never-married individuals in Sri Lanka, rising from 30.0 to 41.8 percent over a span of twelve years. Additionally, the female Singulate Mean Age at Marriage has increased by more than two years during this period. These trends suggest that Sri Lanka may be progressing along a similar path as observed in the research conducted by Jones regarding its East and Southeast Asian counterparts.

2.3 Population Ageing, Care, and the Feminisation of Old Age

A parallel body of literature has investigated the implications of Sri Lanka's swift demographic ageing on social protection and caregiving frameworks. The Asian Development Bank (2019) forecasts that Sri Lanka will experience an ageing process that is unparalleled by most nations with similar income levels, transforming the current youth-driven demographic dividend into an increasing old-age dependency burden within a single generation. Furthermore, it highlights ongoing deficiencies in pension coverage and long-term care provision as significant policy risks. The United Nations Population Fund (2019) articulates the gendered aspect of this transition through the notion of the "feminisation of ageing." This phenomenon arises from the fact that women tend to have longer lifespans than men, yet they are significantly less likely to possess independent pension or savings entitlements derived from formal employment. Consequently, population ageing in Sri Lanka results in a disproportionate number of economically vulnerable elderly women, many of whom persist in offering informal care despite the increasing demands of their own health needs. This literature provides insights into and elucidates the patterns of widowhood and living arrangements discussed in Section 4 of this paper.

2.4 Gender and Labour Markets in South Asia

A considerable body of literature highlights the ongoing gender disparity in labour force participation in Sri Lanka. The World Bank (2020) describes this situation as a conundrum: despite achieving near gender parity in education and health, along with a decline in fertility rates that would typically be anticipated to increase women's participation in the workforce, female labour force participation in Sri Lanka has consistently remained approximately half that of men for several decades. Furthermore, marriage notably diminishes the likelihood of women's engagement in paid employment. The International Labour Organization (2024) similarly observes that the anticipated positive correlation between declining fertility rates, increasing educational attainment, and enhanced female labour force participation has not been realised throughout South Asia. This phenomenon is attributed to prevailing social norms regarding family status and household responsibilities, which independently limit women's labour supply, irrespective of their human capital. Utilising microdata from the Sri Lanka Labour Force Survey, Siyama and Samaraweera (2021) demonstrate that factors such as marriage, the presence and age of young children, and the occupational status of a husband serve as significant predictors of married women's participation in the labour force, exhibiting considerable variation across different ethnic sub-groups. Taken together, this body of literature indicates that the low fertility rates in Sri Lanka should not be interpreted as evidence of women's liberation for market employment. Instead, the coexistence of low fertility and low female labour

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force participation seems to stem from the same persistent gender division of caregiving responsibilities that McDonald's (2000) framework predicts.

3. Data and Methods

This study employs secondary data derived from publicly accessible official statistics, rather than engaging in primary data collection. The primary source is the final report and key findings press release from the Department of Census and Statistics regarding the 15th Census of Population and Housing, 2024, which recorded Sri Lanka's population at the census moment of 00:00 hours on 19 December 2024 (DCS, 2026). Census indicators pertaining to fertility, nuptiality, widowhood, age structure, dependency, labour force participation, and educational attainment are analysed in comparison to their published counterparts from the 2012 Census. This analysis aims to identify both the direction and magnitude of change that has occurred over the twelve-year intercensal period. These figures are further supported by evidence from the UNFPA/DCS report concerning fertility and nuptiality in Sri Lanka, as well as regional gender and labour market data from the International Labour Organization (2024) and the World Bank (2020).

The analysis is characterised by its descriptive and comparative nature, focusing on the documentation of co-movements between fertility, marriage, and labour market indicators. It interprets these relationships through the lens of the gender-equity theory of fertility transition (McDonald, 2000), yet it refrains from estimating a causal model that links these variables at the individual level. This represents a purposeful restriction of the scope. The DCS releases utilised in this analysis present population-level aggregates instead of unit-record microdata. A logical progression, as mentioned in Section 6, would involve the application of McDonald's framework to unit-level Census or Labour Force Survey microdata when it becomes accessible for research purposes. Since the paper is based solely on secondary, publicly available, de-identified aggregate statistics and does not involve the collection of data from human subjects, an ethics review was not necessary. The study did not receive any external funding; data sources are referenced throughout and are publicly accessible at the URLs provided in the References.

4. Results and Findings

Table 1 summarises the twelve headline indicators used in this analysis, comparing the 2012 and 2024 Censuses.

Table 1. Key Demographic and Gender Indicators, Sri Lanka, 2012 vs. 2024

Indicator	2012 Census	2024 Census
Total Fertility Rate (TFR, births per woman)	2.4	1.3
Total Marital Fertility Rate (TMFR)		2.7
Population never married (%)	30.0	41.8
Singulate Mean Age at Marriage – Male (years)	27.2	29.2
Singulate Mean Age at Marriage – Female (years)	23.4	25.6
Widowhood among population 65+ – Female (%)	38.4	44.2
Widowhood among population 65+ – Male (%)	8.6	10.5
Child population, 0–14 years (%)	25.2	20.7
Elderly population, 60+ years (%)	12.0	18.0
Median age (years)	30	35
Sex ratio (males per 100 females)	93.8	93.3
Population with tertiary education as highest qualification (%)	18.2	26.2

Source: Department of Census and Statistics, Census of Population and Housing 2024, key findings (DCS, 2026).

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4.1 Fertility and Marital Transition

Sri Lanka's Total Fertility Rate has decreased from 3.3 births per woman in 1981 to 2.4 as recorded in the 2012 Census, and further to 1.3 in the 2024 Census (Figure 1). This decline positions the rate significantly below the replacement threshold of 2.1. The Total Marital Fertility Rate stands at 2.7, which is near the replacement level. This suggests that the disparity between overall and marital fertility is largely influenced by the increasing proportion of the population that has never entered into marriage, which is projected to reach 41.8 percent in 2024, an increase from 30.0 percent in 2012 (DCS, 2026).

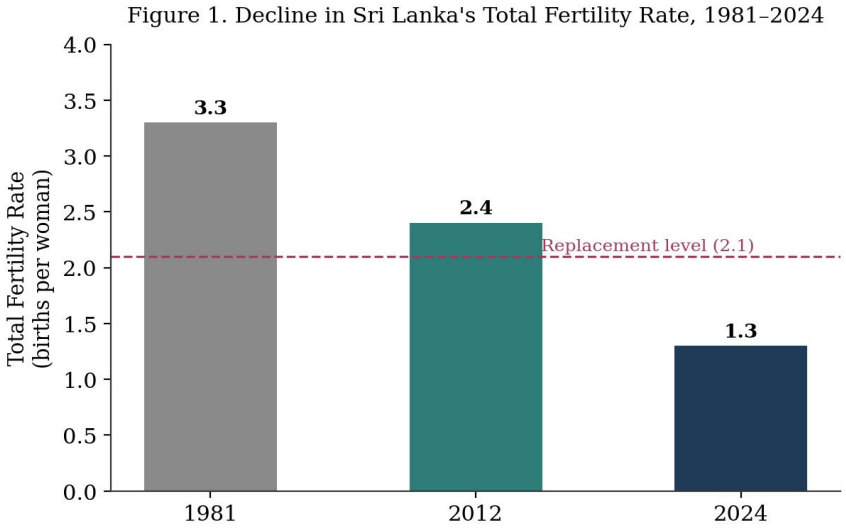


Figure 1. Decline in Sri Lanka's Total Fertility Rate, 1981–2024.

Source: Department of Census and Statistics, Census of Population and Housing 2024 (DCS, 2026).

In conjunction with declining fertility rates, there is a noticeable trend of delayed marriage among individuals of both genders. The Singulate Mean Age at Marriage increased from 27.2 to 29.2 years for men and from 23.4 to 25.6 years for women between 2012 and 2024 (Figure 2), indicating a greater absolute rise for women compared to men. When considered alongside the nearly doubled disparity between overall and marital fertility, this trend aligns with the notion of postponed and abandoned marriage, rather than a decrease in fertility among married couples, as the primary factor influencing the decline in fertility rates in Sri Lanka.

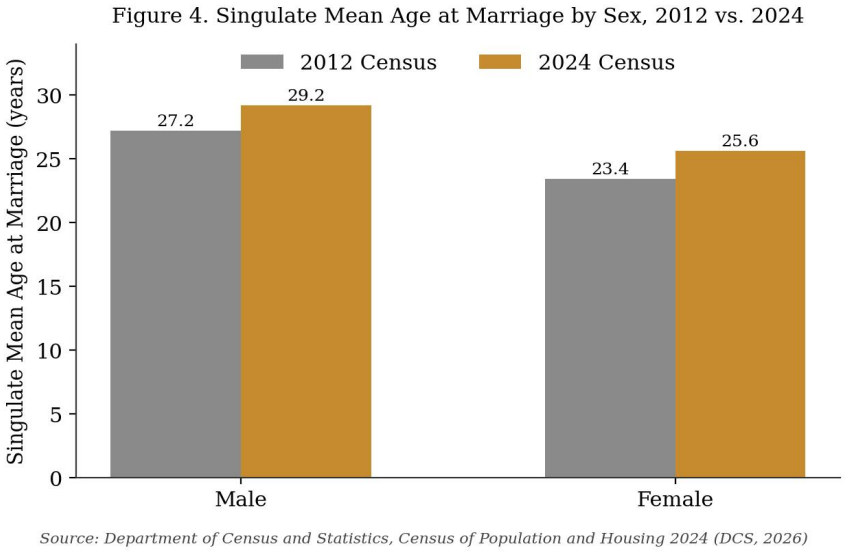


Figure 2. Singulate Mean Age at Marriage by Sex, 2012 vs. 2024.

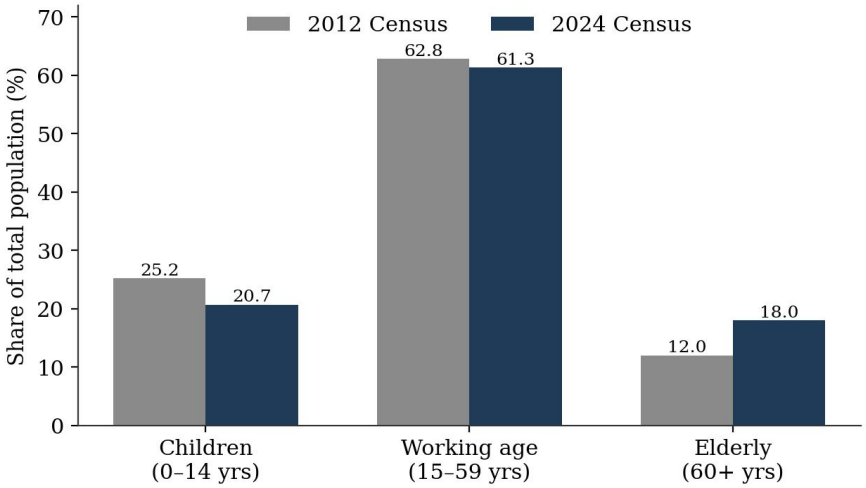
Source: Department of Census and Statistics, Census of Population and Housing 2024 (DCS, 2026).

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4.2 Population Ageing and Dependency

The age structure has undergone a corresponding shift. The proportion of the child population, defined as individuals aged 0–14, decreased from 25.2 percent in 2012 to 20.7 percent in 2024. Conversely, the elderly population, comprising those aged 60 and above, increased from 12.0 percent to 18.0 percent during the same timeframe (Figure 3). The Ageing Index, which represents the number of elderly individuals per 100 children, attained a value of 87 in the year 2024. The child dependency ratio has decreased to 33.7, whereas the old-age dependency ratio has increased to 29.4, indicating a convergence between the two. Based on current trends, it is projected that within approximately a decade, Sri Lanka's working-age population may be supporting an equal number of elderly dependants and children (DCS, 2026). The median age increased from 30 to 35 years during the intercensal period.

Figure 2. Population Age Structure, 2012 vs. 2024



Source: Department of Census and Statistics, Census of Population and Housing 2024 (DCS, 2026)

Figure 3. Population Age Structure, 2012 vs. 2024.

Source: Department of Census and Statistics, Census of Population and Housing 2024 (DCS, 2026).

4.3 The Gender Gap in Economic Participation

The 2024 Census indicates that Sri Lanka's low fertility rates have not been matched by a reduction in the gender gap within labour markets. The labour force participation rate (LFPR) was recorded at 47.3 percent overall, with men participating at a rate of 67.4 percent, while women had a significantly lower rate of 28.9 percent (Figure 4). Notably, women represented 70.6 percent of the economically inactive working-age population (DCS, 2026). This gap continues to exist even as women have made significant strides in educational achievement: the proportion of individuals indicating tertiary education as their highest qualification increased from 18.2 percent in 2012 to 26.2 percent in 2024, with a more notable rise observed among women compared to men (DCS, 2026). This divergence the increase in female education alongside a stagnant labour market gender gap reflects findings from the World Bank (2020) and the International Labour Organization (2024) and aligns with the evidence presented by Siyama and Samaraweera (2021) that factors such as marriage and the presence of young children, rather than educational attainment, serve as the primary constraints on married women's labour supply in Sri Lanka.

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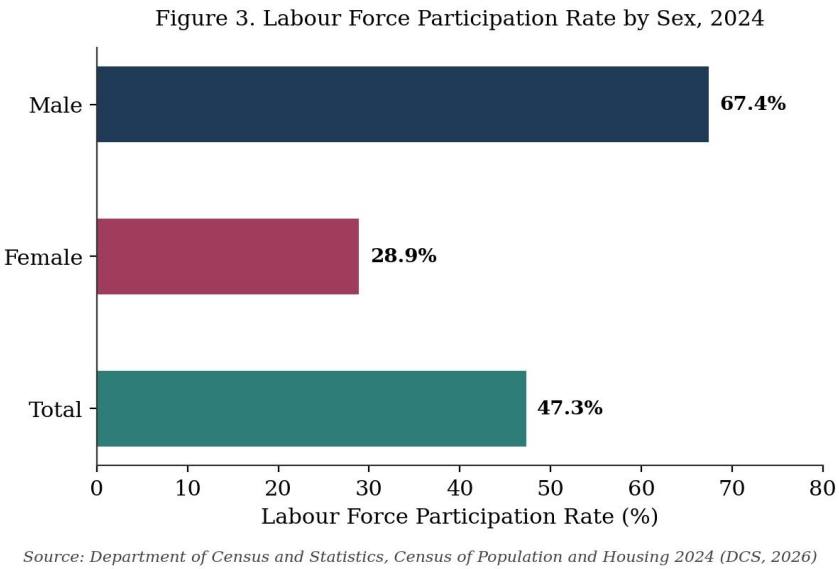


Figure 4. Labour Force Participation Rate by Sex, 2024.

Source: Department of Census and Statistics, Census of Population and Housing 2024 (DCS, 2026).

4.4 The Feminisation of Old-Age Vulnerability

A distinct gendered pattern becomes evident at the later stages of the life course. Between 2012 and 2024, the incidence of widowhood among individuals aged 65 and older increased for both genders, with a significantly sharper rise and a higher prevalence observed among women. In 2024, 44.2 percent of women in this age group were widowed, an increase from 38.4 percent in 2012. In contrast, the percentage of widowed men rose from 8.6 percent in 2012 to 10.5 percent in 2024 (DCS, 2026). In alignment with this, single-person households represent 10.5 percent of all households across the nation. Among the 370,229 households led by individuals aged 60 and older, a significant majority (71.3 percent) are women residing alone (DCS, 2026). Lower fertility rates and delayed marriage during reproductive years are consequently associated, a generation later, with a distinct pattern of unaccompanied old age among women.

5. Discussion

The results corroborate a gender-equity interpretation of Sri Lanka's fertility transition as suggested by McDonald (2000). Gender equity focused on individual achievements, as evidenced by the increasing and now predominant participation of women in tertiary education, has made significant progress. Gender equity, particularly in relation to family dynamics, as evidenced by female labour force participation, the responsibilities associated with unpaid care, and the ongoing reliance on marriage as the predominant means of establishing recognised family units, has not progressed adequately. Within this framework, the phenomena of delayed and forgone marriage, as well as low fertility rates, should not be viewed merely as consequences of modernisation. Rather, they can be understood as rational adaptations at the individual level to an institutional context that predominantly allocates caregiving responsibilities to women, while simultaneously maintaining significant economic and social pressures for their participation in these roles. This interpretation aligns with regional evidence indicating that the anticipated virtuous circle involving declining fertility rates, increasing educational attainment, and a growing female labour supply has deteriorated throughout South Asia (International Labour Organization, 2024).

The evidence of marriage reinforces this interpretation. Sri Lanka's increasing proportion of never-married individuals and the later Singulate Mean Age at Marriage reflect the phenomenon of "flight from marriage" identified by Jones (2005) and Jones and Gubhaju (2009) throughout East and Southeast Asia. This indicates that Sri Lanka is not an isolated instance but rather a relatively late participant in a broader regional trend where marriage is becoming less universal as women's individual opportunities continue to

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grow. At a total fertility rate of 1.3, Sri Lanka's fertility aligns with the range identified by Lutz, Skirbekk, and Testa (2006) as indicative of a self-reinforcing "low-fertility trap." This phenomenon suggests that as the cohorts of potential parents diminish and smaller-family norms become entrenched within society, fertility rates may not recover, even if certain gender constraints discussed herein are eventually alleviated. This elevates the significance of the policy discussion in Section 6 the pertinent comparison is not merely whether Sri Lanka's fertility will naturally rebound, but rather whether policy measures are implemented prior to the onset of self-reinforcing mechanisms that could complicate recovery.

The ramifications of this unfinished transition are accumulating throughout the life course. During the working age, the low participation rate of women in the labour force limits household incomes and, on a broader scale, reduces the tax and contribution base that is necessary to support an ageing population (DCS, 2026). In later life, the persistent gendered division of labour and the lower average labour market participation of women throughout their lives likely result in diminished independent pension or savings entitlements for women (Asian Development Bank, 2019). This situation exacerbates the vulnerability that is already evident in the high rates of female widowhood and the significant number of elderly women living alone. This pattern aligns with the concept identified by the United Nations Population Fund (2019) as the "feminisation of ageing": women who engage predominantly in informal employment throughout their working lives, often due to responsibilities related to marriage, childcare, or eldercare, find themselves in old age with diminished independent income security, particularly at a time when they are most likely to be living alone. The convergence of Sri Lanka's child and old-age dependency ratios, recorded at 33.7 and 29.4 respectively, indicates that the fiscal and caregiving pressures linked to these gendered disparities are poised to intensify in the forthcoming decade rather than diminish.

These findings must be interpreted while considering the limitations outlined in Section 3. The analysis relies on published aggregate statistics instead of unit-record microdata, which limits its ability to account for confounding factors such as sectoral (urban/rural/estate), ethnic, or regional variations. Previous studies based on microdata have demonstrated that these factors significantly influence female labour force participation in Sri Lanka (Siyama & Samaraweera, 2021). The comparisons made across census years are characterised as cross-sectional rather than longitudinal, thereby illustrating shifts at the population level instead of transitions occurring within individual life courses.

6. Conclusions and Policy Implications

Sri Lanka's 2024 Census indicates a fertility rate that falls significantly below the replacement level, coupled with trends of delayed marriage, an accelerated process of population ageing, a continuing gender disparity in labour force participation, and a distinctly gendered pattern of vulnerability in old age. When considered collectively, these findings indicate that Sri Lanka's demographic transition remains incomplete, particularly in a gender-specific context: the advancements women have made in education have not been paralleled by similar improvements in access to the labour market, care infrastructure, or the gendered dynamics of marriage and family formation.

Four overarching policy directions are outlined below. Initially, the expansion of affordable and accessible childcare and eldercare infrastructure would alleviate the unpaid care burden that seems to limit the labour supply of married women, addressing a significant constraint that has been consistently identified in the literature (World Bank, 2020; Siyama & Samaraweera, 2021). Secondly, the implementation of family-friendly labour market policies, such as flexible and part-time work arrangements, along with enhanced enforcement of workplace protections related to marriage and childbearing, has the potential to reduce the disparity between women's human capital and their economic participation. Third, it is essential to conduct a thorough review of social protection and pension systems concerning their treatment of women who have experienced interrupted or informal labour market histories. This is particularly important in light of the evidence indicating a disproportionate vulnerability faced by women in old age, as well as the long-term

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care and pension coverage gaps that have already been identified for Sri Lanka (Asian Development Bank, 2019). Fourth, given that Sri Lanka's current total fertility rate is positioned within the parameters recognised by the low-fertility-trap literature as susceptible to self-reinforcing decline (Lutz et al., 2006), the opportunity for policy intervention addressing the identified gendered constraints rather than focusing solely on fertility incentives may diminish over time rather than expand. In a broader context, it is essential for population and demographic-intelligence systems utilised in national planning to routinely incorporate gender-disaggregated indicators, such as those discussed in this paper. This approach is necessary to avoid the misconception of fertility decline and population ageing as phenomena that are neutral with respect to gender.

Future research ought to build upon this descriptive account by utilising unit-record Census or Labour Force Survey microdata to more directly evaluate McDonald's (2000) gender-equity hypothesis in the context of Sri Lanka. This could involve modelling the joint determinants of marriage timing, fertility, and labour force participation at the individual level, as well as investigating how these dynamics differ across the various ethnic, sectoral, and provincial divisions within Sri Lanka.

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Data Availability Statement

This study is based entirely on secondary, publicly available data published by the Department of Census and Statistics, Sri Lanka. The relevant sources are cited in the References and are accessible at the URLs provided.

Conflicts of Interest

The author declares no conflict of interest.

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ORIGINAL ARTICLE

Sisters, Not Brothers: Gender and the Household Division of Educational Resources

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ABSTRACT

Female education has become one of development policy's most familiar devices. Educate girls, the argument goes, and early childbearing falls. Beneath that proposition there are two questions that receive noticeably less attention: who inside the household gets the education in the first place, and how much causal work can schooling itself really do? This paper examines both using the Cape Area Panel Study and sibling sex composition as a source of variation in the educational attainment of young adults aged 18 to 26 in metropolitan Cape Town, South Africa. The first-stage results reveal a striking gender asymmetry. Young women raised with any sisters complete 0.78 fewer years of schooling on average, controlling for household size and family background. Male schooling, on the other hand, barely moves with sibling composition. The sign differs across countries and cohorts, and the gender asymmetry appears more stubborn. Collectively with the wider literature, that instability points toward a gendered household allocation rule: girls' educational investment appears more contingent on family composition, more available for adjustment when circumstances inside the household change. Sisters expose an inequality they did not create. The second stage results complicate another familiar story. Once education is instrumented, the large negative relationship between schooling and teenage pregnancy shrinks sharply and loses statistical significance. The Cape Town evidence therefore places gender inequality at two distinct points in the development story: in the household distribution of education itself, and in the distance between educational resources and reproductive agency. Gender responsive policy has reason to look further inside the household. Increasing what families have available is only part of the question. Who gets what still remains to be a question of its own.

Keywords *Sibling Sex Composition; Female Education; Early Fertility; Instrumental Variables; South Africa*

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1. Introduction

"What circumstances limit women's liberty and can she overcome them?"

— Simone de Beauvoir, The Second Sex.

Education occupies a peculiar place in development policy. It is something to be distributed, often unequally, and something expected to do considerable work once acquired. For girls and women especially,

schooling has accumulated an extraordinary number of jobs. It is expected to improve employment and earnings, delay childbearing, improve health, alter fertility, and carry human-capital gains into the next generation. Some of these relationships are remarkably persistent in the data (Schultz, 1993, 2008). They have also helped turn female education into a policy device. Years of schooling become something policymakers can pull to move outcomes elsewhere, fertility among them (Schultz, 1997). Yet education has to reach the girl before it can perform any of this work. Who gets how much of it is already a distributional question.

The evidence linking women's education and fertility is certainly persuasive about association. Cause is another matter, and policy has rarely been especially patient about the difference. More educated women tend to have fewer children, and the relationship survives a remarkable number of controls for family and community background. Still, correlations carry baggage. Omitted variables are one obvious problem (Berger & Leigh, 1989). Ability is another (Griliches, 1977). Then there is a confounder especially difficult to wave away: how people value the future relative to the present. Fuchs (1982) raised the role of discount rates decades ago, and the problem remains awkward. A young woman inclined to invest heavily in a future self may remain in school longer and postpone childbearing for reasons rooted in that same disposition. Education and fertility then move together beautifully in the data. The beauty of the relationship tells us very little about what produced it. Treat education as exogenous and that entire difficulty disappears by assumption. Conveniently. Does education itself account for some of the difference observed in early childbearing?

This study takes that question to metropolitan Cape Town, South Africa. Using an instrumental variables (IV) approach, it asks how much confidence the causal story around the education-fertility relationship can really bear. The empirical design takes its cue from Butcher and Case (1994), who used the sex composition of a woman's siblings as an instrument for schooling in the United States. Here, the outcome changes too. Butcher and Case were interested in earnings. This paper turns to teenage pregnancy. Sibling sex composition offers something unusually difficult to find in this literature: variation in schooling that the woman herself did not choose. She plainly had no hand in whether her siblings were born male or female. That gets the analysis some distance. The exclusion restriction remains the difficult part. Family composition can alter household resources, parental expectations, domestic responsibilities, supervision, perhaps even the small and largely invisible negotiations through which girls' time gets allocated inside a household. Some of those pathways could conceivably reach early childbearing without travelling through education first. Section 5 takes that problem seriously because the credibility of the exercise depends on it.

Furthermore, there's another intriguing aspect of sibling composition that delves deeper within the household dynamics. This paper examines how parents invest in children's education, how resources get divided between sons and daughters, and what those choices may eventually mean for adolescent girls. The consequences can arrive early. Teenage pregnancy may keep girls at home during precisely those early career years when young men begin moving into work and accumulating experience. Poorer employment prospects later on may make education for girls appear less worthwhile to parents in the first place. Girls receive fewer opportunities because their prospects are poor; their prospects remain poor partly because those opportunities were withheld. A rather nasty circle. In a setting where household resources are tight, the question of how far a child goes in school can remain substantially with parents, even while female employment expands and girls spend more years in education. Constraints rarely have much reason to fall evenly.

The Cape Area Panel Study (CAPS) makes it possible to examine these questions with unusually rich longitudinal data, following a large and representative sample of young people in metropolitan Cape Town through adolescence and into adulthood. There is a second reason for bringing the Butcher and Case strategy here. Since 1994, sibling sex composition has had a surprisingly long life as an instrument, while doubts about its stability have followed it around almost from the beginning. Does the instrument behave similarly once it leaves the institutional environment in which it was first identified? Butcher and Case

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found that American women raised only with brothers received more education than women raised with at least one sister, controlling for household size. Kaestner (1997) could not reproduce the result for a later United States birth cohort. Hauser and Kuo (1998) found fairly weak support. Evidence from China sends the sign elsewhere again. Cape Town adds another version: having sisters reduces female educational attainment by 0.78 years, while male schooling appears remarkably indifferent to sibling sex composition and family size. The specific Butcher and Case brother effect is difficult to see here.

Crucially, the instability interests this paper as much as the coefficient itself. Across these settings, the direction of the sibling effect on female schooling changes, sometimes considerably, while female schooling continues to respond to household composition in ways that male schooling often does not. That recurring gender asymmetry is part of what makes the instability informative. Household allocation rules change too: whose schooling is worth paying for, whose labour is needed, who takes care of whom, what parents imagine a daughter's education will eventually return. The instrument therefore arrives in Cape Town carrying a social question alongside the econometric one. Its credibility has to be established in the setting where it is used. Its first stage may also tell us something about whose education becomes adjustable inside that setting.

Also, the second-stage estimates add another complication. Education has no statistically significant effect on teenage pregnancy in the Cape Town sample once schooling is instrumented. The OLS estimates tell a much more dramatic story, with a substantially larger negative relationship between female schooling and teenage pregnancy. Breierova and Duflo (2004) find education to be an unimportant determinant of fertility before age 25 in Indonesia, while Osili and Long (2008) find almost the reverse empirical pattern in Nigeria: their IV estimate is much larger than the corresponding OLS estimate. Cape Town therefore enters an already unsettled causal literature. Female education has nevertheless become a familiar instrument of fertility policy, sometimes to the point that years of schooling are spoken about as though they operate rather mechanically on early childbearing. Add schooling here, receive fewer births there. The appeal is obvious. The correlations are strong, and educating girls is something worth doing anyway.

In sum, the contribution of the paper sits across these two results. The first stage suggests that household composition is part of the machinery through which educational resources are allocated, with girls' schooling more exposed to that machinery than boys. Across countries and cohorts, the direction of the sibling effect changes while the gendered sensitivity of educational investment appears more persistent. That instability is itself informative. It shifts attention from the particular sibling configuration toward the allocation rule underneath it, and toward whose schooling becomes adjustable when circumstances inside the household change. The second stage puts pressure on the assumption that additional schooling will travel straightforwardly into lower teenage pregnancy. Together, the two results locate gender inequality at different points in the development story. One concerns the distribution of an educational resource inside the household. The other concerns how far that resource can travel into a reproductive outcome shaped by a much wider social world. For gender responsive policy, the distinction matters. A household can be poor and allocate scarce resources unequally. It can become somewhat less poor and continue allocating them unequally. Increasing the size of the household pie tells us surprisingly little about how the pie will be divided. The allocation rule deserves attention of its own.

The rest of the paper proceeds as follows. Section 2 reviews the literature on sibling composition and education, together with work on education's non-market returns through fertility. Section 3 introduces the Cape Town data and patterns of educational attainment. Section 4 presents the first-stage analysis. Section 5 considers endogeneity and the second-stage estimates. Section 6 discusses the findings and their implications. Section 7 addresses limitations and future research. Section 8 concludes.

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2. Literature Review

2.1 Sibling Composition and Educational Attainment

Usually, economic models of household behaviour begin with a family allocating scarce resources among its children. Educational attainment, from this perspective, emerges partly from decisions made inside the household, where parents weigh competing claims on a limited budget (Becker, 1981; Behrman, Pollak, & Taubman, 1982). Once resources are scarce, those decisions acquire a gender. Expected returns matter. So do borrowing constraints, domestic responsibilities, birth order, and assumptions about which child will eventually support the household. A daughter and a son can therefore place very different claims on the same educational budget. The arithmetic of the household is rarely just arithmetic. Early developing-country evidence made this visible. Parish and Willis (1993), studying Taiwan, find that brothers reduce siblings' education and that credit constraints and birth order sharpen the effects, particularly for girls. Older sisters in poor households can increase younger siblings' schooling through their own contributions to the family. Salaff (1981) describes a starker version in Hong Kong: older daughters leave school and enter work while younger brothers continue their education. Tang (1981) captures the uncomfortable logic rather memorably. One of the best things that can happen to a boy, after having wealthy and educated parents, is having an older sister. A grim compliment to the sister.

Additionally, later work carried the resource-allocation argument across very different settings. Studies from Ghana, Türkiye, Bolivia, Vietnam, and China find consequences associated with sibship size, birth order, or sibling sex composition, often where resources are already thin (Garg & Morduch, 1998; Morduch, 2000; Dayıoğlu et al., 2009; Zeng et al., 2012; Zheng, 2015; Vu & Tran, 2021). The direction moves around. In China, for example, brothers can reduce female educational attainment while sisters release resources that might otherwise be absorbed by sons (Zheng, 2015). Family size is changing alongside these allocation problems. Declining fertility can loosen some resource constraints while making the sex and position of each child more consequential inside a smaller household (Ibhate, Opoggen, & Bondoi, 2025). A preference for sons has rather different arithmetic in a family expecting two children than in one expecting six. Butcher and Case (1994) produced the result that gave sibling sex composition another empirical life. In the United States, women raised only with brothers obtained more education than women raised with sisters, while comparable effects did not appear for men. The result proved restless. Kaestner (1997) finds essentially no sibling-sex effect among white adults in a later American cohort and a reversed sign among Black adults. Hauser and Kuo (1998) find weak and inconsistent evidence across several datasets. Conley (2000) proposes another mechanism altogether, with opposite-sex siblings depressing attainment regardless of the respondent's sex. Same family variable. Several empirical lives.

Still, evidence outside the United States makes a universal interpretation harder. Chinese studies find brothers reducing educational attainment and sisters increasing it, particularly for women and rural households (Lu & Treiman, 2008; Zheng, 2015). More recent evidence makes the gendered allocation mechanism harder to miss. Also, Liu et al. (2025) find that China's 1.5-child policy widened the educational gender gap by disproportionately reducing female attainment, with eldest daughters who acquired younger brothers facing the largest losses. Resource dilution explains part of the effect. So does care. Older daughters absorb responsibilities inside the household that their brothers do not absorb in the same way. More recent work gets closer still to the institutions and relationships underneath these coefficients. Collins (2025) shows that inheritance customs mediate sibling-gender effects on schooling. Zang et al. (2023) find sibling spillovers especially pronounced among disadvantaged families.

Furthermore, and fascinatingly, Brenøe (2022) finds that women raised with brothers develop more traditional gender roles later in life, while Barclay and Bygren (2026) move beyond years of schooling and find sibling composition associated with gender typical educational choices among some groups. That is, the sibling can affect resources. Sibling effects can also reach beyond years of schooling into what education eventually looks like. Likewise, older siblings influence younger siblings' college and major

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choices across several institutional settings (Altmejd et al., 2021), while gender-atypical fields of study remain patterned by social-class background and the gendered environments in which educational choices are made (Seehuus, 2019). The sibling can also enter the social world in which particular educational futures begin to feel ordinary. That social world matters because a brother or sister is never merely a sex indicator once placed back inside a household. Sibling relationships themselves sit within wider cultural and family systems (Garner & Manuel-Scott, 2026). Expectations about earnings, inheritance, care for parents, domestic work, marriage, and the value attached to educating a daughter can all give the same sibship configuration a different meaning somewhere else. Years of schooling capture the eventual educational outcome while revealing slight about how education rearranges gender relations and agency underneath it, a problem that also appears in Peppin Vaughan's (2025) review of women's education and sex selection.

Hence, the instability across studies may contain information of its own. Sibship composition operates inside systems of gender socialisation and household allocation whose rules vary across institutional settings. Its coefficient can change sign as those rules change. The wandering sign may be telling the story. What persists more often is the gendered sensitivity underneath it: *female schooling appears responsive to household composition in settings where male schooling moves sizeably less.* Read this way, the question shifts from which sibling is "good" or "bad" for a girl's education. Household resources reach children through allocation rules already carrying expectations about gender. Sibship composition may reveal whose education becomes available for adjustment when those resources are divided. A sister coefficient can therefore tell us something larger than competition between sisters. It can expose a setting in which girls' educational investment is more negotiable. That asymmetry is itself part of the gender inequality under study here.

2.2 Non-Market Returns to Education: Reduced Fertility

In addition, and separately, education can reach fertility through several routes. More educated women may choose fewer children while investing more in each child, the familiar quantity-quality mechanism (Becker & Lewis, 1973). Education can improve child survival and alter desired family size (Lam & Duryea, 1999; Schultz, 1993), while contraceptive knowledge and effective use provide another route (Rosenzweig & Schultz, 1985, 1989). Earnings matter too, since education can raise the opportunity cost of childbearing. More recent fertility theory has widened the frame considerably, bringing parental time, bargaining within couples, labour-market institutions, family policy, and investment in children into the same fertility decision (Doepke et al., 2023). Education can enter several of these at once. How far, and in which direction, depends on what else is going on. The descriptive relationship is striking. Mothers with more education tend to have fewer children, and Schultz (1993) identifies this as one of the major findings in research on women's education. Causality is where the ground gets softer. Compulsory-schooling and school-expansion designs have produced reductions in early fertility in some settings and small, heterogeneous, or differently signed estimates elsewhere (Breierova & Duflo, 2004; Black et al., 2008; McCrary & Royer, 2011; Fort, Schneeweis, & Winter-Ebmer, 2016). Kim (2023) reaches much the same conclusion from the wider literature. Education can alter health, child survival, fertility preferences, contraceptive knowledge, and women's control over births. The weight carried by each channel moves with institutions and stages of economic development.

Consequently, developing-country IV evidence makes the variation especially difficult to ignore. Breierova and Duflo (2004) exploit Indonesia's large primary-school construction programme, drawing on the regional and cohort variation in schooling generated by the programme and originally developed as an identification strategy in Duflo (2001). Average parental education matters for very early fertility, before age 15. By age 25, the effect becomes unimportant - already, the timing is doing something interesting. Moreover, Osili and Long (2008) reach a very different result in Nigeria, where their TSLS estimates suggest a substantial causal reduction in births before age 25. More recent estimates have hardly settled the matter. Wang (2025) finds smaller and less uniform effects in Malawi, while Chen and Guo (2022) uncover

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considerable heterogeneity following China's compulsory-schooling reform. A causal effect exists in parts of this literature. Its size, timing, and reach have proven remarkably sensitive to where and how education changes. Part of the difficulty lies in the outcome called fertility. DeCicca and Krashinsky (2023), using Canadian compulsory-schooling reforms, find education compressing the fertility distribution: women become more likely to have at least one child and less likely to have multiple children. European research similarly distinguishes educational effects on fertility timing from effects on eventual family size (Vasireddy et al., 2023). Work from China and Taiwan adds further variation across cohorts and stages of the reproductive life course (Piotrowski & Tong, 2016; Zhang & Zhao, 2023; Liu & Zhao, 2024; Zheng, 2024; Shen, 2025). "Fertility" begins to carry rather a lot. First birth. Teenage pregnancy. Births before age 25. Completed fertility. Timing. Distribution. A coefficient attached to one can slide surprisingly easily into a policy claim about another.

Therefore, literature leaves education operating through mechanisms whose strength depends heavily on context. The inverse education-fertility relationship remains descriptively powerful. Its causal interpretation travels less comfortably. Education reaches labour-market opportunities, marriage and family formation, knowledge about reproduction, household bargaining, and the economic cost of children. These pathways can reinforce one another. They can also pull fertility in different directions. A clean coefficient has a lot of disorder behind it. There is another problem, especially important once the question is framed around women's education. Fertility is frequently measured at the level of the woman while the decision itself may be made somewhere much more crowded.

In addition and importantly, it should be noted that feminist economics has long pushed analysis inside that household space. Women's access to resources and women's control over those resources cannot simply be treated as equivalent (Mason, 1986). Naturally this is crucial as fertility is one of the key decision focuses within a household, where individual resources enter relationships structured by bargaining and authority. Van Hoyweghen et al (2025), studying rural Senegal and Uganda, find that individual fertility preferences cannot simply stand in for household choices. Decision-making itself varies sharply by setting. In Uganda, fertility choices reflect a balance between spouses' preferences. In Senegal, husbands' preferences dominate.

Yet, this complicates a simple education-to-fertility pathway. Schooling can change a woman's preferences, knowledge, opportunities, expectations from work, perhaps her bargaining position inside the household as well. The eventual fertility decision may still be made in a space where her preference carries limited weight. Additional schooling then has quite a distance to travel before it reaches a birth outcome, through a partner, through a household, through the economic possibilities surrounding that household. This matters for the interpretation of causal estimates. A weak effect of schooling can coexist with substantial value in women's education when reproductive decisions themselves are relational and unequally held. Null instrumented estimates of the kind reported below become less puzzling once that distance is taken seriously.

3. Data and Patterns of Educational Attainment

3.1 Data

Two specific data requirements shaped this study. First, the young adults surveyed needed to be old enough to have completed a meaningful amount of education. Second, information was needed on the number and sex composition of the siblings in the households in which they were raised. Many datasets widely used to study education are poorly suited to this purpose because they record current household characteristics without recovering the sibship in which respondents grew up. The Cape Area Panel Study (CAPS) makes this analysis possible, as CAPS is a longitudinal survey that followed a large and representative sample of young adults in metropolitan Cape Town through the transitions from adolescence into adult life (University of Cape Town & University of Michigan, 2012). The study commenced in 2002, when

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approximately 4,800 young people between the ages of 14 and 22 were interviewed in Wave 1, together with information on their households. Young adults were selected from the household roster collected during the household interview. Subsequent waves followed the original young adult sample. By Wave 4 in 2006, the young adults and their households had been interviewed repeatedly as they moved through schooling, work, family formation, and other early-adult transitions. Wave 4 also included a short questionnaire covering children born to female young adults. The present analysis uses Waves 1 through 4, covering 2002 to 2006 (Lam et al., 2008). CAPS subsequently continued to Wave 5 in 2009, which falls outside the period examined here. The Wave 1 household roster records the relationship of each household member to the young adult respondent. Variables describing the size of the sibship in which respondents were raised and the sex composition of their siblings were constructed from this roster.

The young adult data also provide detailed information on parental education, years of education completed, and pregnancy incidence, including live births and whether a respondent had ever been pregnant. Indicators for parental education and a per capita household income-based poverty measure control for family socioeconomic status. **Table 1** reports the summary statistics and provides further detail on the variables used in the analysis.

Table 1. Summary statistics, Cape Area Panel Study (CAPS), 2002–2006

	Ages 18–26 inclusive	
Variable	**Males**	**Females**
Years of education completed	10.17 (2.20)	10.62 (1.94)
Any sisters	0.71 (0.44)	0.73 (0.44)
Percent sisters in sibship	0.33 (0.21)	0.34 (0.24)
Number of sisters	1.13 (0.99)	1.19 (1.01)
Number of brothers	1.14 (0.96)	1.09 (0.95)
Number of siblings	2.27 (1.20)	2.29 (1.23)
High school degree, mother	0.19 (0.39)	0.18 (0.38)
College degree, mother	0.08 (0.28)	0.08 (0.27)
Completed education, mother	9.00 (2.86)	8.76 (3.05)
High school degree, father	0.17 (0.37)	0.18 (0.38)
College degree, father	0.08 (0.27)	0.08 (0.28)
Completed education, father	8.94 (2.95)	8.93 (3.05)
Mother works	0.47 (0.49)	0.46 (0.49)
Father laborer	0.07 (0.25)	0.08 (0.26)
Father professional	0.13 (0.33)	0.12 (0.32)
Oldest sibling	0.35 (0.46)	0.35 (0.42)
Poor household	0.17 (0.37)	0.16 (0.36)
Age in 2006	21.57 (2.47)	21.63 (2.40)
Observations	**1,561**	**1,878**

Notes: Standard deviations in parentheses. All means weighted using sample weights. The sample is restricted to adolescents aged 18–26 inclusive with a positive amount of completed education and at least one sibling. Percent sisters in sibship is the ratio of the number of sisters to the total number of siblings within the household, including the respondent, according to the Wave 1 household roster. Mother high school degree = 1 if the mother's highest level of education is Grade 12 or above; = 0 otherwise. Mother college degree = 1 if the mother's highest level of education is Grade 16 or above (diplomas and certificates); = 0 otherwise. Father's education is defined analogously. Mean completed education for the mothers and fathers of both female and male adolescents is roughly nine years, which covers primary and middle school levels in full. Racial composition of the sample: black 0.45 (males) and 0.48 (females); coloured 0.44 and 0.42; white 0.11 and 0.10. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

Table 1 shows that male and female adolescents have a similar number of siblings on average. The tendency to belong to a poor household is also similar across genders, at around 17 percent, which is unsurprising given that the data come from metropolitan Cape Town rather than South Africa as a whole. Parents of the adolescents are relatively unlikely to have completed high school or college, though almost

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all have completed primary and middle school, again unsurprising given the metropolitan setting. Therefore, the key take away from this table to keep in mind when reading the rest of the study that follows below is that the sample splits almost evenly between adolescents with and without sisters, so the sibling contrast is not a rare-cell artefact; parental education averages roughly nine years, placing most households at the primary-to-middle-school margin where schooling decisions bind hardest.

3.2 Educational Attainment of Adolescent Females and Males

Table 2 continues the summary statistics in terms of the educational levels completed by the young adults. Most Cape Town young adults have completed primary and middle school, so there is almost no variation at those levels. High school and college degrees are much less common. The data show that adolescent females are slightly more likely than males to complete high school (0.376 versus 0.348), whereas college degree completion is roughly the same for both genders.

Table 2. Education levels completed, by sex

Level of education completed	Females	Males	Observations (F / M)
Primary school degree	0.993 (0.082)	0.975 (0.156)	1,878 / 1,561
Middle school degree	0.870 (0.339)	0.802 (0.398)	1,878 / 1,561
High school degree	0.376 (0.487)	0.348 (0.474)	1,658 / 1,233
College degree	0.181 (0.385)	0.193 (0.390)	1,082 / 796

Notes: Standard deviations in parentheses. Fractions of young adults at each level of education, conditional on completing that level. All means weighted using sample weights. Primary = 1 if the level of education completed by the last wave is Grade 6 or above; middle school = 1 if Grade 9 or above; high school = 1 if Grade 12 or above; college degree = 1 if 20 or above (undergraduate diploma or certificate from a university); = 0 otherwise. Mean completed education is 10.62 years for females (SD = 1.94) and 10.17 years for males (SD = 2.20), covering primary and middle school levels in both cases. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

The second stage tends to command the attention in studies like this one, with all its intricacies of endogeneity and the exclusion restriction, yet first stage also has its complications before one reaches to the second stage stories, therefore needs care and attention. That is, in this case, the number of siblings in a family is highly correlated with other measures of family background that can affect educational attainment. Regressions of completed education on the number of siblings, parents' education, socioeconomic status, birth order, and religion (**Table A1** in the Appendix) isolate each variable's independent effect. And in contrast to Butcher and Case's (1994) findings for the United States, an additional sibling in Cape Town is associated with an increase in educational attainment of roughly two fifths of a year for male adolescents and three fifths of a year for female adolescents. This may suggest that adolescent siblings play the role of a supportive cushion for each other in obtaining additional schooling, which may partly explain South Africa's general upward trend in secondary school enrolments (**Figure 1** in the Appendix). However, an additional sibling becomes disadvantageous once the number of siblings is squared. The significant independent positive effect of sibship size reported in **Table A1** vanishes for males in the first-stage analysis once control variables are added, but the positive effect of the number of siblings remains significant for females even after controls (**Table 3**). Moreover, parents' educational attainment positively and significantly influences schooling for both males and females. For female adolescents, the effect of the mother's education appears larger than that of the father's, which may reflect greater maternal influence on adolescent daughters or the fact that the mother's education partly proxies for household wealth (Butcher & Case, 1994). All in all, indeed, family background variables are important determinants of schooling, and these characteristics are controlled for in the regressions that follow. So, all in all, the key take away regarding Table 2 to keep in mind before the next table is that young women and men reach primary and middle school at similar rates, but the sample thins out at every higher step, which is the range where sibling composition turns out to do its work.

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4. The Impact of Sibling Composition on Educational Attainment: First-Stage

4.1 Specifications

The sex composition of siblings has a significant effect on the education of young adult females. The results in **Table 3** show that females' schooling is significantly influenced by both family size and sibling sex composition. Males' schooling, however, is unaffected by both. Family composition may influence educational attainment through different mechanisms. If the introduction of a sister changes a daughter's reference group within a household, an indicator for the presence of any sisters should be significant in regressions of completed education (Butcher & Case, 1994). If instead borrowing constraints cause females' educational decisions to depend on the overall sex composition of their siblings, or if girls and boys have different effects on a family's budget constraint, educational attainment should depend on the percentage of children within the household, including the respondent, who are female. The results of adding each of these controls are presented in **Table 3**.

Table 3. First stage: sibling sex composition and educational attainment

	Females				Males			
Explanatory variables	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Any sisters	−0.776***			−0.979***	−0.036			−0.615
	(0.204)			(0.340)	(0.211)			(0.393)
Any brothers		−0.075				−0.253		
		(0.161)				(0.241)		
Percentage of siblings female			−0.781**	0.463			0.253	1.217*
			(0.361)	(0.587)			(0.359)	(0.668)
Number of siblings	0.707***	0.822**	0.473***	0.716***	0.474	0.594	0.442	0.559
	(0.190)	(0.351)	(0.176)	(0.191)	(0.421)	(0.400)	(0.412)	(0.417)
Number of siblings squared	−0.144***	−0.161**	−0.109**	−0.147***	−0.112	−0.125	−0.108	−0.128
	(0.049)	(0.073)	(0.047)	(0.049)	(0.079)	(0.077)	(0.078)	(0.080)
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,647	1,647	1,647	1,647	1,357	1,357	1,357	1,357
R^2	0.151	0.153	0.147	0.150	0.167	0.165	0.165	0.161

Notes: Dependent variable: years of education completed by the last wave. Robust standard errors in parentheses; ***p< 0.01, **p < 0.05, *p < 0.1. All regressions are weighted using sample weights and are cluster-adjusted. All specifications include controls for poor household, oldest sibling, race, religion, parents' high school and college degrees, father professional, father laborer, mother working, age, age², age³, and an intercept. The sample is restricted to Cape Town adolescents aged 18–26 with at least one sibling and a positive amount of education. Sibling information is obtained from the Wave 1 household roster. Percentage of siblings female is the ratio of the number of sisters to the total number of siblings, including the respondent. Mean completed education is 10.62 years for females (SD = 1.94) and 10.17 years for males (SD = 2.20), covering primary and middle school levels. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

The educational attainment of males does not appear to depend on sibling composition, as the coefficients on both family variables, any sisters and percentage female, are mostly insignificant. Unlike in Butcher and Case (1994), males' education does not remain orthogonal to sibling composition once both an indicator for any sisters and an interaction between any sisters and the number of siblings is allowed; the coefficient on the interaction term becomes significantly negative. The presence of any sisters has a significant impact on females' education. The addition of a sister reduces a female's education by 0.78 years, holding family size and background constant. This reduction is much larger than Butcher and Case's (1994) estimate of −0.30 for women in the United States. As in Butcher and Case (1994), the influence operating through the presence of any sisters appears more persistent than that operating through the percentage of siblings who are female. In column 3, when the percentage female variable is added by itself, it is significantly and

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negatively correlated with girls' education. When it is added alongside the any sisters indicator, however, it loses significance while the presence of any sisters remains strong (column 4). Particularly for females from small families, the any sisters indicator and the percentage female variable are highly correlated; in the absence of the former, the latter may be picking up its effect. Adding both variables tests their relative effects. The any sisters indicator dominates, with a large and significant negative coefficient of −0.979 and a t-statistic of 2.88. The percentage female coefficient is not small (0.463) and turns positive, but it is insignificant, with a t-statistic of 0.79.

Butcher and Case (1994) can state that women raised only with brothers receive significantly more education than women raised with any sisters. Although the coefficient on any sisters is negative and significant in both Cape Town and the United States, their coefficient on the any brothers indicator for women is positive and marginally significant (0.227, standard error 0.134), whereas the corresponding coefficient here is negative and highly insignificant (−0.075, standard error 0.161). One may therefore state that adolescent girls raised with brothers tend to receive more education than girls raised with any sisters in Cape Town, but not with the confidence available to Butcher and Case (1994). In metropolitan Cape Town there also appears to be a hint of negative gender bias in girls' educational attainment. For boys, the positive effect of the percentage of siblings who are female is consistent regardless of whether the any sisters indicator is included, and it becomes significant when that indicator is added. For adolescent females, the coefficient on any sisters is negative and significant regardless of the presence of the percentage female variable. The results in **Table 3** suggest that sisters negatively affect each other's educational attainment.

In brief, before moving on to the next table, the key take away from the first stage effect of sibling sex composition on educational attainment in Table 3 is that any sisters cut a young woman's schooling by roughly 0.78 to 0.98 years and the effect survives every specification, while the any-brothers coefficient is small and insignificant, so the Butcher and Case "brothers help" result does not reappear here; boys are unmoved throughout.

4.2 Sibling Sex Composition and Educational Degrees

The indicator for the presence of any sisters is next used to analyse the impact of sibling sex composition on the educational degree attainments of female young adults reported in **Table 2**. Hence, the next table, which is **Table 4** reports regressions at three points of degree attainment: completing high school, earning a college degree including certificates and diplomas, and earning a bachelor's degree together with postgraduate degrees. Levels below high school are excluded owing to the lack of variation there. Males' educational attainment appears orthogonal to sibling sex composition, so the analysis focuses on adolescent females. Please note that having established in **Table 3** that it dominates the alternative measures of sex composition, we carry forward only the any sisters indicator.

Table 4. First stage analytics continued: sibling sex composition on educational degrees, young adult females

	Binary dependent variable		
Explanatory variables	**High school degree (1)**	**College degree (2)**	**College/grad degree (3)**
Any sisters	−0.249**	0.407**	0.759**
	(0.112)	(0.205)	(0.296)
Number of siblings	0.401***	−0.416*	−0.611
	(0.150)	(0.237)	(0.561)
Number of siblings squared	−0.087**	0.083	0.126
	(0.037)	(0.052)	(0.101)
Control variables	Yes	Yes	Yes
Observations	1,658	1,082	955
R^2	0.102	0.101	0.101

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Notes: Robust standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. All regressions are weighted using sample weights and are cluster-adjusted. Controls are as in Table 3. High school degree = 1 if the female's highest level of education completed by the last wave is Grade 12 or above; = 0 otherwise. College degree (column 2) = 1 if the respondent attended and completed any form of higher education after high school, including diploma and certificate programs; = 0 otherwise. College/graduate degree (column 3) = 1 if the respondent completed an undergraduate Bachelor's degree from a university or a postgraduate degree; = 0 otherwise. Two definitions of a college degree are used because metropolitan settings offer many distinct types of higher education programs. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

As in **Table 3**, in the above table, sisters significantly reduce the probability that adolescent females obtain a high school degree, by roughly 25 percent on average. Strikingly however, having a sister significantly increases the likelihood that a young adult female obtains any form of higher education degree, such as a diploma or certificate (column 2), and also increases the likelihood of obtaining a bachelor's or master's degree from a university (column 3). This offsetting pattern, a negative effect at the high-school margin alongside a positive one at the tertiary level, is obscured in the continuous years-of-education measure of **Table 3**, where the two effects partly cancel, and is visible only when attainment is disaggregated by degree. In metropolitan Cape Town, sisters therefore appear to influence each other's chances of obtaining college degrees positively. One possible explanation is that older sisters participate in the labour force and financially support their sisters in obtaining college degrees. Higher education degrees such as bachelor's degrees, diplomas, and certificates tend to be highly valued by employers in urban areas, and such degrees can generate substantial returns in terms of access to prestigious job opportunities in metropolitan areas, especially for females.

It is reasonable to note that higher education degrees tend to function as luxury goods for many individuals, given high indirect costs such as the opportunity cost of forgone employment and high direct costs such as tuition. **Table 4** shows that the effect of the number of siblings on the likelihood of obtaining college, diploma, and certificate degrees becomes negative for adolescent females. In contrast to the supportive cushion role that siblings appear to play in attaining additional years of education in **Table 3**, siblings quickly begin to reduce the likelihood of obtaining higher education degrees. The supportive cushion interpretation remains doubtful when the number of siblings is squared, since the positive coefficients are not significant. In summary, the key take away from Table 4 of sibling composition on educational degrees is that disaggregating by degree reveals a reversal a years-of-schooling measure would hide: sisters lower the probability of finishing high school yet raise the probability of completing a college credential, so the sibling penalty is concentrated at the secondary margin and flips at the tertiary one.

4.3 Other Economic Outcomes and the Exclusion Restriction

If the presence of a sister changes a female's educational goals, it may also affect other aspects of her economic and social life. To this end, **Table 5** presents estimations of the effect of any sisters on two objective outcome variables, currently working and ever married, as well as one subjective outcome variable, the age at which the respondent expects to first marry. **Table 5** also explores the influence of any sisters on whether a female's parents were ever married. These variables may be expected to be linked to both schooling decisions and sibling composition. Importantly, **Table 5** is also reported to comment on the exclusion restriction requirement for the potential instruments - the any sisters indicator, the number of siblings, and the number of siblings squared. That is, the instruments should not influence the main outcome variable, the incidence of teenage pregnancy, other than through the endogenous regressor, education. Therefore, the below table checks whether there are other channels through which the instruments might reach the outcome. Because if one of the instruments influences the incidence of teenage pregnancy other than through educational attainment, the causality argument becomes doubtful, and here we analyse and verify for this and confirm that it is not the case.

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Table 5. Sibling composition and other socioeconomic outcomes, young adult females

	Socioeconomic outcomes			
	Currently working	Ever married	Age expected to first marry	Parents ever married
Mean of dependent variable	0.321	0.071	39.41	0.751
	(0.465)	(0.257)	(26.31)	(0.422)
Any sisters	0.018	0.280	−3.137	−0.213
	(0.160)	(0.203)	(2.954)	(0.221)
Number of siblings	0.472	−0.331	1.656	0.427
	(0.332)	(0.441)	(6.246)	(0.304)
Number of siblings squared	−0.078	0.094	−0.228	−0.082
	(0.068)	(0.088)	(1.282)	(0.061)
Observations	1,344	1,664	1,663	1,647

Notes: Standard deviations of dependent variable means and robust standard errors of coefficients in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. The sample is restricted to adolescents with at least one sibling. All regressions include an intercept, age, age², age³, and indicators for religion, race, poor household, oldest child, and parents' highest level of education completed. Sibling information comes from the Wave 1 household roster. Currently working = 1 if Wave 1 work status indicates full-time, part-time, or combined employment; = 0 otherwise; these regressions also control for mother working, father laborer, and father professional. Ever married = 1 if the respondent reported having married by the last wave; = 0 otherwise. Age expect to first marry is a subjective continuous variable from the Wave 1 young adult data. Parents ever married = 1 if the respondent reported in Wave 1 that her parents had been married to each other; = 0 otherwise. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

Hence, according to the reporting in **Table 5**, no effect of any sisters is found on the social and economic outcomes. There is no effect on the probability of currently working or of having ever married, and any sisters appears uncorrelated with the subjective measure of expected age at first marriage and with whether the respondent's parents were ever married. Therefore, the potential instruments are uncorrelated with other social and economic outcome variables that could influence fertility decisions is reassuring for the exclusion restriction. Sibling sex composition influences females' schooling but does not appear to influence other relevant socioeconomic outcomes. This suggests that sibling sex composition may be useful as an instrument in estimating non-market returns to education, such as delays in teenage pregnancy. So, in summary, the key take away regarding Table 5, which is the exclusion restriction checks is that sibling composition shows no systematic association with the other social and economic outcomes that could reach fertility on their own, which is reassuring for the exclusion restriction, though it speaks only to the channels that are observable.

5. Education and Early Fertility: Sibling Sex Composition as an Instrument

5.1 Justifying the Instruments and Tackling Endogeneity

A simple OLS regression of teenage pregnancy incidence on education raises substantial endogeneity concerns. Such a regression omits unobservable variables such as preferences, discount rates, parental care, and wealth, each of which may influence both the endogenous regressor and the dependent variable. For example, individual preferences or discount rates may positively affect educational attainment - if patience levels are unobserved and high, but while negatively affecting a female's pregnancy decisions. This would overstate the negative impact of education on teenage pregnancy, and thus the nonmarket return to education. Beyond omitted variable bias, the research question also carries the risk of bias from potential simultaneous causation between schooling and early fertility. Measurement error poses a further risk: completed education may be reported with error, leading to attenuation bias in the estimated nonmarket return. If completed education is underreported, measurement error may appear in the pregnancy regression as a higher likelihood of teenage pregnancy, and hence a lower nonmarket return to education. To address these potential biases, the instrumental variables methodology is used. In an ideal setting, a randomized

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controlled trial would be preferable for inferring causality, but such a design is highly challenging for a fertility related question of this kind.

Specifically, the results in **Table 3** and **Table 4** suggest that sibling sex composition may be useful as an instrument in studying the effects of education on teenage pregnancy incidence. The first-stage analysis in **Table 3** confirms the relevance of all the potential instruments, such as, the any sisters indicator, the number of siblings, and the number of siblings squared, to years of education completed for young adult females. All three are significantly correlated with years of completed education for adolescent females, satisfying the relevance condition required of a valid instrument. The exclusion restriction requires that sibling sex composition not appear in the causal model of interest in its own right, and hence that it be excluded from the teenage pregnancy regression. Alternative channels through which the instruments might influence the outcome are examined in **Table 5**. The channels checked there are not, of course, the only possible stories; further mechanisms could contaminate the second stage and cast doubt on the exclusion restriction. Because one's sibling sex composition is unlikely to be correlated with personal attributes other than through the household upbringing itself, sibling sex composition generates exogenous variation in education that can be used to estimate the impact of education on teenage pregnancy.

Claiming that a female's sibling sex composition is entirely exogenous may appear a strong assumption. One could argue that in Cape Town individuals have brothers or sisters for underlying reasons, or that parents prefer to have daughters or sons for particular reasons - preferring sons to contribute to household income through labour force participation, or daughters to help with domestic work. Parents may have control over the number of children they have, but their control over the gender composition of those children is likely to be very limited. In this specific context it therefore seems reasonable to treat the exogeneity requirement as satisfied. The exogeneity assumption is nevertheless untestable, given the unobservable determinants of teenage pregnancy such as discount rates and preferences. The sexes of siblings may be used as instruments in measuring the nonmarket return to education if they help determine the amount of education a female receives while remaining orthogonal to her preferences or discount rates. Equivalently, sibling sex composition may serve as an instrument if it is correlated with educational attainment and uncorrelated with the source of the bias, whether omitted variables or measurement error. Patience level bias - omitted and unobserved high patience appearing as lower teenage pregnancy probability through more education - and measurement error - appearing as higher teenage pregnancy probability through underreported schooling - may have offsetting effects on the noninstrumented estimate. Whether the OLS estimate is too large or too small is therefore an empirical matter.

Therefore, the below **Table 6** presents results of teenage pregnancy regressions, with and without instrumenting for years of completed education. The dependent variable is the incidence of teenage pregnancy, constructed from the data using both ever having been pregnant and ever having reported a live birth by the last wave.

Table 6. Second stage: OLS and two-stage least squares estimations of education's impact on fertility, young adult females

	Dependent variable: incidence of teenage pregnancy			
Explanatory variables	**OLS (1)**	**Reduced form (2)**	**TSLS (3)**	**TSLS (4)**
Years of education	−0.247***	—	−0.028	−0.063
	(0.041)		(0.087)	(0.093)
Any sisters	−0.076	−0.014	—	—
	(0.152)	(0.146)		
Number of siblings	0.282	0.033	0.011	—
	(0.305)	(0.295)	(0.034)	
Number of siblings squared	−0.051	−0.001	−0.004	—

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	Dependent variable: incidence of teenage pregnancy			
Explanatory variables	**OLS (1)**	**Reduced form (2)**	**TSLS (3)**	**TSLS (4)**
	(0.061)	(0.060)	(0.010)	
Control variables (as in first stage)	Yes	Yes	Yes	Yes
Observations	1,653	1,653	1,653	1,653
R^2	0.278	0.228	—	—
Hansen J overidentification test (p-value)	—	—	—	Cannot reject (0.553)

Notes: Robust standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. The sample comprises young adult females aged 18–26 inclusive with a positive number of years of education and at least one sibling. All regressions are weighted using sample weights and are cluster-adjusted. Controls include an intercept, age, age², age³, and indicators for religion, poor household, oldest child, race, and parents' highest level of education completed. The binary dependent variable equals 1 if the respondent ever reported a pregnancy or live birth by the last wave in 2006; = 0 otherwise. Column 3 instruments years of education with the any sisters indicator alone. Column 4 instruments with any sisters, the number of siblings, and the number of siblings squared. The reduced form is reported as a robustness check: an instrument added to the outcome regression of interest should have no explanatory power. The Hansen J statistic reports the chi-squared(2) p-value for the test of overidentifying restrictions; the null that the instruments are uncorrelated with the second-stage residual cannot be rejected. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

The first column above presents an OLS estimate of the nonmarket return to education for adolescent females in Cape Town. The estimated reduction in the likelihood of teenage pregnancy of roughly 25 percent is large and negative. An indicator that the young adult female had a sister is insignificant in the teenage pregnancy regression once completed education is included as an explanatory variable. The reduced form estimation, with completed education omitted, suggests that the presence of a sister insignificantly reduces the likelihood of teenage pregnancy by roughly 0.014 ($p = 0.91$), regardless of the underlying explanation. The OLS and reduced form columns confirm that the any sisters indicator does not appear in its own right in the teenage pregnancy regression, which is reassuring for the exclusion restriction. The number of siblings and the number of siblings squared likewise have no explanatory power in the second stage. Two sets of instrumental variables estimates are presented. In column 3, years of completed education is instrumented using only the any sisters indicator. The nonmarket return to education remains a reduced likelihood of teenage pregnancy, but this negative effect is not significant (coefficient −0.028, $p = 0.82$). The second set of instruments comprises the any sisters indicator, sibship size, and sibship size squared. The IV estimate remains highly insignificant in this specification, though slightly more negative (coefficient −0.063, $p = 0.50$).

In summary, the key take away from the Table 6, which is the second stage analysis of education on early fertility, is that once education is instrumented, its effect on early childbearing between ages 18 and 26 is insignificant, while the large negative ordinary least squares estimate reveals itself as substantially biased, pointing to omitted variables rather than measurement error as the source of the gap.

5.2 Reliability and Endogeneity

Subsequently, at least two complications remain for the two-stage least squares results. The first concerns the exclusion restriction itself. Sibling sex composition may reach teenage pregnancy through an unobservable characteristic, including a young woman's preferences or the discount rate through which she weighs present and future outcomes. An indicator for the presence of a sister would then have its own route into the second-stage equation. If sisters, brothers, or household size altered preferences towards childbearing, expectations around marriage, or the weight attached to future outcomes, some independent relationship with teenage pregnancy incidence might be expected. **Table 5** provides little observable evidence of such a pathway in Cape Town. Reassuring, up to a point. The table can look only where the data allow it to look. Currently working, ever married, and expected age at first marriage offer imperfect glimpses of preferences and intertemporal choices. The underlying preferences and discount rates remain unobserved. The exclusion restriction therefore remains an identifying assumption. Table 5 provides evidence around its plausibility. It cannot establish it.

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The second complication concerns the large distance between the OLS and TSLS estimates. Classical measurement error in schooling would ordinarily attenuate the estimated education coefficient towards zero. The movement here goes in the other direction. The TSLS estimates in **Table 6** are considerably less negative than the OLS estimates, and the statistically significant relationship found under OLS disappears after instrumenting. This pattern is more consistent with downward omitted variable bias arising from characteristics associated with both schooling and teenage pregnancy incidence. Discount rates are one candidate. Preferences another. Family circumstances imperfectly captured by the available controls could do similar work. The OLS coefficient appears to be carrying rather more than education. Moreover, there is also a substantive reason to take the IV null seriously. Fertility decisions may be made within relationships and households whose preferences do not coincide neatly with those of the individual woman whose schooling is being instrumented. Van Hoyweghen et al. (2025) show in rural Senegal and Uganda that women's fertility preferences do not simply stand in for household choices, while the location of decision-making itself varies across settings. Ji et al. (2015) similarly find that intergenerational ties and parental influence shape childbearing intentions in a low fertility context. Schooling may alter what a young woman knows, expects, or wants. The eventual fertility decision can still have other people in it. This offers one plausible context for interpreting a weak instrumented relationship between education and early childbearing. The Cape Town data cannot identify that mechanism directly.

The comparison with earlier causal studies also requires some precision about the outcome being estimated. Osili and Long (2008) find a substantially larger TSLS than OLS effect of female schooling on births before age 25 in Nigeria, supporting a causal reduction in early fertility. Breierova and Duflo (2004) find education important for very early fertility before age 15 in Indonesia, with little evidence of an effect before age 25. Other natural experiments produce estimates that vary across settings and definitions of fertility (Black et al. 2008; McCrary & Royer, 2011; Fort, Schneeweis, & Winter-Ebmer, 2016). The Cape Town estimates fall at the weaker end of this literature: Table 6 provides no statistically significant evidence that additional schooling reduces teenage pregnancy incidence among the young women in this sample. And teenage pregnancy is the outcome here. Births before age 25, fertility timing, completed fertility, and the distribution of births capture other parts of the reproductive life course. Recent work makes the distinction consequential (DeCicca & Krashinsky, 2023; Vasireddy et al., 2023). The Cape Town estimates should therefore be read for what they identify: the relationship between instrumented schooling and teenage pregnancy in this population and period.

All things considered, the direction of movement from OLS to TSLS gives little reason to regard measurement error in schooling as the main source of the divergence. OLS produces the more negative coefficient. Instrumenting sharply reduces the estimated relationship and removes its statistical significance. Downward omitted variable bias is the more plausible interpretation, arising from characteristics associated with both educational attainment and teenage pregnancy incidence that remain outside the observed controls. Some can be named, preferences, discount rates, family circumstances. Others cannot. That uncertainty belongs in the interpretation of the estimate.

6. Discussion

The Cape Town results refuse the symmetry implied by a simple model of household resource allocation. Male schooling is largely unmoved by sibling sex composition. Female schooling responds. Young women raised with any sisters complete 0.78 fewer years of education, holding household size and family background constant. The any brothers coefficient is small, negative, and statistically insignificant. This differs from the influential Butcher and Case (1994) finding that women raised only with brothers receive more education than women raised with sisters. Cape Town supplies considerably firmer evidence of a sister effect than of any corresponding brother advantage. That is a vital distinction, as a straightforward resource dilution account would suggest that additional children place pressure on a finite household budget and that schooling responds accordingly. The Cape Town pattern is more peculiar. Sons' schooling

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barely responds to sibling sex composition. Daughters' schooling does. Birth order offers little explanation either, consistent with Hauser and Sewell (1985). Something more particular appears to be happening around daughters and around the conditions under which their education is allocated.

Especially the negative sister coefficient needs careful interpretation. Girls are not somehow producing other girls' educational disadvantage. Sisters expose a mechanism they did not create. Their presence changes the household configuration within which educational resources, responsibilities, expectations, and perhaps future returns are assessed. Garner and Manuel-Scott (2026) are useful here because they place sibling relationships back inside the wider family and cultural systems that give those relationships meaning. A sister is never merely another female child added to a regression. She enters a household already carrying ideas about daughters, care, domestic labour, marriage, paid work, and what an education for a girl is eventually expected to yield. The gender inequality may therefore lie partly in *adjustability*. One child's educational investment can be relatively protected while another child's becomes available for revision when household circumstances change. In Cape Town, female schooling appears to occupy the more negotiable position. Another daughter enters the household and something shifts around daughters. The data cannot reveal precisely what. Domestic responsibilities may be redistributed. Expected returns may change. Parental aspirations may move. Ideas about marriage or work may enter. The empirical result can establish whose schooling moves with sizably greater confidence than it can establish why.

This is also where Cape Town speaks to the instability in the wider sibling-composition literature. Butcher and Case (1994) find an apparent advantage for American women raised with brothers. Kaestner (1997) fails to reproduce that pattern in a later American cohort and finds the sign reversed among Black adults. Hauser and Kuo (1998) report weak and inconsistent evidence across datasets. Chinese evidence sends the coefficient elsewhere again, with brothers absorbing educational resources and sisters sometimes associated with greater female attainment (Zheng, 2015). Collins (2025) shows that inheritance practices mediate sibling gender effects on schooling across sub-Saharan Africa. Brenøe (2022) finds sibling gender reaching beyond years of schooling into women's later gender conformity. Barclay and Bygren (2026) locate another effect in gender typical educational choices. The drifting sign is therefore worth taking seriously. It may contain more information than a search for a universally favourable sibling configuration allows. Sibling composition enters households whose allocation rules already carry assumptions about daughters and sons. Those rules vary across place and time. So does the coefficient. What appears more persistent across several settings is the gendered sensitivity underneath it: female educational outcomes respond to sibling composition while male outcomes are often more insulated. Cape Town adds developing country evidence to that pattern.

This is one of the paper's central contributions. The question raised by sibling composition becomes larger than whether brothers or sisters are beneficial for girls' schooling. The more consequential question is *whose education becomes available for adjustment when household circumstances change.* A negative sister coefficient can then be read as evidence about the position occupied by girls' education inside the household allocation process. Educational inequality does not require girls always to receive less than boys. It can also reside in the greater contingency of girls' resources, in their exposure to changes elsewhere in the household. Girls can reach relatively high levels of schooling overall and still occupy the less protected position at the margin. **Table 4** makes that story stranger, and more interesting. Sisters reduce the probability of completing high school while increasing the probability of obtaining higher education credentials among women who reach that stage. The relationship between sisters and schooling therefore changes across educational margins. One possibility is that sisters become resources for one another later in the educational trajectory, through information, financial support, example, or labour-market participation. The data cannot distinguish among these mechanisms. Still, the reversal cautions against treating "the sister effect" as a single process operating identically throughout a young woman's education. Gendered household relations can constrain at one point and support at another. The continuous years-of-schooling measure partially conceals this movement.

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The second-stage results locate the gender problem somewhere else again. Under OLS, education appears to reduce teenage pregnancy substantially. Once schooling is instrumented, the coefficient contracts sharply and loses statistical significance. Cape Town therefore joins an already unsettled causal literature. Osili and Long (2008) find a sizeable causal reduction in births before age 25 in Nigeria. Breierova and Duflo (2004) find effects concentrated at very early ages in Indonesia. Black et al. (2008), McCrary and Royer (2011), and Fort, Schneeweis, and Winter-Ebmer (2016) produce results that vary across institutional settings and definitions of fertility. More recent work has made the instability harder to dismiss. DeCicca and Krashinsky (2023) find education changing the distribution of fertility in Canada, while Vasireddy et al. (2023) show how educational gradients differ across fertility timing and quantum in Europe. The Cape Town estimate belongs specifically to teenage pregnancy among these young women, in this place and period. It says little about completed fertility, eventual family size, or fertility much later in the life course. Within those boundaries, however, the result has a gender implication that matters. Schooling is an individual resource. Reproductive decisions do not necessarily reside wholly with the individual woman. Van Hoyweghen et al. (2025) show how fertility preferences and decision-making authority can be distributed across partners and households. Ji et al. (2015) similarly locate reproductive intentions within intergenerational relationships. Additional schooling may change what a young woman knows, earns, expects, imagines, or wants from her future. Whether those changes reach a reproductive outcome depends partly on the social relations through which that outcome is decided.

The distance between educational attainment and the conditions under which women can use it has a longer history in the economics of gender. Goldin (2006, 2021) traces enormous gains in women's education and career expectations alongside inequalities that emerge around family formation, caregiving, and the organisation of work. The Cape Town result sits much earlier in the life course, in a very different institutional setting, with the inequality appearing long before the career versus family problem Goldin examines. The underlying question nevertheless has a family resemblance. An educational resource can expand what is possible for a young woman while the social arrangements surrounding that resource continue to shape how far it travels.

Collectively, the first and second stages locate gender inequality at two different points in the development policy story. Before education is acquired, household allocation appears to shape how securely educational resources are attached to daughters. After education is acquired, the route from schooling to reproductive outcomes passes through relationships and institutions that schooling itself does not necessarily rearrange. Education enters a gendered household at both ends of the empirical exercise. This has consequences for how female education is used in development policy. Expanding girls' access to schooling remains valuable in itself, quite apart from any effect on fertility. Yet increasing the resources available to a household does not tell us how those resources will be divided, and increasing a young woman's schooling does not tell us how much authority she will hold over decisions elsewhere in her life. Gender responsive policy therefore has reason to look at allocation rules as well as resource levels. At the domestic responsibilities that make girls' schooling interruptible. At the expectations governing what a daughter's education is thought to return. And eventually at the harder question running underneath the second stage: *what has to be true for an educational resource to become meaningful agency?*

Perhaps that is the more uncomfortable policy implication of the Cape Town results. Female education has often been asked to perform an extraordinary amount of development work. Reduce fertility. Improve child health. Raise household income. Transform the next generation. The findings here suggest that some of the constraints attributed to insufficient education may sit in the gendered relations surrounding education itself. Asking schooling to undo those relations leaves the allocation rule remarkably undisturbed.

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7. Limitations and Future Research

Several limitations define how far the Cape Town results can travel. The first concerns the instrument. Sibling sex composition is plausibly exogenous to a young woman's own choices, while the exclusion restriction remains an identifying assumption. Table 5 provides some reassurance by showing little observable relationship between sibling composition and proxies for preferences or intertemporal choices. Those proxies are limited. Preferences, discount rates, family expectations, and other characteristics capable of influencing both schooling and early childbearing remain partly unobserved. The TSLS estimates should therefore be read as conditional on the exclusion restriction holding in this setting.

The first-stage results raise a related issue. Sibling sex composition has no universal educational meaning. The literature itself makes that clear. Brothers are associated with greater female schooling in Butcher and Case (1994), little or inconsistent change in later United States studies, and lower female attainment in parts of the Chinese literature. Cape Town produces another configuration. This limits the portability of the instrument across institutional settings. It also limits the portability of the substantive coefficient. The estimate that sisters reduce female schooling by 0.78 years describes this sample and the household allocation environment in which these young women grew up. It should not be read as a general effect of sisters on girls' education. CAPS imposes further boundaries. The sample follows young adults in metropolitan Cape Town during a particular historical period, with the analysis drawing on Waves 1 through 4 from 2002 to 2006. Cape Town is a highly unequal urban setting with a social and institutional history that gives household resources, schooling, labour market prospects, race, and gender a particular shape. Results from this population may travel imperfectly to rural South Africa, to other South African cities, or to younger cohorts whose educational and reproductive environments have changed. The longitudinal structure of CAPS is a considerable strength. Its geographical and historical specificity remains part of what the estimates mean.

The fertility outcome is narrower still. Teenage pregnancy captures one portion of the reproductive life course. It cannot establish effects on completed fertility, eventual family size, later birth timing, or the distribution of births across adulthood. This distinction matters given recent evidence that education can affect different fertility margins in different ways (DeCicca & Krashinsky, 2023; Vasireddy et al., 2023). The absence of a statistically significant IV effect on teenage pregnancy in Cape Town therefore belongs to teenage pregnancy. Extending that result to fertility more generally would ask the data to answer a larger question than the one estimated here. The analysis also observes the outcome of household allocation more clearly than the allocation process itself. The first stage identifies a gender asymmetry: female schooling responds to sibling composition while male schooling is comparatively stable. CAPS cannot show exactly what happens inside the household to produce that asymmetry. Transfers between siblings, domestic work, parental expectations, caregiving, bargaining over school expenses, and beliefs about daughters' future returns are possible mechanisms. The present data do not separate them. The interpretation developed here, that girls' educational investment may occupy a more adjustable or negotiable position within the household, should therefore be understood as an interpretation of the observed pattern rather than a directly measured household rule.

The same caution applies to reproductive agency. The second-stage null is consistent with a literature in which fertility decisions are relational and decision-making authority can extend beyond the individual woman (Ji et al., 2015; Van Hoyweghen et al., 2025). CAPS does not directly identify bargaining power or establish that household decision-making explains the weak IV estimate. That possibility helps locate the result within a wider gender literature. It remains a mechanism for future investigation. These limitations also suggest where the research can go next. Data that follow educational investments inside households, rather than observing only their eventual outcomes, would make it possible to examine how money, time, domestic labour, expectations, and caregiving shift when household composition changes. Following sisters and brothers jointly would be especially useful. So would designs capable of separating educational access

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from educational security: whether a child receives schooling, and how readily that schooling is interrupted or reduced when the household comes under pressure. The distinction may matter particularly for girls.

Future work could also connect educational allocation more directly to reproductive agency. Measures of fertility preferences alongside partner and parental preferences, bargaining power, contraceptive autonomy, marriage expectations, and control over household resources would allow the pathway from schooling to early childbearing to be examined rather than inferred. Replication across South African settings and more recent cohorts would show whether the Cape Town gender asymmetry persists as family size, schooling, labour markets, and gender expectations change. The coefficient may move again. Understanding what moves with it may prove more useful than searching for a sibling effect that stays the same everywhere.

8. Conclusion

This study begins with two questions that are often treated separately. Who receives education inside the household, and what education can subsequently be expected to do. In Cape Town, the answers meet. Female schooling responds to sibling sex composition while male schooling remains comparatively stable. Young women raised with sisters complete fewer years of education on average. Once schooling is instrumented, its large negative relationship with teenage pregnancy shrinks sharply and loses statistical significance. The first result draws attention to a form of gender inequality that average educational attainment can conceal. Girls' schooling appears more contingent on household composition, more available for adjustment as circumstances inside the family change. Sisters do not create this inequality. Their presence exposes an allocation rule under which daughters' educational investment appears less protected. Across settings, the coefficient moves. Who benefits from a particular sibling configuration changes with it. The more persistent question concerns whose education becomes negotiable in the first place. The second result takes the argument somewhere else. Education is a resource, and acquiring a resource does not settle how much power it will carry into the rest of a woman's life. The question is an old one in gender studies and social thought. Beauvoir's concern with the circumstances that limit women's freedom remains strangely close to the problem here: schooling may widen the field of possibility while the conditions surrounding a woman continue to govern what can be made of it (de Beauvoir, 1949/2011). Schooling enters reproductive decisions already crowded with relationships, household authority, economic possibilities, and institutions. How far schooling travels remains an empirical question.

For gender responsive policy, that indeed naturally matters. Expanding girls' education remains essential. So does asking who receives those educational resources, how securely they are attached to girls, and what has to be true for education to become meaningful agency. Education is asked to carry an extraordinary amount of development policy on its shoulders. Yet, as shown here, some of that weight belongs elsewhere. In the household. In the allocation rule. In the structures surrounding the girl who gets an education. Therefore, who gets what still remains a question of its own.

Appendix

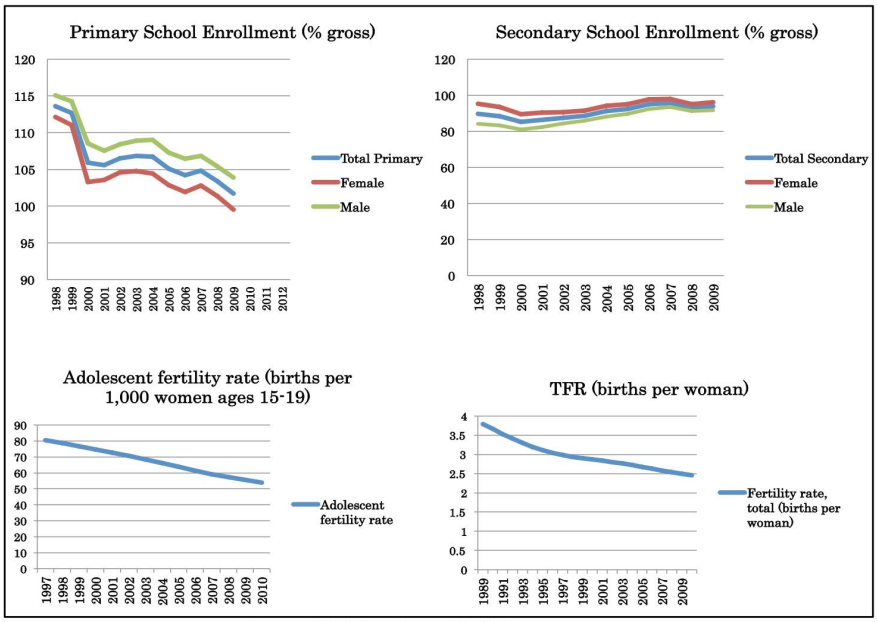
A.1 Background on South Africa: General Trends in Education and Fertility

The South African case is a fascinating one. The country has made significant progress since 1994 towards achieving gender parity in basic education. Indeed, it has gone beyond parity, to the extent that girls now make up most enrolments in secondary schools, though enrolment in primary schools remains lower for females **(Figure 1).** Pregnancy is among the major concerns that can threaten the gains achieved in schools (Panday et al., 2009). The incidence of teenage pregnancy undermines efforts to ensure that female adolescents remain in school. Teenage fertility in South Africa has been declining over time **(Figure 1).** Declines in overall fertility rates have been attributed, among other factors, to increased access to information on reproductive health and rights and to improved contraceptive use. Despite the reported

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decline in teenage fertility rates, the high proportion of unintended pregnancies among teenagers remains a serious problem (Panday et al., 2009). Pregnant teenagers face serious health, socioeconomic, and educational challenges. South Africa has the lowest fertility rate in mainland sub-Saharan Africa; while adolescent fertility has been declining over time, it has done so more slowly than overall fertility. Teenage fertility declined by 10 percent between 1996 (78 per 1,000 females) and 2001 (65 per 1,000 females), with a further decline to 54 per 1,000 females reported in the 2007 Community Survey (Panday et al., 2009; Statistics South Africa, 2008).

Figure 1. Trends in school enrolment and fertility in South Africa.



Source: World Development Indicators

Notes. Panels show primary school enrolment (% gross, 1998–2012), secondary school enrolment (% gross, 1998–2009), the adolescent fertility rate (births per 1,000 women ages 15–19, 1997–2010), and the total fertility rate (births per woman, 1989–2009). *Source:* Created by the author using the World Development Indicators; Panday et al. (2009); Statistics South Africa (2008).

The key take away from Figure 1, which is the composite WDI panel (enrolment and fertility trends, South Africa) is the context for the setting, which is that South African primary and secondary enrolment sit near or above gender parity across the study window while adolescent and total fertility decline steadily, so the sample is drawn from a period of expanding schooling and falling fertility, exactly the concomitance the paper interrogates for cause.

Furthermore, **Table A1** below reports the full baseline specification: a single regression per sex of completed years of education on the entire control set. It establishes that family background - parental education, household poverty, and sibship size - significantly predicts schooling, justifying the inclusion of these controls throughout **Tables 3** to **6**. It also shows the raw effect of sibship size before the sibling sex composition variables are introduced: the number of siblings enters positively and significantly for both sexes, while the negative coefficient on its square indicates the benefit diminishes as families grow.

Table A1. Years of completed education, by sex

	Ages 18–26 inclusive	
Explanatory variables	**Males**	**Females**
Number of siblings	0.417** (0.199)	0.595*** (0.177)
Number of siblings squared	−0.102** (0.050)	−0.128*** (0.050)
High school degree, mother	1.177*** (0.093)	1.470*** (0.085)
College degree, mother	1.547*** (0.130)	1.882*** (0.119)
Completed education, mother	0.223*** (0.016)	0.223*** (0.013)
High school degree, father	1.324*** (0.096)	1.451*** (0.084)

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	Ages 18–26 inclusive	
Explanatory variables	**Males**	**Females**
College degree, father	1.550*** (0.125)	1.812*** (0.111)
Completed education, father	0.198*** (0.016)	0.203*** (0.012)
Oldest sibling	0.154 (0.162)	−0.021 (0.154)
Poor household	−0.202** (0.092)	−0.556*** (0.159)
Father professional	0.071 (0.088)	0.025 (0.072)
Father laborer	−1.093** (0.491)	−0.097 (0.409)
Mother works	0.112** (0.056)	0.142 (0.121)
Catholic	0.522*** (0.178)	0.301** (0.140)
White	0.545*** (0.081)	0.781*** (0.096)
Age	0.132*** (0.033)	0.055* (0.028)
Observations	**1,570**	**1,880**

Notes: Dependent variable: years of completed education. Robust standard errors in parentheses; ***p < 0.01, **p < 0.05, *p < 0.1. All regressions are weighted using sample weights. The sample is restricted to adolescents with completed education greater than zero and at least one sibling. Mother high school degree = 1 if the mother's highest level of education is Grade 12 or above; = 0 otherwise. Mother college degree = 1 if the mother's highest level of education is Grade 16 or above (diploma or certificate programs); = 0 otherwise. Father's education is defined analogously. *Source:* Author's calculations using CAPS, Waves 1–4 (2002–2006).

The key take away from Table A1, which is the full baseline regression, by sex, is that the diagnostic that justifies the control set, which is that family background predicts schooling strongly for both sexes, and the raw sibship size effect is positive and significant here, before the composition variables enter and reshape it in **Table 3** in section 4 above.

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ORIGINAL ARTICLE

Women Cooperatives in Artisanal and Small-Scale Mining in Zimbabwe: A Livelihood Perspective

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ABSTRACT

In Sub-Saharan Africa, natural resources endowment has remained a key source of livelihoods in rural areas. This study argues that in rural Zimbabwe, artisanal gold mining has become a major economic and livelihood activity with great potential for improving women's socio-economic condition. However, this sector is predominantly male, making it difficult for women to penetrate it. Women who enter this masculine economic terrain are bound to encounter challenges. In Manicaland Province, to deal with such challenges, they constitute artisanal and small-scale mining (ASM) cooperatives. Focusing on Manicaland Province and applying feminist perspectives, the study examines why women enter this male-dominated sector; the nature of women's cooperatives, and ultimately the extent to which cooperatives bolster participation in gold mining as well as socio-economic benefits derived through such cooperatives. This study makes a significant contribution to literature by examining how women cooperatives in ASM shape their livelihoods in rural Zimbabwe. In this qualitative study, the researcher conveniently and purposively sampled 20 particpants, that is, women working in gold panning, law enforcement agents, and traditional leaders. The study traces the various factors propelling women into artisanal mining and concludes that women's entry and continued participation in the artisanal mining sector reflects their ongoing gendered struggles for inclusion. Notwithstanding all the study participants agree that women are utilising the cooperative system to mitigate the challenges, sexual harassment included, that threaten to eliminate them from the male-dominated mining sector. It also found that under the cooperative system, participants are realising reasonable economic gains. The study recommends that the government of Zimbabwe should formally recognise Artisanal and Small-Scale gold mining as a source of livelihoods, not only for men, but women as well.

Keywords *Women Cooperatives, Gold Mining, Rural Livelihoods, Zimbabwe*

1. Introduction

In Sub-Saharan Africa, natural resources endowment has remained a key source of livelihoods in rural areas. ASM has shaped the livelihoods of rural communities since the colonial era (Mandirahwe, 2021). In Zimbabwe, the proliferation of ASM post-independence has been ignited by a combination of economic meltdown and climate change, which is currently experienced in Sub-Saharan Africa. The advent of the COVID-19 pandemic has further disrupted the livelihood options for communities, and ASM has remained an avenue for sustaining the livelihoods of rural communities. This has been further supported by Siaw etal, (2026). provided empirical evidence on ASM as a livelihood source in face of climate change. In Zimbabwe, the current El Niño conditions have diminished hope for rural communities who had pinned

their hopes on agriculture, as crop failure is being experienced in the rural parts of Zimbabwe. This explains the unprecedented rise in ASM in Sub-Saharan Africa and Zimbabwe in particular. However, it has remained masculine, making it difficult for women to penetrate. According to Koomson-Yalley and Kyei (2022), existing socio-cultural norms limit women's entrepreneurial drive and capacities in this sector. Women who enter this masculine economic terrain are bound to encounter challenges ranging from masculine violence to shortage of capital. While there is a growing body of scholarship on barriers faced by women in ASM, there is scanty literature on the drivers of women cooperatives in ASM and the extent of these cooperatives in sustaining their livelihoods. This study will draw insights from women's cooperatives in ASM in the Manicaland Province of Zimbabwe. This study was informed by the following research questions: What are the drivers of women's cooperatives in the ASM sector in Manicaland Province of Zimbabwe? In what ways does women cooperatives in ASM enhance their livelihoods, and what are the challenges faced by women's cooperatives in the ASM sector?

2. Literature Review

In Sub-Saharan Africa (SSA), natural ASM has remained a key source of livelihood in rural areas. Ofosu and Sarpong (2022) argue that despite its informality, the sector is known for sustaining livelihoods through employment opportunities. In the context of climate change, which makes rain-fed agriculture elusive, ASM has become a source for livelihood diversification. The study by Bansah et al. (2023) has revealed how smallholder farmers are transitioning to ASM from agriculture as a response mechanism to climate change through focusing on Guinea. The same has been further revealed by scholars such as Siaw (2026) through using empirical evidence from Ghana. Women have participated in the ASM sector as it offers economic gains compared to smallholder farming, which has proved to be highly sensitive to climate change in developing countries such as Ghana and Zimbabwe. However, extant scholarship has indicated the barriers faced by women in a male-dominated sector, which makes it difficult for women to penetrate this sector. Hilson etal, (2018) note that in Manica, ASM is dominated by males and women have entry barriers due to existing social and cultural norms which are skewed against women. In areas where they are accepted, women are not allowed to perform other tasks as performed by men. Their findings revealed that women were engaged in activities such as gold panning, transporting ore-bearing materials to washing sites, and vending. In this regard, women cooperatives in ASM have the potential to break gender stereotypes, thus harnessing ASM a livelihood pathway.

The participation of women in ASM is critical from a livelihood perspective. According to Lahiri-Dutt (2015), women's participation in the ASM serves to portray feminisation of mining, thus defying the conventional idea of conceptualising ASM as a masculine industry. Driven by a high level of unemployment and current geopolitical crises, which have increased the demand of gold globally, Arthur-Holmes et al. (2023b) argue that ASM has continued to employ women. Women occupy a distinct role in the ASM space worldwide and can go unnoticed by scholars. This has been further necessitated by the informal nature of ASM in Zimbabwe, where it has remained subterranean since the dawn of independence. Scholars like Ofosu etal (2024) indicated that women provided 50% of the total workforce in ASM; however, financial reward is not as equal as compared to their men counterparts. This can be attributed to the nature of work; women are not interested in underground mining. Women and children only engage in less dangerous activities indirectly or directly. The former includes vending, and the later include activities such as gold panning, transportation, and separation of gold.

Naika and Pawar (2026) argue that women-led livelihoods are important in enhancing income diversification and income stability. In this regard, creating a livelihood entails addressing economic uncertainties, social change, and environmental problems. This conceptualisation of livelihood is apt for this study, as women's cooperatives in ASM are seen as a response to the above shocks, especially in post-colonial Zimbabwe, where climate change and economic meltdown have disrupted the livelihoods of rural communities. A livelihood is therefore said to be sustainable when it can sustain endogenous and

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exogenous shocks. The former includes economic uncertainties such as inflation, and the latter includes climate change-induced disasters such as drought and floods. Whether women cooperatives in ASM enhance the livelihood of rural communities endowed with minerals remains a grey area for scholars not only in Zimbabwe but on the globe. ASM in this study is defined as the traditional extraction and processing of minerals using limited technology. This sector is informal in SSA, including Zimbabwe, and it is often illegal. It is often associated with disasters, especially ASM who rely on disused pits. This study therefore grappled with the question on why women formed cooperatives in ASM spaces and how does it shape their livelihood.

Extant literature on women workers in ASM revolves around the perceived invisible nature of women using different case studies (Lahiri-Dutt and Macintyre, 2006). These scholars have not interrogated women's cooperatives in ASM from a livelihood perspective, given the potential of cooperatives to transform the livelihoods of rural communities. Additionally, scholarship on women in the ASM has exclusively focused on women in ASM as individuals, thus missing the uniqueness of women's cooperatives in challenging masculinities in ASM spaces. Therefore, existing scholarship has employed an individual approach (Hinton et al., 2018). The experiences of women in ASM also vary and sometimes have significant barriers. Women are also dismissed as not real miners (Buss etal, 2017). Henceforth, by forming cooperatives, women's visibility in ASM is enhanced, which enables them to harness ASM as a livelihood pathway.

The study conducted by Jokka and Mahanta (2026) indicated that the role of cooperatives has been acknowledged to have played an important role in society, particularly in improving the livelihoods of societies. Of interest to note here is the fact that cooperatives are characterised by voluntarism and they offer a platform for the communities to have control over productive activities from which livelihoods are derived from. The principles which apply to the modus operandi of cooperatives arguably provide a platform for the empowerment of women as they are characterised by autonomy in decision-making. These internationally recognised principles include voluntary and open membership, democratic member control and member economic participation (Ortmann and King, 2006). These principles arguably have the potential to empower women in ASM. However, challenges are uncommon on cooperatives in mining, as discovered by Alves et al. (2017) on mining cooperatives in Brazil. Accordingly, problems inherent in cooperatives in mining include inadequacy of government support, lack of management skills and shortage of working capital. Therefore, while women cooperatives in ASM is essential in improving livelihoods, challenges are inevitable; thus, the need to reflect on seven international guiding principles

Bidari and Khanal (2026) argues that the cooperative model is not new. This scholar argues that the application of cooperative model in agriculture dates back to the Rochdale Pioneers in England in 1844 A.D. There is a bourgeoning literature on agriculture cooperative and livelihoods. Sandesh & Khanal, (2026) sees cooperatives in agriculture as a vehicle to improve access to financial services, increase farm productivity and strengthen livelihoods. This was revealed by Attwood and Baviskor (1980) argue that cooperatives in developing countries sought to bridge the gap between rural and urban areas. Chitisike (1988) noted that in developing economies, where agriculture is the livelihood source, communities across Africa find the need to increase agriculture through cooperatives. Focusing on ASM, there is scant literature except for Munir (2022), who interrogated how cooperatives improve female miners' outcomes in Rwanda. In Zimbabwe, rural cooperatives can be traced back to 1980, and the idea was to enhance economic empowerment. While scholars have focused on agricultural cooperatives, there is scanty literature on women's cooperatives in the ASM. This study contributes to the literature on cooperatives by revealing how women cooperatives in ASM shape their livelihoods in Zimbabwe.

There seems to be a belief that improved cooperation supports improved incomes and that collective decision-making translates to lower cases of Gender Based Violence (GBV). Rwanda’s successful accompanied by GBV strategies serve as a lesson for African countries to improve well-being. The potential of cooperatives in reducing GBV is based on overarching evidence that disadvantaged women are

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vulnerable to abuse globally and financial resources can help to expand women's choices to improve their conditions (Britton, 2020). However, there is still a gap in the literature on the link between cooperatives and gender based violence. In some cases, national laws put in place to protect women at mining sites in Africa have been used to exclude them, while gender based violence has been attributed to higher incomes, thus threatening their husbands' masculinity (Hinton, 2016).

Focusing on Zimbabwe, the legal framework within the extractive industries has historically sidelined women's needs and concerns (Binha, 2021). The country is a leading producer of mineral resources on the continent, yet women in the sector account for 15% of mining jobs (Ndlovu et al 2019), thus posing a significant threat to effective gender equality. Mukenge and Moyce (2024) noted the strides made by the government of Zimbabwe in women's empowerment in the mining industry. This has resulted in sponsorship programs that provide women with resources such as mining equipment to support mining initiatives. This resulted in creating pathways for women to establish cooperatives, offering economic avenues into a previously male-dominated industry. The Zimbabwean Constitution (2013) section 17 and 53(2), outlines gender equality and this is further supported by policy frameworks such as the National Gender Policy which articulates the framework for gender equality across all sectors including ASM. Against this background, this study seeks to understand ways in which women in cooperatives contribute to their livelihoods.

2.1 Theoretical Framework

In understanding the interplay between women cooperatives in ASM and Livelihoods outcome, the study was premised on the feminist political ecology (FPE). This theory was apt for this study as it combines gendered environment politics with socialized labor roles, inequalities and women forms of knowledge and environmental relations. Proponents of theory indicated that gender is a crucial element in shaping the control over natural resources as gold. To this extent, women participation in ASM is an attempt to break perceived gender roles in ASM wherein male control and access mining of resources such as gold and women being confined in the reproductive and indirect roles which include vending.

Using this Feminist Political Ecology and intersectionality framework, this paper draws on the analytical approaches outlined by Yaffa Truelove (2019),). Rocheleau etal (2014) explained that using gender not only as a lens but as a driving variable in understanding natural resources access and control. They further argue that gender is the variable that interacts with class, race, culture and ethnicity to determine the process of ecological change. Kerr (2014) proposes for a feminist approach that combines social vulnerability with feminist political ecology because vulnerability to environmental politics revolves on both physical and social factors. She further sees women vulnerability to the environmental politics as a product of extant disadvantages in social, economic, political and legal opportunities. These feminist scholars provide a solid understanding Women cooperatives particularly on intersectionality of social, political and economic drives in shaping women cooperatives in male dominated ASM economic sector. An intersectional approach was apt for this study as women's vulnerability to extractive politics is based on their experiences in economic, legal and cultural constructs unique from those of men. The theorical framework is also applicable to the mining communities in Zimbabwe where feminization of poverty is a key feature of the communities endowed with mineral resources such as gold. yin

3. Materials and Methods

Qualitatively, the study used an exploratory multiple-case study design. According to Yin (2014), a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context. Three women cooperatives were purposively selected in Premier Estate, Tsvingwe and Penhalonga Area in Mutasa District. These areas were selected because the district is currently experiencing a gold rush in these selected areas (Mandirahwe, 2024), hence allowing the researcher to understand the research questions. The researcher chose an exploratory multiple-case study design to gain a deep understanding of the

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research question, which is subjective and, therefore, best served through a qualitative design. To this extent, an exploratory multiple-case study method was used to explore the phenomenon. The method was employed because it is reliant on the nature of the research problems, and insights embedded in women cooperatives in ASMs in Zimbabwe concerning their struggle to achieve self-reliance in a masculine economy. In-depth interviews were the main data collection instrument to be used to solicit information. In-depth interviews with key informants were conducted with ten (10) key informants (KIs) selected through purposive sampling. The researcher made use of this sampling technique because it provided an opportunity to decide whether the sample represent the total population in line with the information supplied.

This included one representative from Mutasa Rural District Council, Zimbabwe Republic Police (ZRP), Environmental Management Agency (EMA), Centre for Natural Resource Governance (CNRG), Empower Bank, the Ministry of Mines, Fidelity Printers, Ward Councillors, the District Administrators' (DA) Office and finally the Ministry of Small and Medium Enterprises and Cooperative Development (SMECD). The researcher used convenience sampling to select six (6) representatives from three cooperatives in Tsvingwe, Penhalong and Odzi areas in Mutasa District. He purposively included four (4) women who are not affiliated to ASM cooperatives as a control group to understand if women cooperatives increased household incomes. Besides interviews, the study employed three focus group discussions consisting of ten (10) participants to understand how ASM is sustaining women's livelihoods. These were conducted in Penhalonga, Tsvingwe and Odzi areas. The researcher further used observation guides to observe if there are livelihood changes as result of women joining cooperatives. The study also made use of secondary data, that is Mutasa District master plan report, (2024), the Centre for Natural Resource Governance (CNRG, 2026) and legal frameworks. The researcher first sought approval from the District Development Committee (DDC) officer in the Manicaland Province of Zimbabwe. He was approved by the DDC office to conduct the study. The researcher pledged to safeguard the rights of participants during the study. Participation in this study was obtained through written consent, and participants were allowed to decline from the interview at any given moment.

Results

This study aimed to understand women's cooperatives in ASM from a livelihood perspective. Key themes that emerged in this study revolve around drivers of women cooperatives in ASM, contribution of ASM to women's livelihoods (income, standard of living and accessibility of basic needs such as food, shelter and education) and challenges faced by women cooperatives in sustaining their livelihoods.

4. Drivers of Women Cooperatives in Masculine ASM sector

Climate change has proved to be one of the key drivers behind women's participation in the ASM in Zimbabwe. Since the turn of the new millennium, Zimbabwe has been experiencing extreme weather events such as drought and floods. Within the context of climate change, small-scale farming proved to be vulnerable to climate change, and small-holder farming remains volatile in sustaining livelihoods. This pushed women to off-farm activities such as ASM. This was further confirmed by Siaw etal (2026), who revealed how climate change pushes small-holder farmers into ASM.

From the field trips conducted by the researcher in Penhalonga, Premier Estate and Tsvingwe, ASM activities have encroached on the land previously used for agricultural production due to its vulnerability to climate change. This has become a major factor in driving women into ASM. This has been noted by Madzivhandila and Niyimbanira (2020), who note that the contribution of climate change in collapsing rural businesses culminates in unemployment in most rural economic sectors. Evidence of climate change in Zimbabwe, particularly Mutasa district, is unequivocal, as noted. In Mutasa District, small-scale farmers are experiencing increased incidents of droughts characterised by heat waves and erratic rainfall. This has

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compromised efforts towards growing maize crops and rearing livestock for income generation. Field trips revealed a rapid transition from agrarian to mining communities

One key Agriculture and Extension Officer (AGRITEX) interviewed confirmed that:

ASM is masculine in nature, and it is characterised by violence and corruption. Women enter in this rural economy as a survival mechanism in the face of climate change, which has disrupted rain-fed agriculture.

The advent of the COVID-19 pandemic, which was characterised by the collapse of formal business, further shaped the increase in the participation of women in ASM as cooperatives. During the COVID-19 pandemic, formal business and unemployment increased drastically. Small and Medium enterprises provided an economic avenue for employment; however, they collapsed due to the COVID-19 pandemic. This livelihood economy never recovered and ASM remained one of the viable pathways for rural women in Mutasa district in Zimbabwe. All interviewees agreed that ASM offers an alternative livelihood source against livelihood shocks such as economic meltdown. Salient to note is that ASM is indispensable for building resilience against livelihood shocks in the rural economy. This study has revealed that women cooperatives in ASM have provided women with a livelihood mechanism in the face of the economic meltdown. The confluence of climate change and economic meltdown has worsened the plight of women whose livelihoods are based on smallholder farming. One Agriculture and Extension Officer interviewee noted that:

In 2021 the country experienced El Niño-induced drought, and this has been experienced in Mutasa District, which is known to be food secure. Erratic rainfall received in the district has diminished the hopes of women who depend on subsistence agriculture as a major livelihood source.

Women cooperatives have entered ASM space in response to socio-economic challenges. The same was identified by scholars working on gender and masculinities in ASM spaces (Arthur-Holmes et al., 2023a). From the focus group discussion conducted with women cooperatives in ASM, it was indicated that ASM is characterised by violent masculinities which at times lead to displacement of women from their gold claims. Through collective actions, this study indicated that women's strategies such as protest and demonstration made positive impacts in responding to violent masculinities. Unlike women who occupy ASM as individuals, they reported facing sexual harassment from their male counterparts. This study revealed that gender based violence is more pronounced against women who are not affiliated to cooperatives in ASM space. These women are subjected to sexual harassment ranging from subjected to sexual harassment ranging from unwelcome physical, verbal, and non-verbal contact by male perpetrators. Findings from this study revealed that men have and are still using sexual harassment as a masculinist weapon to derail women from the sector that they perceive as “their” sector

5. The role of cooperatives in sustaining rural livelihoods

5.1 Income diversification

Women cooperatives in ASM have contributed to income diversification. From the focus group discussion carried out by the researcher, hit was pointed out that women extract more than 20 grams of gold after processing, where a gram is sold at Usd$150. Some women have even indicated that they have exceeded the average 20 grams depending on the type of ore. However, this is seasonal and depends on the presence of gold-bearing rocks, which cannot be easily detected. The researcher noted notable income variation from women cooperatives and individual women in the ASM. Field trips conducted by the researcher revealed livelihood improvement as evidenced through building new modern houses in areas such as Tsvingwe and Penhalonga low-density areas. Findings from this study revealed that income diversification has reduced domestic violence against women. Through participating in the cooperatives, income security among women has improved, outpacing women employed in the public service. Geopolitical wars such as Russia and Ukraine have opened economic avenues, particularly in the extractive industries, leading the rising

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demand of gold. This was confirmed by scholars such as Kowalewski and Skopiec (2024) who associated the rise in gold price with rising income and private demand in China and India.

One woman aged 40 interviewed indicated that

I have been in vending for the past 10 year and I was could not save; rather surviving on hand to mouth, ASM business has provided me with income for my day-to-day living expenses and I have managed to build my own house in Penhalonga residential area which I could never done through vending.

The study has revealed that women have invested in human capital development as well as accessing basic needs such as food. One single woman interviewed noted:

When my husband left me, he was the bread winner and I had savings for the family upkeep. My four children stayed with me at our rural home due to lack for school fees needed at Tsvingwe Primary School. From our mining cooperatives, my monthly income has increased to $usd300. My children are at school and I am now affording buying food for my children,

Located within the context of rural unemployment, ASM has provided a space for women's employment. These findings resonated with the research conducted by Arthur-Holmes et al., (2023b), who noted that ASM activities have continued to serve as a source for employment for most women, notably women. This is viable in rural areas where feminization of poverty is uncommon in Mutasa District of Zimbabwe. This study argued that formalisation of ASM will go a long way not only in reducing poverty among women but towards the realisation of the Sustainable Development Goal 1 (No Poverty) and Africa Agenda 2063 (Leaving Noone Behind). The African Mining Vision (2009) has also pinned hopes on ASM in improving the rural economy. The African Union (2011) has indicated the potential of harnessing ASM to stimulate entrepreneurship as well as its potential to promote local and integrated national development.

5.2 Challenges Faced by Women Cooperatives in ASM

5.2.1 Financial Constraints

Findings from this study have complex challenges faced by women in ASM as they are operating in an informal space. ASM is capital intensive as it involves several stages from gold extraction to gold processing using chemicals such as mercury. Accessing loans from financial institutions such as the Zimbabwe Microfinance Bank has remained a challenge for rural women who do not have collateral security. However, some women cooperatives have relied on individuals who can provide them with an informal loan where interest rates are high as compared to prevailing bank interest rates. In case of failing to pay loans, loss of property such as cars has been reported. From the in-depth interviews collected by the researcher, it was revealed that the initial capital required for women cooperatives to engage in ASM ranges from $5000- $7000. Since ASM is an ideal livelihood option, women cooperatives are required to raise the initial capital outlay. According to Makaza and Chimuzinga (2020), financial institutions have expressed unwillingness to lend to ASM risky projects. The table below shows the amount of cost incurred in ASM business. This is beyond the reach of any ordinary citizen in Zimbabwe, hence a barrier for women to fully participate in ASM business. Findings from this study resonate well with the study conducted by Mohammed and Lee (2015), who identified lack of capital as a drawback for the prosperity of cooperatives.

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Table 1. Mining Regulations for 2020

Item	Cost (usd$)
Application for an Exclusive Prospective Order (non-refundable)	10 000
Special mining lease	25 000
Special prospecting licence	3,750
Ordinary prospecting licence	1000
Renewal fee for a mining special grant	5000
Annual fee per five hectares	1125
Annual fees for mining special grant	50 per Hectare
Permit to transport ore (valid for three months	100

Source: The Mining (General) Amendment Regulations, 2020 in Statutory Instrument 95 of 202

The Gold Development Fund which was established in 2016 is one of the initiatives implemented by the Fidelity Printers and Refiners to support ASM in Zimbabwe. Makaza and Chimuzinga (2020) notes that the 20 million was disbursed was availed to fund women in mining and only 11% was taken by women. The study revealed that women are not either unaware of the facility or expressed frustration in application process, hence remain a barrier for rural women to access it. The study revealed that this facility is viable for corporates and excludes women cooperatives in ASM.

5.2.2 Political Patronage

The study has also revealed that women cooperatives have been subject to politics of patronage. It was revealed that for cooperatives to be viable, they have to be aligned to the ruling part was way of enhancing visibility as well as cushioning it from physical violence. ASM in Zimbabwe has been politicised, hence a fertile ground for the politics of patronage and electoral violence. This has compromised the key principles for cooperatives particularly on independence and autonomy. The study has revealed that women cooperatives in ASM are forced to be aligned to the ruling party for its survival. As noted in the literature sometimes cooperatives are used for political gains (Munir, 2022). These findings resonate with the study conducted by Kwakyewah (2016) who notes that in Senegal, the majority of women cooperatives have been used to augment their political power and profits upon entering a vote-exchanging arrangement with leaders of women cooperatives seeking funding. This is true with regards to women cooperatives in ASM in Mutasa District where cooperatives have been used to drive political interest of the ruling part. This norm is intense especially in electoral times. This challenge for women cooperatives in ASM has remained perennial given the informal nature of ASM.

5.2.3 Violence Against Women cooperatives in ASM

The informal nature of ASM in Zimbabwe has created a fertile ground for violence against women. Findings from this study revealed that women cooperatives in ASM are subjected to all forms of violence which ranges from rape, sexual assault and physical abuse. Women interviewed have expressed fear due sporadic and spontaneous violence which characterise ASM in Zimbabwe. Prosecution of violence perpetrators has remained elusive as the sectors is controlled by the politically powerful elite individuals. The machete-wielding gangs noted in the literature has penetrated all facets of ASM. Findings from this study have revealed that women cooperatives in ASM have not spared from this grassroots movement. This study revealed that Mashurugwi are killing local civilians and this has either implicitly or explicitly affected the modus operandi of women cooperatives in ASM. The study has revealed that the rape of women and looting of their ores. Women cooperatives in ASM have continued to bear the brunt of violence and this has been shaped by stereotypes that women are the weaker vessels.

6. Discussion

Findings from this section reveal that women cooperatives in ASM have been formed not only in response to violent masculinities in ASM but as a livelihood pathway where small-scale agriculture is no longer

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viable in supporting livelihoods in rural communities. The establishment of cooperatives in ASM provides economic avenues for women to navigate the male-dominated ASM sector, thus providing collective bargaining forms. This resonates well with a study conducted by Li etal (2026), who argued that cooperatives are established to strengthen the bargaining powers of their members, helping them to access comparative markets. Again, women who occupied ASM space as cooperatives have successfully challenged violent masculinities through collective actions such as demonstrations and protests. This resulted in positive impacts, unlike individual women who still grappled with some forms of gender based violence such as sexual harassment. From a livelihood perspective, ASM provides an opportunity for income diversification and economic stability in the face of economic uncertainties ignited by the COVID-19 pandemic. Through engaging in cooperatives, income security has been enhanced, and this has an implication on reducing domestic violence. Rural communities in Zimbabwe, particularly Mutasa District, have proved to be vulnerable to climate change; hence, this explains the transition of small-scale farming to the ASM sector. The significant contribution of women cooperatives in livelihoods lies in income diversification and economic stability. Milliterised masculinities and political interference further limit the viability of women cooperatives in ASM, as they need to align with the ruling party for easy allocation of gold claims. Where cooperatives exist, women expressed constant fear for their lives and were even displaced from the gold claims. This is worse for individual women in ASM who have limited security and emotional support in the ASM sector

7. Conclusion

The motive behind this paper was to discuss the women cooperatives in ASM from a livelihood perspective in Zimbabwe. This study was motivated by increase in women cooperatives in ASM as a livelihood option in communities endowed with natural resources such as gold. ASM in Zimbabwe remained an integral part of rural economies in Zimbabwe. By engaging in cooperatives, Women seeks to increase not only the bargaining power but visibility as the sector is highly masculinised. Women cooperatives in ASM this offers collection security and voice in an informal space dominated which is highly masculinised. Findings from this study revealed that ASM has remained a viable livelihood for rural communities and has the potential to improve rural economy. In face of economic meltdown and climate change induced disasters, ASM has remained the only hope for rural communities whose livelihoods were earmarked on rain-fed agriculture. Women cooperatives have engaged in a masculinised ASM sector as livelihood option. While ASM has contributed immensely to the women livelihoods, ASM has remained masculinised and unregulated. Women cooperatives have benefitted through employment, income diversification and have invested in human capital development. If formalised, ASM has the potential to contribute towards Sustainable Development Goal 1 (Poverty Reduction) and Sustainable Development Gaol 5 (Gender Equality). Findings from this study also indicated that women face complex of challenges in ASM and subjected to all forms of violence. This study recommends to formalise ASM and remove bottlenecks in securing mining licenses. Additionally, rural women should be sensitised by the government of Zimbabwe on financial facilities available for them.

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ORIGINAL ARTICLE

Gendered Labour, Survival and Identity: An Ethnographic Study of Indonesian Migrant Janitors in Malaysia's Cleaning Sector

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ABSTRACT

This study examines the gendered labour experiences, structural precarity, and everyday agency of Indonesian migrant janitors in Malaysia's commercial cleaning sector. While existing research on Indonesian migrant workers in Malaysia has predominantly focused on domestic work, manufacturing, and construction, commercial janitorial labour remains comparatively under-researched, particularly from a gendered perspective. Drawing on Intersectionality Theory and Gendered Agency, the study investigates how gender norms, migrant legal status under the *Pas Lawatan Kerja Sementara* (PLKS), class, and occupational stigma shape workplace relations and workers lived experiences. A qualitative ethnographic approach was employed through four months of fieldwork from May to August 2026 across three private cleaning companies in Selangor and Kuala Lumpur. Data were collected through approximately 280 hours of participant observation, 12 semi-structured interviews, 48 informal conversations, and three key-informant interviews with managers. Findings reveal a strongly gendered division of labour, whereby male janitors are disproportionately assigned physically demanding and hazardous tasks, while female janitors are concentrated in detailed interior cleaning and emotional labour. The PLKS system further intensifies vulnerability by restricting workers' mobility and enabling managerial coercion, including unpaid labour extensions and unsafe working conditions. The study also identifies a "visibility/recognition paradox," whereby workers experience social invisibility in corporate spaces but receive individualized recognition in private residential settings. Despite structural constraints, workers demonstrate agency through peer solidarity, re-signification of "dirty work" as skilled and honourable labour, and transnational family-oriented identities.

Keywords *Indonesian janitors, migration, gendered labour, identity, ethnography*

1. Introduction

Gender inequality remains a defining feature of globalized labor markets, dictating how work is segregated, valued, and compensated. Feminist labor sociologists demonstrate that employment structures are inherently gendered institutions, organized through social and bureaucratic processes that reproduce horizontal segregation, marginalization, and wage disparities (Acker, 1990, 2006; Connell, 2009, 2021). These structural inequalities are acute in low-wage commercial services particularly cleaning and maintenance where essential labor is economically undervalued and rendered culturally invisible (Dyer et al., 2011; Grimshaw et al., 2021).

The gendering of low-wage commercial work is inextricably linked to contemporary transnational migration. Recent scholarship on global care chains and labor regimes highlights how state migration policies and capital accumulation rely on a steady supply of racialized, gendered, and precarious migrant workers (Kilkey & Urzi, 2021; Parreñas et al., 2021; Piper & Withers, 2018). In South and Southeast Asia, low-skilled migrant workers are disproportionately funneled into 3D (dirty, dangerous, and demanding) sectors. While these workers underpin basic urban infrastructure, their lived experiences are mediated by intersecting axes of precarious legal status, low social class, and gendered social expectations (Elias & Sarkar, 2021; Koh, 2022).

The commercial cleaning sector represents a critical site of gendered migrant labor. Distinct from private domestic work, commercial janitorial labor operates under formal corporate management, strict efficiency metrics, and public exposure. Yet, it remains profoundly stigmatized. Hughes (1958) famously designated such tasks as "dirty work" occupations marked by physical, social, or moral taint. Modern organizational scholars emphasize that occupational stigma is not static; it is actively internalised, resisted, or re-signified by workers through gendered coping mechanisms (Ashforth & Kreiner, 1999; Simpson et al., 2012). Because societal evaluations of manual labor align with normative ideas of masculinity and femininity, janitorial work acts as a key site where gender and occupational stigma continually interact.

In Malaysia, Indonesian migrant workers form the backbone of the low-wage labor force, maintaining key commercial, industrial, and residential sectors (Liow, 2021; World Bank, 2020). Despite their structural necessity, Indonesian janitors navigate hyper-precarious employment conditions, strict legal regulation under the *Pas Lawatan Kerja Sementara* (PLKS) temporary employment pass system, and pervasive anti-migrant discourse (Allerton, 2017; Low, 2021). Their workplace treatment and social mobility are conditioned by racialized and gendered stereotypes that dictate who is "naturally suited" for particular tasks.

Despite growing scholarship on Southeast Asian labor migration, Malaysian migration literature exhibits a persistent empirical blind spot. Extant research overwhelmingly focuses on Indonesian migrants in private domestic work (Chin, 2018; Kilkey & Urzi, 2021), manufacturing (Norshahril, 2020), or construction (Datta & Yeoh, 2023). Commercial janitors occupy a distinct intermediate position: unlike domestic workers who operate in hidden, private households, commercial janitors work in public and corporate spaces under institutional oversight, yet they remain largely excluded from systematic gendered analyses.

Addressing this empirical and theoretical gap, this ethnographic study investigates the gendered daily lives of Indonesian migrant janitors within Malaysia’s commercial cleaning sector. Specifically, the study addresses three research objectives:

1. To examine how gender norms shape the division of labor, daily tasks, and workplace dynamics among Indonesian migrant janitors in Malaysia's cleaning sector.
2. To analyze how gender intersects with migrant legal status, class, and occupational stigma to influence workplace power relations and structural precarity.
3. To explore the agency of Indonesian migrant janitors in negotiating gendered identities, survival strategies, and informal spaces of social belonging within the Malaysian labor regime.

2. Literature Review and Theoretical Review

2.1 The Gendering of Precarious Migrant Labor

Contemporary migration scholarship recognizes that international labor flows are deeply structured by gendered regimes of precarity (Piper & Withers, 2018; Yeoh & Ramdas, 2014). Migrant labor regimes in Asia rely on flexible, low-cost labor forces managed through restrictive immigration frameworks that tie legal status directly to single employers (Hewison, 2020). In Malaysia, the state's temporary migration

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framework institutionalizes structural precarity, leaving workers vulnerable to wage theft, mobility constraints, and sudden deportation (Low, 2021; Palmer, 2020).

Crucially, this precarity is experienced through a gendered lens. Feminist political economy demonstrates that labor markets capitalize on pre-existing gender hierarchies to justify wage disparities and occupational segregation (Acker, 2006; Elias & Sarkar, 2021). While migrant women in Southeast Asia are frequently funneled into caregiving and cleaning roles under the assumption of "natural" domestic affinity, male migrants in low-wage service sectors face distinct gendered pressures, such as emasculation, physical strain, and strict discipline (Datta & Yeoh, 2023; Hu, 2021).

2.2 Commercial Cleaning, Occupational Stigma, and "Dirty Work"

While literature on private domestic work in Malaysia is extensive (e.g., Chin, 2018), commercial cleaning services present a distinct institutional dynamic that remains under-analyzed. Commercial janitorial work is situated within formal corporate supply chains characterized by subcontracting, tight profit margins, and strict temporal control (Grimshaw et al., 2021). Subcontracted janitors navigate "double bossing," answering both to their direct cleaning agency managers and to the clients on whose premises they work (Dyer et al., 2011).

Occupational stigma is central to the experience of commercial cleaning. Drawing on "dirty work" theory (Ashforth & Kreiner, 1999; Hughes, 1958), recent studies show that workers in stigmatized occupations are subjected to physical taint (contact with refuse or bodily fluids), social taint (contact with stigmatized populations or lower-status positions), and moral taint (perceived lack of skill or dignity) (Barbour & Lammers, 2015; Grandy & Mavin, 2012). In migrant contexts, occupational stigma interacts with racialized xenophobia, compounding the devaluation of migrant workers (Koh, 2022). However, dirty work is not passively endured; workers construct counter-narratives, informal solidarity, and gendered dignity-defending practices to reclaim moral self-worth (Dick, 2005; Simpson et al., 2012).

2.3 Empirical Gap: Migrant Janitors in Contemporary Malaysia

Literature on Indonesian migration to Malaysia has historically prioritized three primary employment sectors:

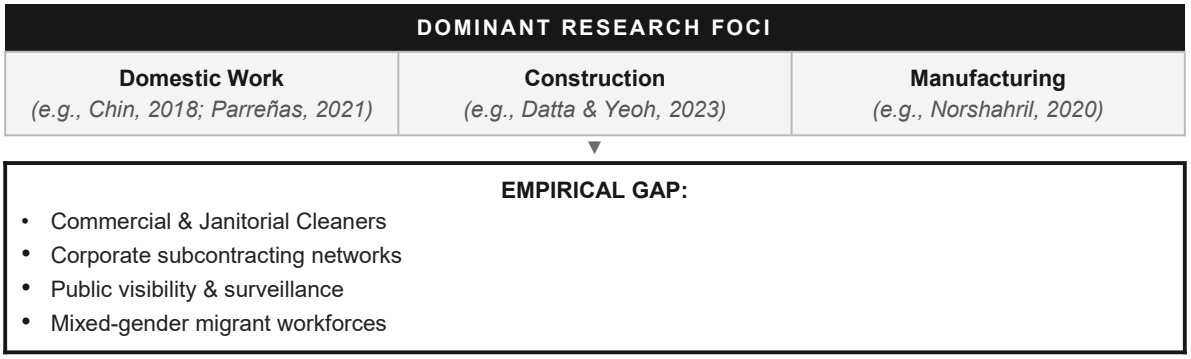


Figure 1. Dominant Research Foci and the Empirical Gap in Malaysian Migration Scholarship

Source: Author's own conceptualisation.

Commercial janitors remain under-researched despite their visible presence in Malaysia's corporate, residential, and transport infrastructure. Unlike domestic workers isolated in private homes, commercial janitors operate in public and corporate spaces subject to customer surveillance, corporate performance metrics, and mixed-gender team structures. Addressing this empirical gap is essential to understanding how formal labor regimes intersect with migrant precarity in urban Southeast Asia.

2.4 Integrated Theoretical Framework: Intersectionality and Gendered Agency

To avoid theoretical fragmentation, this study synthesizes two primary theoretical constructs which is Intersectionality Theory (Crenshaw, 1989), Gendered Agency and Theory of Performativity (Butler, 1990; Giddens, 1991).

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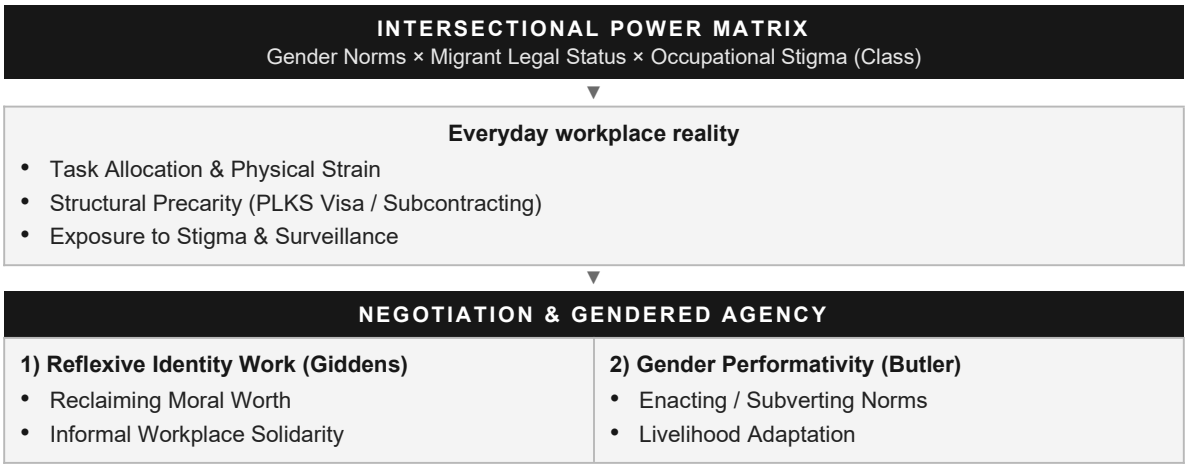


Figure 2. Integrated Theoretical Framework: Intersectionality and Gendered Agency

Source: Author's own conceptualisation.

Intersectional Power Matrix (Crenshaw, 1989). Intersectionality serves as the primary analytical lens. Rather than treating gender, migrant legal status (PLKS binding), and class/occupational position as isolated variables, this framework examines how they mutually constitute one another. Gender dictates task allocation (e.g., assigning heavy machinery to men and repetitive detailing to women); legal status restricts worker mobility and bargaining power; and occupational stigma diminishes social standing.

Gendered Agency and Identity Negotiation (Butler, 1990; Giddens, 1991). Within these intersectional constraints, workers act as reflexive social agents. Drawing on Giddens' (1991) theory of reflexive identity and Butler's (1990) concept of gender performativity, this framework captures how janitors perform, adapt, or subvert gender norms to preserve dignity, resist workplace exploitation, and maintain social belonging.

3. Research Methodology

3.1 Research Design and Ethnographic Positionality

This study adopted a qualitative ethnographic research design (Hammersley & Atkinson, 2019) to investigate the gendered labour practices, structural precarity, and identity negotiations of Indonesian migrant janitors in Malaysia's commercial cleaning sector. Ethnography is particularly well-suited for capturing unscripted workplace dynamics, informal coping mechanisms, and power relations that standard structured interviews frequently overlook (O'Reilly, 2012).

Fieldwork was conducted over a four-month period from May 2026 to August 2026 in the Klang Valley area specifically Selangor and Kuala Lumpur, Malaysia's primary commercial and financial hub. To gain direct observational access, the primary researcher secured temporary employment as an assistant janitor within contracted cleaning crews, working alongside participants for 4 to 6 hours per day, 4 days per week accumulating approximately 280 total hours in the field. Tasks performed alongside participants included floor sweeping, waste disposal, sanitary unit maintenance, and residential deep cleaning. Positionality was reflexively managed throughout the research process (Bourgois, 2003). As an academic researcher, the investigator maintained a self-aware stance regarding educational and socio-economic privileges. Working directly alongside participants lowered social barriers, minimized observer effects, and built interpersonal trust, allowing the researcher to observe raw workplace interactions and informal break-time conversations (Spradley, 1980).

3.2 Site Selection and Access Negotiation

Field sites were selected through purposive sampling across three private cleaning companies operating in Selangor and Kuala Lumpur (Table 1). Access was established through a three-stage gatekeeper protocol designed to ensure institutional permission while safeguarding worker autonomy:

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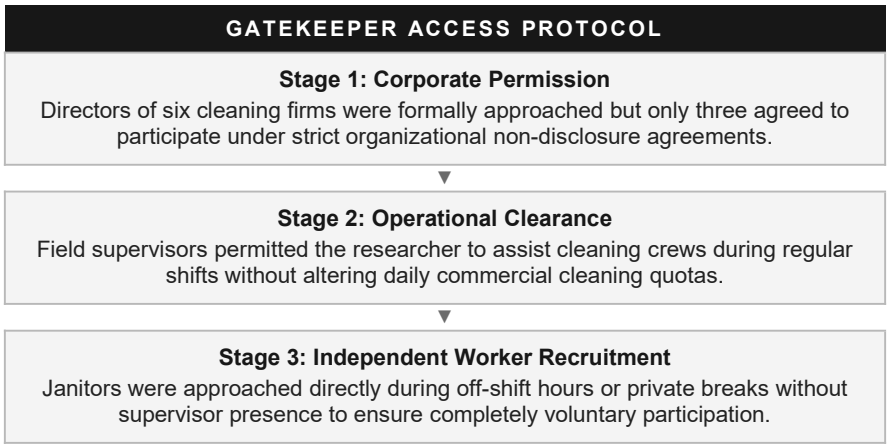


Figure 3. Gatekeeper Access Protocol

Source: Fieldwork data (May–August 2026).

Table 1. Profile of Participating Cleaning Companies

Company Code	Location	Company Type	Years in Operation	Service Scope	Estimated Workforce Size
Company A	Selangor	Private Limited	8	Corporate Offices, Commercial Malls	100 workers
Company B	Selangor	Private Limited	7	Residential Sites, Mixed Commercial	85 workers
Company Z	Kuala Lumpur	Private Limited	6	High-End Retail Malls, Corporate Offices	120 workers

Source: Fieldwork data (May–August 2026).

3.3 Participant Recruitment and Sampling

A total of 12 Indonesian migrant janitors (3 males, 9 females) were recruited using purposive and snowball sampling strategies (Bernard, 2018). Sampling criteria required participants to hold Indonesian citizenship, possess a valid *Pas Lawatan Kerja Sementara* (PLKS) temporary work permit, have worked in Malaysia's cleaning sector for at least 12 months, and be directly employed by one of the three study companies. Sample size was governed by thematic saturation (Saunders et al., 2018), which occurred when subsequent field observations and conversations yielded no further conceptual insights regarding gendered task allocation or stigma negotiation.

PARTICIPANT SAMPLING

- Total Janitor Participants: n = 12 (3 Males, 9 Females)
- Supplementary Key Informants: n = 3 Management Representatives
- Inclusion Criteria:
  1. Indonesian nationality holding valid PLKS temporary permits.
  2. Minimum 12 months employment in Malaysian commercial cleaning.
  3. Direct employment by one of the three participating agencies.

Additionally, 3 key-informant interviews were conducted with operations managers (one per company) to contextualize corporate recruitment practices, wage structures, and formal job allocations.

Table 2. Demographic Profile of Indonesian Migrant Janitor Participants

Pseudonym	Gender	Age	Indonesian Origin	Permit Status	Stay in Malaysia	Previous Occupation	Company
Budi	Male	39	Central Java	Legal (PLKS)	3 Years	Factory Worker	Company A
Sudar	Male	38	East Java	Legal (PLKS)	4 Years	Fisherman	Company B

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Pseudonym	Gender	Age	Indonesian Origin	Permit Status	Stay in Malaysia	Previous Occupation	Company
Agus	Male	36	West Nusa Tenggara	Legal (PLKS)	2 Years	Farmer	Company Z
Siti	Female	37	East Java	Legal (PLKS)	3 Years	Domestic Worker	Company A
Dewi	Female	40	Central Java	Legal (PLKS)	5 Years	Domestic Worker	Company A
Suryahani	Female	35	West Java	Legal (PLKS)	2 Years	Domestic Worker	Company B
Rina	Female	43	East Java	Legal (PLKS)	4 Years	Domestic Worker	Company B
Yanti	Female	41	Central Java	Legal (PLKS)	3 Years	Small-Scale Trader	Company B
Ningsih	Female	48	East Java	Legal (PLKS)	6 Years	Small-Scale Trader	Company Z
Fajar	Female	39	West Java	Legal (PLKS)	3 Years	Boutique Tailor	Company Z
Endang	Female	49	Central Java	Legal (PLKS)	5 Years	Factory Worker	Company Z
Murni	Female	42	East Java	Legal (PLKS)	4 Years	Factory Worker	Company A

Source: Fieldwork data (May–August 2026).

3.4 Data Collection and Triangulation

Data collection combined three primary qualitative streams to achieve empirical triangulation (Denzin & Lincoln, 2018). First and foremost, participant observation of 280 hours of observational data were captured using the "jottings-to-full-notes" protocol (Emerson et al., 2011). Daily field logs documented non-verbal interactions, spatial movement, supervisor surveillance, and gendered divisions of labor. Next, semi-structured and informal interviews. 12 in-depth semi-structured interviews taking about 45 to 75 minutes were conducted in neutral private settings such as local eateries or residential rooms away from workplaces. In addition, 48 informal conversational interviews conducted during work shifts and lunch breaks were recorded in field logs. All formal interviews were conducted in Malay and Indonesian language. Lastly, management key-informant interviews like three semi-structured interviews about 30 minutes were held with company managers at corporate offices to contextualize formal job assignment policies and recruitment structures.

3.5 Data Analysis Protocol

All handwritten field notes and interview session were transcribed verbatim in Indonesia and Malay language, translated into English, and imported into NVivo (v.14) for reflexive thematic analysis (Braun & Clarke, 2021). The analytical strategy followed an integrated inductive-deductive pipeline:

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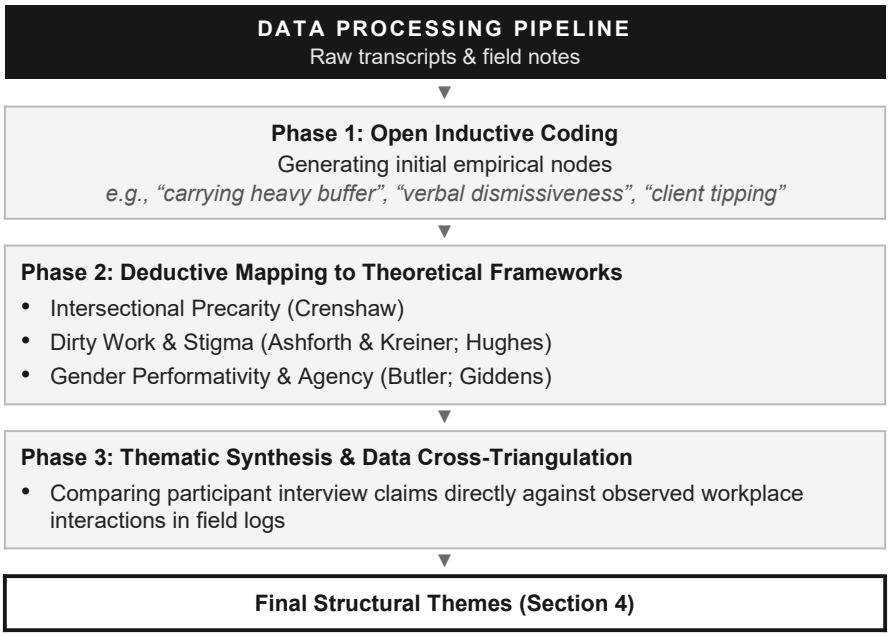


Figure 4. Data Processing Pipeline

Source: Author's own analytical protocol.

To establish trustworthiness (Lincoln & Guba, 1985), member-checking sessions were conducted with four key participants to verify transcript accuracy and validate interpretive findings.

3.6 Research Ethics and Risk Mitigation

This study strictly adhered to institutional ethical guidelines regarding vulnerable migrant populations (Liamputtong, 2007). Key ethical safeguards included:

1) Informed Consent and Freedom from Coercion: Written informed consent was secured from all participants. For workers concerned about signed documents affecting immigration status, recorded oral consent was obtained. Participants were explicitly informed that participation was independent of their employment status and could be withdrawn at any time.

2) Employer Neutrality: Employers and supervisors were completely excluded from recruitment, interviewing, and data collection. Interviews occurred off-site during non-working hours to prevent managerial surveillance or retaliation.

3) Anonymization: Pseudonyms were assigned to all participants, cleaning agencies, and work sites. Specific building names and geographical details were generalized to protect participant identities.

4. Research Findings

4.1 Gendered Division of Cleaning Tasks, Micro-Spatial Allocation, and Embodied Expectations

Fieldwork demonstrated that while both male and female janitors perform essential cleaning operations, task allocation is deeply structured by institutionalized gender norms. Employers and clients actively deploy gendered logic to organize work regimes, constructing a binary between "heavy physical labor" assigned to men and "meticulous care work" usually assigned to women. Fieldwork across Companies A, B, and Z revealed that while corporate service agreements frame cleaning duties as gender-neutral operational tasks, daily workplace assignments are rigidly organized along gendered lines. Managers, site supervisors, and clients systematically mobilize naturalized assumptions regarding male physical stamina and female domestic competence. This results in a dual labor regime that segregates workers by task, spatial location, and physical risk.

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GENDERED TASK ALLOCATION MATRIX	
Male Janitors: External and Heavy • Industrial Floor Buffers • Waste Compactor Operation • High-Pressure Patio Washing • Clearing Clogged Gutters • Bulky Furniture Transport • Heavy Furniture Relocation	**Female Janitors: Internal & Care** • Residential Deep-Cleaning • Bathroom & Sanitary Unit Detailing • Kitchen Appliance & Surface Detailing • Interior Dusting & Space Organizing • Interactive Client Care & Hospitality

Figure 5. Gendered Task Allocation Matrix

Source: Fieldwork data (May–August 2026).

Male Janitors: Heavy Machinery, Mechanical Hazards, and Spatial Exteriority

Male janitors were consistently deployed to exterior, high-risk, or mechanically demanding spaces. Tasks requiring the operation of heavy industrial machinery such as 45-kilogram single-disc rotary floor scrubbers, high-pressure water jets, and commercial carpet extractors were assigned exclusively to men. Supervisors justified this distribution by pointing to male physical strength, treating the male body as an expendable instrument of heavy physical labor.

Field observations at Company A's commercial mall contract in Selangor captured this dynamic during a night-shift floor-stripping operation:

> **FIELDWORK EXCERPT** May 28, 2026 – Commercial Mall Site, Selangor
> At 9:30 PM, after the retail stores closed, the supervisor, Mr. Yusof, assigned Budi (39, Male) and Agus (36, Male) to strip and wax the central atrium concourse. Budi was tasked with guiding a heavy 17-inch industrial floor buffer using chemical stripping solvent without protective rubber boots or respiratory masks. The machine vibrated violently against the slick tile floor, requiring continuous upper-body exertion to maintain control. When Agus requested a rotation to lighter dusting so Budi could rest his arms, Mr. Yusof refused, stating: *"Mesin ini berat, kena orang lelaki pegang. Perempuan mana lah larat nak kawal mesin ni"* ("This machine is heavy; it requires a man to hold it. Where would a woman get the strength to control this machine?"). Budi operated the buffer continuously for four and a half hours sustained only by a short tea break.

Male janitors were also assigned to dirty, high-risk spatial zones, including waste compactor rooms, building drainage channels, and exterior facade cleaning at elevated heights. This physical load resulted in chronic physical wear. Budi described the long-term bodily toll of operating unmaintained machinery:

> *"The rotary buffer shakes your whole body from your wrists up to your shoulders. By the third hour, your hands go numb from the vibration. But if you stop or slow down, the supervisor says you are lazy. Because we are men, they think we don't feel exhaustion. If a man complains about back pain, others laugh and say, 'You're a man, how can you be weak? So, we just swallow the pain." (Budi, Male, 39)*

Female Janitors: Domesticity, Detailing, and Emotional Labor

Conversely, female janitors were placed inside corporate offices, executive suites, and private residential units. Their work centered on detailed interior maintenance such as polishing sanitary fittings, sanitizing restrooms, wiping appliance grease, and arranging furniture. Management framed this work as a natural extension of women's innate domestic abilities, erasing the physical effort required for detailed cleaning.

At Company B's high-end residential sites in Selangor, female cleaners were subjected to strict visual inspections by site managers and homeowners. Female janitors were expected to deliver spotless surfaces while maintaining an accommodating, soft-spoken, and deferential demeanor.

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> **FIELDWORK EXCERPT** June 19, 2026 – Condominium Deep-Cleaning Site, Selangor
> Siti (37, Female) and Dewi (40, Female) were assigned to deep-clean a 2,200-square-foot duplex apartment following renovations. The assignment required scrubbing fine grout lines on knees using handheld grout brushes, removing paint splatters with razor scrapers, and polishing floor-to-ceiling glass balconies. Throughout the six-hour shift, the unit owner hovered in the apartment, pointing out minor dust specks on ceiling fan blades and demanding that the kitchen cabinets be wiped three times. Despite the high heat and physical strain, both women bowed slightly whenever addressing the owner, using soft tones and responding with *"Baik, puan, kami cuci semula"* ("Yes, ma'am, we will wash it again").

This interaction illustrates the double burden borne by female janitors: they must execute strenuous physical cleaning while simultaneously performing emotional labour (Hochschild, 1983). Unlike male janitors working in isolated mechanical areas or exterior bays away from clients, female janitors work under direct supervision, where physical deference, smiles, and emotional management are mandatory job requirements.

4.2 Intersectional Precarity and the Legal Binding of the PLKS Visa System

The precarity experienced by Indonesian janitors is shaped by the intersection of gender, lower-class migrant status, and the legal constraints of Malaysia's *Pas Lawatan Kerja Sementara* (PLKS) visa framework. Under the PLKS system, a migrant worker's legal residence is tied directly to a single sponsoring employer. Quitting a job or being terminated results in the immediate cancellation of the work permit, transforming the worker into an undocumented migrant subject to detention and deportation (Low, 2021; Palmer, 2020).

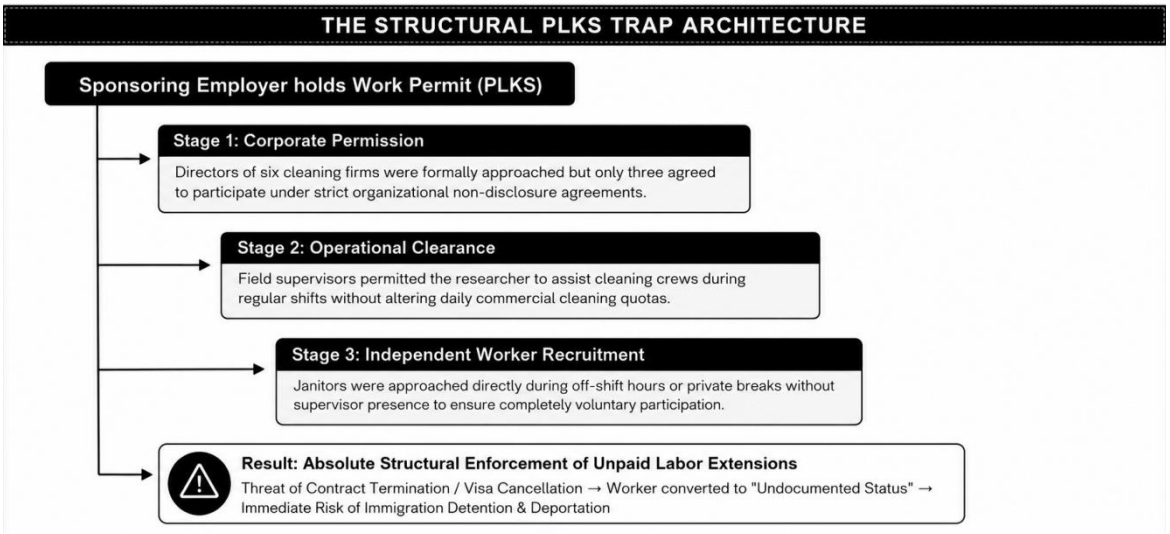


Figure 6. The Structural PLKS Trap Architecture

Source: Fieldwork data (May–August 2026).

Uncompensated Labor Extensions and Managerial Coercion

This legal structure creates an asymmetric power dynamic that cleaning agency managers actively exploit. Field observations revealed that supervisors routinely use the threat of visa cancellation to enforce unpaid overtime, expand job scopes, and suppress workplace grievances. During fieldwork with Company Z in June 2026, an unexpected client request highlighted how legal status prevents workers from declining additional work:

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> **FIELDWORK EXCERPT** July 11, 2026 – Corporate Office Tower, Kuala Lumpur
> At 4:47 PM fifteen minutes before the end of a ten-hour shift, a corporate client requested that all corporate restrooms on two additional floors be disinfected before an executive event the following morning. The field supervisor, Mr. Lee, instructed Ningsih (48, Female) and Titi (39, Female) to complete the extra floors. When Ningsih gently pointed out that their shift ended at 5:00 PM and that they had to catch the company transport van back to their house, Mr. Lee responded sharply: *"You don't want to do? I can call HQ, chop your permit, and send you back to Indonesia next week. Don't be lazy."* Without further argument, Ningsih and Titi gathered their cleaning carts and worked until 6:30 PM without additional pay.

During a subsequent interview, Ningsih explained the structural logic behind her compliance:

> *"We cannot say no. The company holds our passport and controls our permit renewals. If we complain about extra work or unpaid hours, the manager marks us as 'troublemakers. In Indonesia, my family has debts from paying the employment agent to get me here. If I get sent home early, my family loses everything. So, when the supervisor threatens our permit, we swallow our anger and keep working." (Ningsih, Female, 48)*

Gendered Compounding of Legal Vulnerability

This legal entrapment interacts with gender roles in distinct ways for female and male workers. For male workers, legal precarity manifests as enforced exposure to occupational hazards. Male janitors reported being directed to clear clogged, overflowing sewage pipes or apply concentrated chemical strippers without basic personal protective equipment (PPE). Refusing hazardous work is framed by supervisors as insubordination, placing their work permits at risk. Apart from that, for female workers, legal precarity compounds domestic gender socialization. Clients frequently request additional personal chores such as hand-washing personal laundry, ironing clothes, or washing private vehicles that fall outside formal commercial contracts. Fearing that a negative client review will jeopardize their job security, female cleaners comply with these demands.

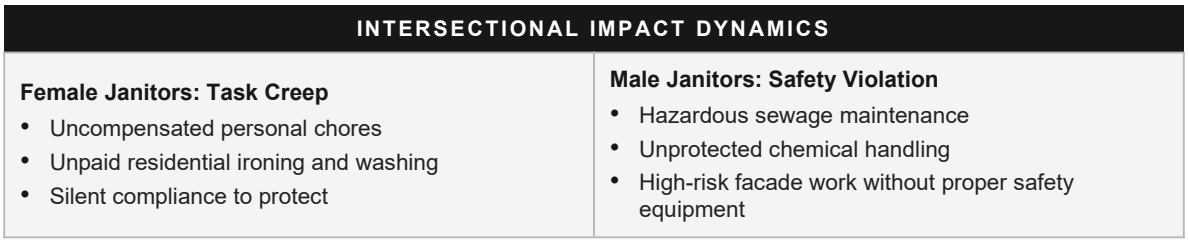


Figure 7. Intersectional Impact Dynamics of Legal Vulnerability

Source: Fieldwork data (May–August 2026).

Agus also described being ordered to clear an overflowing septic drainage pit at a commercial site without gloves or boots:

> *"The smell was overwhelming, and raw sewage was leaking onto the concrete floor. I asked the supervisor for rubber boots and long gloves, but he told me there were none in the van. He said, "If you don't clean it now, the client will terminate our contract, and I will report you to immigration." I had to clear the clog using bare plastic bags wrapped around my hands. You feel completely degraded, like you are less than human, but your visa ties your hands." (Agus, Male, 36)*

4.3 The Visibility and Recognition Paradox: Structural Erasure vs. Micro-Paternalism

A central empirical contribution of this study is the conceptualization of the visibility/recognition paradox. Fieldwork demonstrated that Indonesian migrant janitors exist in a dual social reality that they face functional social erasure in corporate and public spaces, yet receive personalized, micro-paternalistic gestures of recognition in private residential settings.

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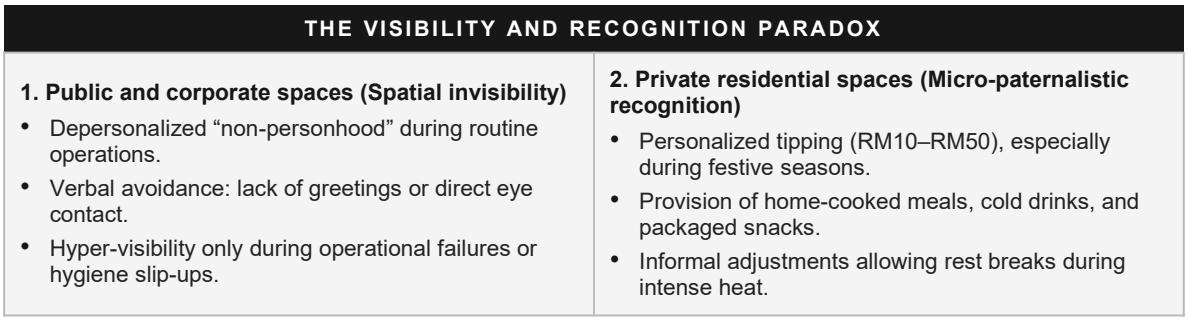


Figure 8. The Visibility and Recognition Paradox

Source: Fieldwork data (May–August 2026).

Corporate Public Sphere: Spatial Invisibility and Depersonalized Non-Personhood

In high-end corporate towers, retail malls, and commercial spaces, janitors experience systemic social invisibility. Office workers, shoppers, and building management treat cleaners as functional non-entities present to maintain environmental hygiene, but absent as social beings.

Field logs recorded numerous instances of spatial erasure. Building occupants routinely walked within inches of sweeping janitors without making eye contact, stepped directly over freshly mopped floors, or threw trash into bins while janitors were replacing the plastic liners.

> **FIELDWORK EXCERPT** July 26, 2026 – Corporate Mall, Selangor
> While Sri (35, Female) was kneeling on the floor cleaning dirty stainless-steel elevator tracks with a detail toothbrush, office workers stepped over her extended legs without acknowledging her presence. Over a two-hour period, approximately twenty-three individuals entered the elevator bank; not one made eye contact, said *"excuse me"*, or acknowledged her position on the floor. Sri adjusted her body continuously to avoid being stepped on, maintaining a lowered gaze throughout.

Sri reflected on this routine spatial erasure during an interview:

> *“When you put on this uniform, you become invisible. People look through you, not at you. They see the yellow 'Caution: Wet Floor' sign, but they don't see the person holding the mop. It’s as if we are part of the wall or the furniture. You are only noticed if a toilet is blocked or a bin spill over. When everything is clean, you don't exist to them.” (Sri, Female, 35)*

Private Residential Sphere: Micro-Paternalism, Tipping, and Tactical Hospitality

In private residential spaces such as landed homes and residential condominiums), this structural erasure gives way to a different dynamic. In these intimate settings, homeowners directly observe the physical effort required to restore dirty living spaces. Consequently, janitors frequently receive direct, personalized gestures of recognition and hospitality.

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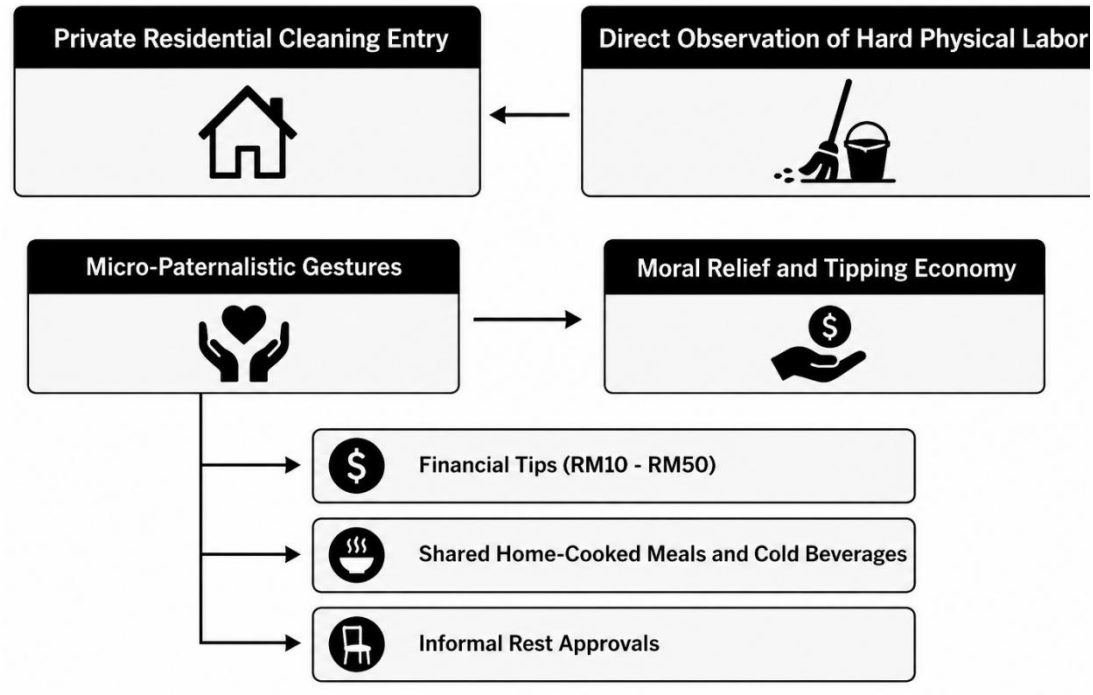


Figure 9. Micro-Paternalistic Recognition Pathway in Private Residential Spaces

Source: Fieldwork data (May–August 2026).

Fieldwork with residential deep-cleaning teams revealed an informal tipping and gifting economy that provides essential material and psychological relief:

> **FIELDWORK EXCERPT** August 9, 2026 – Condominium Residential Site, Selangor
> After Endang (49, Female) and Sudar (38, Male) spent five hours deep-cleaning a ceiling-high kitchen covered in heavy oil residue, the homeowner, a middle-aged Malaysian woman brought out two cold cans of grass jelly drink and two containers of fried noodles. Before the workers departed, she handed each worker a RM 20 tip, saying: *"Terima kasih banyak, Kak. Rumah saya dah bersih sangat. Pergi minum air, rehat dulu"* ("Thank you so much, Sister. My house is very clean now. Go drink water and rest first").

Participant accounts confirmed that such micro-paternalistic acts are common in residential settings, especially during major cultural holidays like Hari Raya Aidilfitri, Chinese New Year, and Deepavali:

> *"In big corporate offices, nobody speaks to you. But when we clean private houses, the owners often see how hard we work. They buy us lunch, give us cold fruit juice, and give us extra tips. Last Chinese New Year, one client gave me a RM50 angpow because I helped her polish all her brass dining sets. It makes you feel human again. It shows that someone sees your sweat." (Endang, Female, 49)*

Analytical Synthesis of the Paradox

Crucially, this recognition does not dismantle underlying structural inequalities or legal vulnerabilities. Instead, it functions as micro-paternalistic compensation. These informal acts of client generosity provide material support and temporary emotional validation, helping workers manage the strain of workplace precarity. However, because these gestures depend entirely on individual client goodwill, they leave the broader framework of subcontracted exploitation, low wages, and visa-linked precarity intact.

Moreover, faced with structural precarity, legal constraints, and occupational stigma, Indonesian migrant janitors do not act as passive victims. Instead, they exercise agency through informal workplace support networks, subtle counter-tactics, and transnational identity work.

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INFORMAL AGENCY AND SURVIVAL MATRIX		
Horizontal Peer Solidarity • Skill sharing: senior workers teach ergonomic, time-saving techniques. • Workload swapping: men handle heavy lifting and women manage detailing. • Emotional pooling: shared meals and mutual support during breaks.	**Re-Signifying "Dirty Work"** • Reframing janitorial labor as skilled, essential, and honorable work. • Moral superiority over idle or unhygienic practices.	**Transnational Breadwinning Framework** • Locating personal self-worth in children's education and family homes. • Constructing social status around achievements in home communities.

Figure 10. Informal Agency and Survival Matrix

Source: Fieldwork data (May–August 2026).

Horizontal Peer Solidarity and On-Site Mutual Aid

To survive physical exhaustion and managerial pressure, janitors established informal networks of mutual support based on shared Indonesian origins. These networks operate during shift breaks, transit times, and off-site hours, serving as crucial spaces for sharing survival strategies and offering emotional support. On work sites, experienced janitors actively instruct newcomers in time-saving cleaning routines, ergonomic movements, and strategies for managing demanding supervisors.

During fieldwork with Company Z, observed teams routinely redistributed workloads on site to protect exhausted colleagues:

> **FIELDWORK EXCERPT** August 15, 2026 – Corporate Office Tower, Kuala Lumpur
> During a short 15-minute lunch break behind a stairwell, Yanti (41, Female) mentioned that her lower back was aching after scrubbing bathroom tiles for three hours. Without being prompted, Sudar (38, Male) offered to swap his remaining assignment which is mopping corridors with a wide dust mop with Yanti's bathroom assignment, taking over the heavy scrubbing himself. Meanwhile, Yanti took over Sudar's corridor mopping. The swap was executed quietly without informing the site supervisor.

Sudar explained the necessity of this peer solidarity during an interview:

> *"We are all far from home, living in the same cramped hostels. If we don't look out for each other, nobody else will. When a sister is tired or sick, the men take over the heavy scrubbing. When we don't know how to remove a stubborn stain on a glass wall, the women show us the right chemical mix. We survive in Malaysia because we act as one family." (Sudar, Male, 38)*

Re-Signifying "Dirty Work" and Constructing Transnational Pride

To manage occupational stigma, workers actively reframe their daily labor. Rather than internalizing the label of "dirty work" (Ashforth & Kreiner, 1999; Hughes, 1958), janitors re-signify cleaning as an essential, skilled, and morally upright profession. They contrast their honest earnings with dishonest financial gain, constructing narratives of moral self-worth.

Murni (42, Female) articulated this moral reframing:

> *"People look down on janitors and think anyone can mop a floor. But cleaning is a real skill. You need to know which chemicals dissolve grease without destroying marble, how to work fast without damaging property, and how to stay patient. We earn honest, halal money through hard physical work. We don't steal, and we don't beg. Without us, these beautiful towers would be covered in filth within two days." (Murni, Female, 42)*

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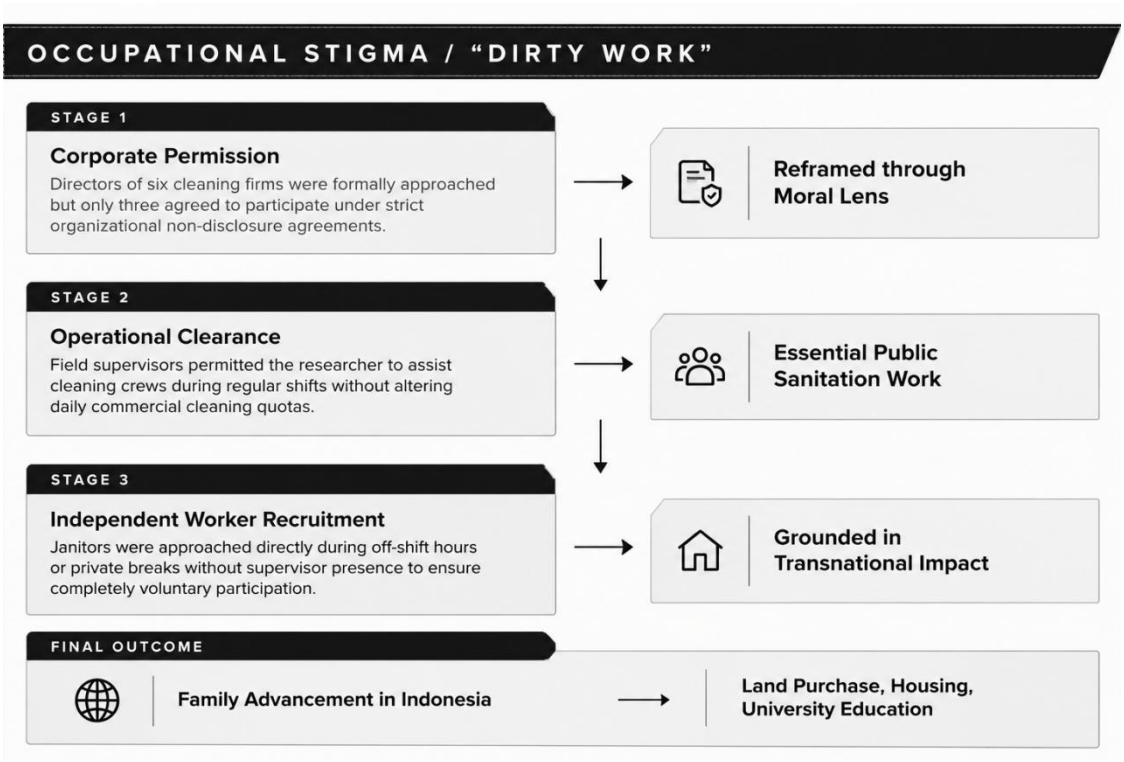


Figure 11. Re-Signifying "Dirty Work" through Moral Reframing and Transnational Impact

Source: Fieldwork data (May–August 2026).

Finally, workers maintain psychological resilience by anchoring their identities in their roles as transnational family providers. They view their daily physical sacrifices in Malaysia as temporary acts of devotion to secure economic mobility for their families in Indonesia. By evaluating their self-worth against long-term achievements in their home communities such as purchasing agricultural land, constructing family homes, or funding children's university education janitors successfully distance themselves from local occupational stigma:

> *"When I feel degraded by a supervisor or exhausted by the work, I looked at the photos of my daughters on my phone. My eldest daughter is studying at a university because of the money I send home every month from cleaning here. When people in Malaysia treat me like a low-class janitor, I remind myself: back home, I am a mother building a future for her children. Their respect doesn't matter… my children's future is what gives me dignity." (Siti, Female, 37)*

Through these informal support practices, moral reframing, and transnational family commitment, Indonesian migrant janitors actively exercise agency. They navigate the structural constraints of Malaysia's migrant labor regime, carving out personal dignity within a precarious service economy.

5. Discussion

The empirical findings of this study advance contemporary debates across social anthropology, gender studies, and Asian migration research by revealing how gender norms, temporary legal regimes, and occupational stigma interact within Malaysia's subcontracted cleaning sector. Rather than treating migrant precarity as a monolithic condition of economic disadvantage, this discussion interprets the daily realities of Indonesian janitors through an anthropological lens mapping the cultural logics, moral economies, and structural contradictions that give meaning to their labor. By placing these empirical insights into direct dialogue with the theoretical literature, this section uncovers how macro-level migration architectures are operationalized, embodied, and contested within the intimate, micro-spatial landscapes of everyday work.

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Table 3. Theoretical Dialogue Matrix

Discussion Theme	Theoretical Contribution
5.1 Re-Theorizing Gendered Labor through Anthropologies of the Body	Extends Acker (2006) & Grimshaw et al. (2021) by analyzing how subcontractors weaponize gendered corporeal essentialism.
5.2 Intersectional Precarity & the Cultural Logic of the PLKS Regime	Builds on Crenshaw (1989) & Low (2021) to show how legal tying transforms gendered deference into uncompensated structural extraction.
5.3 The Visibility/Recognition Paradox and Micro-Paternalist Economies	Reconceptualizes Ashforth & Kreiner (1999) by contrasting corporate erasure with residential tipping economies.
5.4 Performative Agency, Moral Economies, & Transnational Selfhood	Synthesizes Butler (1990) & Koh (2022) to trace how workers re-signify stigmatized labor into honorable halal provisioning.

Source: Author's own analysis.

5.1 Re-Theorizing Gendered Labor: Essentialism and Anthropologies of the Body

Feminist organizational scholarship has long established that formal labor markets reproduce social inequalities through gendered task allocation and hierarchical segregation (Acker, 2006; Connell, 2021). However, while foundational literature primarily examined fixed corporate bureaucracies, these findings reveal how flexible, subcontracted service networks actively operationalize gender essentialism as a primary tool of operational efficiency. Subcontracting agencies in Malaysia capitalize on naturalized cultural assumptions about male and female bodies to streamline labor deployment and meet rigid service-level agreements without investing in formal skills training (Grimshaw et al., 2021).

SUBCONTRACTED GENDER ESSENTIALISM	
Female Domestic Naturalization	**Male Corporeal Utility**
• Inherent domestic meticulousness. • Spatial containment in interior zones. • Enforced affective/emotional performance.	• Naturalized physical stamina. • Expendable mechanical instruments. • Exposure to high-risk hazards & sewage.

Figure 12. Subcontracted Gender Essentialism

Source: Author's own analysis of fieldwork data.

Interpreted anthropologically through the body, labour assignments become physical manifestations of gendered expectations. Male janitors are reduced to disposable units of physical power. Assigned exclusively to high-vibration floor buffers, waste compactors, and hazardous outdoor drainage, their bodies absorb structural wear to protect corporate client infrastructure. This aligns with and extends recent research on male migrant vulnerability in Southeast Asia (Datta & Yeoh, 2023; Elias & Sarkar, 2021), demonstrating that dominant masculine expectations, the imperative to remain silent, endure physical pain, and perform dangerous labour act as mechanisms of structural extraction rather than privileges (Hu, 2021).

Conversely, female janitors face a cultural logic that frames meticulous interior cleaning not as acquired technical labour, but as a natural extension of female domesticity. Confined to office interiors and private residences, female cleaners navigate intense behavioural, aesthetic, and emotional surveillance. They must execute strenuous physical labour such as scrubbing floor grout on hands and knees while maintaining a calm, soft-spoken, and deferential demeanour. This gendered segregation reveals a core contradiction in modern service work where female janitors are subjected to continuous visual scrutiny, yet their physical effort is culturally rendered "invisible" as mere domestic instinct. Male janitors, meanwhile, are granted spatial independence in exterior zones, but pay for it through unchecked physical strain and hazard exposure**.**

5.2 Intersectional Precarity and the Cultural Logic of the PLKS Regime

This study confirms the analytical utility of intersectionality theory (Crenshaw, 1989; Koh, 2022) by showing how gender, class, foreign nationality, and temporary legal status intersect to construct workplace powerlessness. Within the Malaysian labor regime, the *Pas Lawatan Kerja Sementara* (PLKS) visa framework legally binds migrant workers to a single sponsoring employer (Low, 2021; Palmer, 2020).

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Anthropologically, this immigration architecture functions as a system of institutionalized capture, transforming state-enforced legal vulnerability into daily workplace compliance.

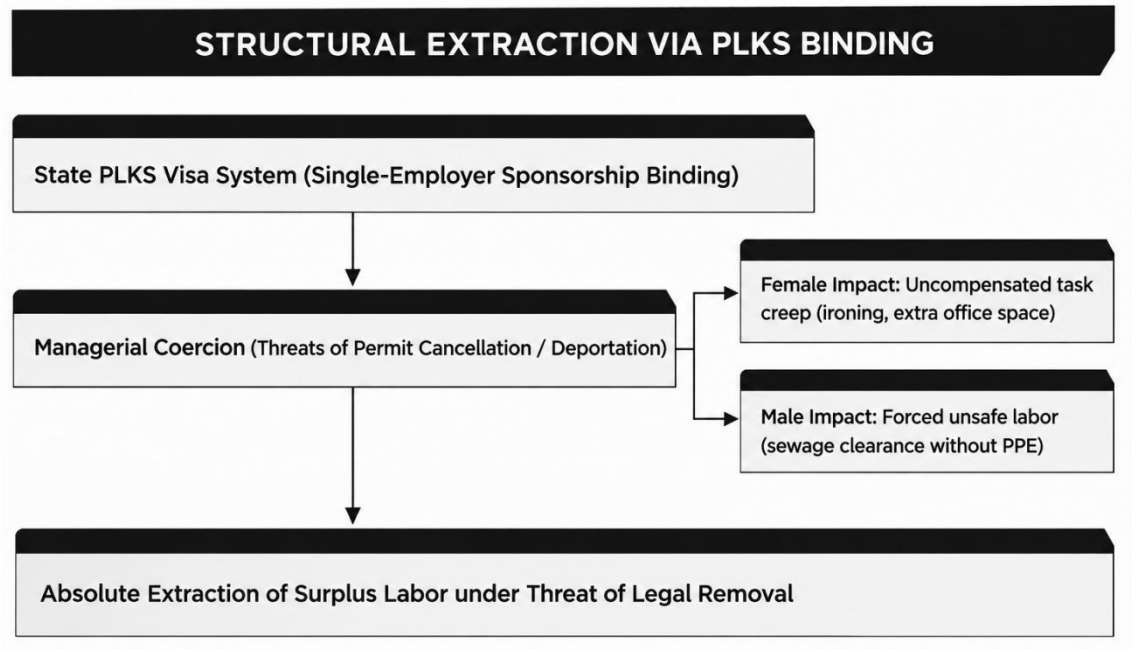


Figure 13. Structural Extraction via PLKS Binding

Source: Author's own analysis of fieldwork data.

The empirical evidence demonstrates how this legal precarity shapes daily gender performances (Kilkey & Urzi, 2021; Parreñas et al., 2021). When field supervisors threaten to cancel visas (*"chop your permit"*) in response to worker resistance, they mobilize state migration policies to enforce unpaid labour extensions and suppress complaints.

This intersectional pressure operates through distinct gendered channels. For female cleaners, cultural expectations of female submissiveness combine with legal precarity to produce uncompensated "task creep". They accept additional domestic chores such as washing personal laundry or ironing for residential clients not out of willingness, but because refusing risks employer retaliation and deportation. Then, for male cleaners, legal precarity forces them to accept unsafe working conditions. They perform high-risk tasks, such as clearing raw sewage lines without protective gear because their legal right to remain in the country depends entirely on supervisor approval. Legal precarity thus acts as a force multiplier as it converts traditional gender norms from social expectations into enforced mechanisms of labor extraction.

5.3 The Visibility/Recognition Paradox and Micro-Paternalist Economies

A central theoretical contribution of this study is the formulation of the visibility/recognition paradox, which refines classical theories of "dirty work" and occupational stigma (Ashforth & Kreiner, 1999; Hughes, 1958). Classical literature often presents stigmatized service labour as characterized by uniform social devaluation, overt hostility, or continuous degradation (Barbour & Lammers, 2015; Simpson et al., 2012).

However, the ethnographic evidence reveals a more complex reality where janitors experience structural social erasure in public and corporate spaces, alongside intimate, micro-paternalistic recognition in private residential spaces.

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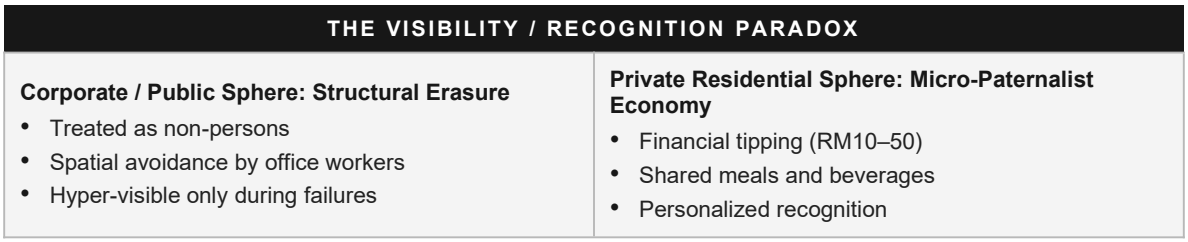


Figure 14. The Visibility/Recognition Paradox across Corporate and Residential Spheres

Source: Author's own analysis of fieldwork data.

In corporate offices and commercial malls, janitors encounter a cultural logic of spatial erasure. Office workers and shopping mall visitors look through cleaners, stepping over them or ignoring their presence. The migrant janitor becomes a functional non-personal background fixture necessary for environmental hygiene but denied full social presence. They become hyper-visible only when a system fails like a clogged toilet, an unemptied bin, or a slippery floor.

In private residential spaces, this dynamic shifts. When homeowners directly observe the intense physical effort required to restore their living spaces, they frequently respond with informal gestures of hospitality: offering cold drinks, sharing home-cooked meals, granting rest breaks, and handing out cash tips (*angpow*). Anthropologically, these exchanges function as a moral economy of micro-paternalism. In private settings, witnessing direct physical exertion creates moral discomfort for middle-class clients. Informal gifts and tips serve to alleviate this discomfort, re-humanizing the interaction through personal generosity.

Table 4. Comparison of Corporate/Public and Private Residential Spheres

Dimension	Corporate / Public Sphere	Private Residential Sphere
Social Perception	Functional non-personhood; structural erasure	Individualized recognition; paternalistic care
Client Interaction	Spatial avoidance; zero eye contact	Direct conversation; shared food/drinks
Visibility Logic	Visible only during operational failures	Visible through observed physical labour
Economic Mechanism	Strict contractual wage suppression	Informal tipping economy (RM10–RM50 tips)
Structural Effect	Reinforces social distance and class hierarchy	Offsets moral discomfort without altering wages

Source: Fieldwork data (May–August 2026).

Yet, a critical analytical contradiction emerges when these micro-paternalistic acts do not dismantle structural exploitation. Tipping, food sharing, and kind words provide genuine psychological relief and material support to workers, helping them endure difficult conditions. However, because these gestures rely entirely on individual client goodwill, they leave the broader framework of low subcontracted wages, legal visa dependence, and systemic precarity completely intact. Micro-paternalism softens the emotional strain of dirty work, but ultimate economic and legal control remains unchanged.

5.4 Performative Agency, Moral Economies, and Transnational Identity

Finally, the findings support Giddens' (1991) theory of reflexive identity and Butler's (1990) concept of performativity by demonstrating that Indonesian migrant janitors are active agents rather than passive victims. Navigating restrictive migration regimes and occupational stigma, janitors construct sophisticated counter-narratives of dignity, moral worth, and horizontal solidarity (Dick, 2005; Hewison, 2020).

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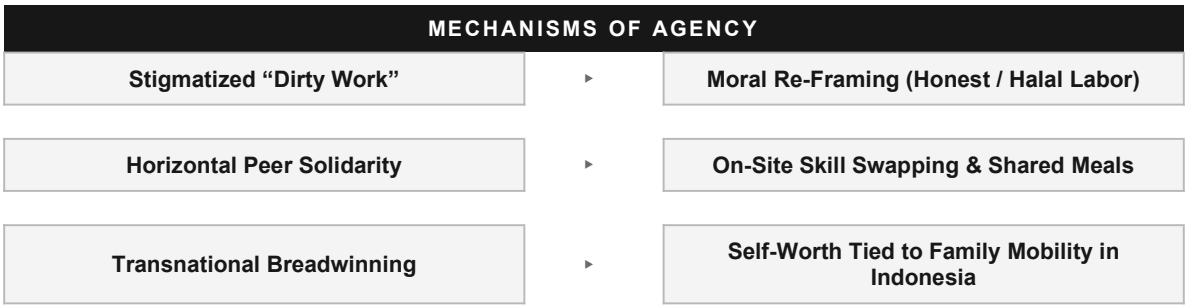


Figure 15. Agency Mechanisms of Indonesian Migrant Janitors

Source: Author’s own analysis of fieldwork data.

In their daily routines, Indonesian migrant janitors active respond to the constraints of the Malaysian labour regime, demonstrating that they are not merely passive victims of exploitation, but strategic actors capable of constructing meaningful agency. This agency manifests through three distinct cultural mechanisms which is horizontal peer solidarity, the moral re-framing of stigmatized labour, and a commitment to transnational family breadwinning.

First, on active job sites, janitors cultivate informal, origin-based support networks to buffer the physical tolls of heavy labour and manage rigid supervisor expectations. Far from working in isolation, senior cleaners quietly mentor newcomers, teaching them ergonomic body movements and chemical dilution shortcuts that reduce physical exertion and speed up cleaning cycles. When severe fatigue or physical pain threatens a colleague's capacity to complete an assignment, male and female janitors subtly swap tasks without notifying site management. By rebalancing labour such as exchanging high-vibration rotary scrubbing or heavy floor stripping for lighter corridor mopping where workers protect one another from physical breakdown. These quiet, daily acts of mutual aid form an informal moral economy of survival that keeps workers safe in a system that views them as replaceable.

Second, janitors actively push back against the occupational stigma attached to “dirty work” by redefining the moral meaning of their labour. Rather than internalizing societal disdain, cleaners reject the lower status assigned to janitorial duties and reframe their work as skilled, essential, and morally upright (*halal*). They distinguish their strenuous physical efforts from dishonest financial gain, taking genuine pride in their specialized understanding of surface maintenance, chemical mixing ratios, and physical endurance. By viewing their daily duties as a critical public service that maintains hygiene in corporate and domestic spaces, janitors assert their moral value within a host society that often overlooks them.

Lastly, janitors locate their primary sense of identity and self-worth beyond the confines of the Malaysian labour market, anchoring their self-concept in their roles as transnational family providers. Everyday physical hardships and micro-aggressions in Malaysia are reframed as necessary, temporary sacrifices made for the long-term advancement of their households in Indonesia. By connecting their daily struggles to tangible achievements back home such as purchasing agricultural land, constructing family homes, or funding their children's university educations so janitors neutralize the social stigma they face at work.

Ultimately, while the Malaysian migration architecture attempts to reduce migrant workers to temporary, disposable economic inputs, Indonesian janitors continuously build meaningful lives across national borders. Through horizontal peer solidarity, moral re-framing, and a dedication to transnational family provision, they maintain their humanity, agency, and personal dignity within a precarious global economy.

6. Conclusion

This study has examined the gendered, legal, and socio-cultural dynamics shaping the daily experiences of Indonesian migrant janitors within Malaysia’s subcontracted cleaning sector. By investigating the intersection of gender norms, temporary legal status (*Pas Lawatan Kerja Sementara*), and occupational

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stigma, the research demonstrates how workplace precarity is structurally produced, corporealized, and contested.

The empirical findings reveal that subcontracted cleaning agencies operationalize gender essentialism to organize daily tasks, assigning male janitors to heavy, high-risk exterior machinery while confining female janitors to meticulous, highly monitored interior spaces that demand continuous emotional deference. This labor regime is further reinforced by the tied visa framework, which converts structural vulnerability into forced workplace compliance, driving uncompensated task extensions for women and hazardous exposure for men. Simultaneously, the study formulates the "visibility/recognition paradox," illustrating how structural social erasure in corporate environments coexists with micro-paternalistic acts of client appreciation, such as tipping and food sharing, in private residential settings. Faced with these constraints, Indonesian janitors exercise meaningful agency through horizontal peer solidarity, the moral re-framing of "dirty work" into honourable *halal* labour, and an overarching commitment to transnational family breadwinning.

Reflecting on the methodology, the use of qualitative ethnographic methods proved indispensable for uncovering these complex workplace dynamics. Long-term field observations across commercial malls, office towers, and private residences, paired with in-depth interviews and daily field logs, made it possible to capture fine-grained micro-spatial interactions, subtle non-verbal exchanges, and informal survival tactics that quantitative surveys or formal policy reviews consistently miss. Immersing within the spatial environments where cleaning labour occurs allowed for a nuanced understanding of how macro-level migration policies are experienced directly through the worker's body.

At the same time, this study encountered important methodological limitations and field challenges. Accessing commercial job sites and private residences required navigating strict gatekeeping by site supervisors and agency management, which occasionally restricted observation times and limited access to more highly controlled corporate spaces. Language dynamics, power asymmetries between the researcher and participants, and the pervasive fear among migrant workers regarding visa cancellation required careful ethical navigation, trust-building, and flexible scheduling around workers' demanding shifts. Furthermore, as a qualitative study centered on specific subcontracted sites in Selangor and Kuala Lumpur, the findings offer rich contextual depth rather than statistical generalizability across the entire migrant labour landscape in Malaysia.

Building on these insights, future research should expand the empirical scope by conducting comparative studies across other subcontracted service industries, such as security, hospitality, and industrial maintenance. Longitudinal research tracking migrant janitors after their return to Indonesia would also provide valuable insight into the long-term socio-economic mobility generated by transnational remittances. Finally, future studies should explore the perspectives of subcontracting management and regulatory bodies to better understand how policy interventions might reform tied visa systems and foster safer, more equitable working conditions for migrant service workers throughout the region.

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ORIGINAL ARTICLE

Emotional Neglect and the Cumulative Profile of Childhood Trauma Among Adult Women Seeking Psychological Counselling: A Mixed-Methods Study in Kerala, India

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ABSTRACT

Childhood trauma is associated with enduring psychological and social consequences, but the experiences of adult women seeking psychological counselling in India remain insufficiently documented. This mixed-methods study examined the pattern and severity of childhood trauma among 32 women aged 18–45 years receiving psychological counselling in Kannur, Kerala. Quantitative data were obtained from secondary case records and assessed using the Childhood Trauma Questionnaire (CTQ), while qualitative analysis was designed to examine contextual descriptions of childhood experiences documented in counselling records. Quantitatively, the mean total CTQ score was 77.66 (SD = 10.37); 59% of participants were classified in the high-trauma range and none were classified in the low-trauma range. Emotional neglect was classified as severe for all participants (100%), followed by physical neglect (78%) and emotional abuse (75%). Physical abuse and sexual abuse showed greater variability, with severe levels reported by 44% and 22% of participants, respectively. Physical abuse was positively correlated with emotional abuse while emotional abuse was positively correlated with physical neglect. The qualitative component is intended to contextualize these quantitative patterns through participants' documented descriptions of emotional availability, caregiving, family relationships, and childhood maltreatment. The findings indicate that emotional neglect warrants greater attention in trauma-informed psychological assessment of Indian women. Because the study involved a small, single-site clinical sample and retrospective records, the findings should be regarded as context-specific rather than representative of Indian women generally.

Keywords *Childhood trauma; Emotional neglect; Adult women; Indian women's mental health; Counselling; Mixed methods*

1. Introduction

Childhood adversity is increasingly understood as a developmental and social determinant of mental health. Experiences of abuse, neglect, family dysfunction, and chronic emotional insecurity can influence

emotional regulation, interpersonal relationships, coping, and vulnerability to psychological difficulties across the life course. Large-scale research has established associations between cumulative childhood adversity and later mental health problems, while recent quasi-experimental evidence suggests that childhood maltreatment may make a causal contribution to subsequent psychological difficulties, although the magnitude of this contribution is smaller after adjustment for confounding factors (Baldwin et al., 2023).

The consequences of childhood maltreatment are particularly important in relation to women's mental health. Gender influences both exposure to adversity and the social contexts in which childhood experiences are interpreted, disclosed, and remembered. Women may encounter gendered expectations concerning obedience, emotional expression, family responsibility, and interpersonal relationships, potentially shaping both childhood experiences and later help-seeking.

Within India, however, research on childhood trauma has historically been less extensive than research from Western settings. Recent Indian evidence indicates that childhood abuse and neglect frequently occur in combinations rather than as isolated experiences. A large study of children and adolescents in Mumbai identified complex profiles involving intrafamilial and extrafamilial abuse and poly-victimization, with abuse profiles associated with anxiety, depression, self-injury, and suicidal phenomena.

Recent clinical research also demonstrates the continuing relevance of childhood trauma within Indian mental-health services. A 2024 study conducted in a tertiary psychiatric setting in Kerala found that 85% of participants had experienced at least one type of childhood trauma, with emotional abuse being the most commonly reported category. Childhood trauma was also associated with a history of suicide attempts in that clinical population.

Emotional abuse and emotional neglect deserve particular attention because they can remain less visible than physical or sexual abuse. A recent Indian mixed-methods study among adolescents attending psychiatric services found high rates of emotional abuse and substantial co-occurrence with other forms of maltreatment and psychosocial adversity. Importantly, the authors combined quantitative prevalence data with qualitative accounts to examine how emotional abuse was experienced and understood by young people.

Emerging Indian research has also linked childhood neglect with adult relational processes. Shibu and Simon (2024), for example, reported associations between childhood neglect, rejection sensitivity, and relational patterns among Indian adults. More recent work has extended this literature to women in India. Research among rural Indian women has reported an association between adverse childhood experiences and adult mental-health symptoms, with intimate partner violence representing an additional pathway linking early adversity to later difficulties.

Kerala is particularly relevant to this developing literature. Recent research among women in Kerala has examined whether psychological resources such as mindfulness and psychological capital may buffer the social consequences of childhood adversity, indicating increasing interest in the relationship between early adversity and adult functioning within the state.

Despite this progress, an important gap remains. Quantitative measures can identify the prevalence and severity of particular forms of childhood maltreatment, but they provide limited information about how emotional neglect was experienced within family relationships. Conversely, qualitative accounts can illuminate meanings and contexts but cannot establish the distribution of trauma types within a clinical sample. A mixed-methods approach can therefore provide complementary information by combining the numerical pattern of CTQ scores with contextual descriptions from counselling records.

The present study addresses this gap by examining childhood trauma among adult women seeking psychological counselling in Kannur, Kerala. The study specifically examines the prevalence and severity of five CTQ dimensions, explores patterns of co-occurrence among trauma dimensions, and uses qualitative

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case-record information to contextualize the quantitative finding of particularly high emotional-neglect scores.

The study contributes to the literature in three ways. First, it provides context-specific evidence from women receiving psychological counselling in Kerala. Second, it draws attention to emotional neglect as a clinically important but relatively less visible form of childhood adversity. Third, the mixed-methods design allows the numerical pattern of trauma exposure to be interpreted alongside the contextual experiences documented in counselling records.

2. Literature Review

2.1 Childhood Trauma and Cumulative Adversity

Childhood trauma encompasses experiences of abuse, neglect, and other adverse circumstances that threaten children's physical or psychological development. The Childhood Trauma Questionnaire (CTQ) provides a structured assessment of five dimensions: emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect (Bernstein et al., 2003).

The cumulative adversity perspective proposes that childhood maltreatment frequently involves multiple forms of adversity rather than a single isolated experience. Contemporary evidence supports this perspective while also emphasizing the importance of distinguishing different forms and patterns of maltreatment. Baldwin et al. (2023), for example, found a persistent association between childhood maltreatment and later mental-health problems after quasi-experimental adjustment, although the adjusted effect was smaller than the unadjusted association.

This distinction is important for the present study. A high total CTQ score indicates substantial cumulative adversity, but the individual dimensions may differ considerably in prevalence and variability.

2.2 Emotional Neglect as an Under-recognized Form of Maltreatment

Emotional neglect differs from overt physical violence in that it involves the absence or insufficiency of emotional responsiveness, warmth, validation, and psychological care. Because it may occur without visible injury, emotional neglect can be difficult to identify retrospectively.

Recent Indian literature supports the importance of studying emotional neglect separately. Research among Indian adults has identified relationships between childhood neglect and adult rejection sensitivity and relational patterns. Clinical research in India has also reported substantial levels of emotional and physical neglect among psychiatric populations. The current study extends this literature by examining emotional neglect within a female counselling population rather than treating childhood trauma solely as a global cumulative score.

2.3 Childhood Trauma, Gender, and Mental Health in India

Childhood trauma needs to be considered within social and gendered environments. Family structures, expectations concerning daughters, intergenerational relationships, and norms concerning emotional expression may influence the ways childhood experiences are perceived and reported.

Indian evidence increasingly demonstrates the relationship between childhood adversity and mental health. Research in Mumbai identified multiple forms of abuse and neglect and linked maltreatment profiles with psychological symptoms among young people. Research in Kerala has similarly demonstrated a high prevalence of childhood trauma among psychiatric patients.

More recent work among rural Indian women further suggests that childhood adversity may be connected with adult mental-health difficulties through interpersonal pathways, including intimate partner violence. These findings support the need for gender-sensitive trauma assessment while cautioning against assuming that findings from one Indian population automatically generalize to another.

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2.4 Rationale for a Mixed-Methods Approach

Quantitative CTQ scores can establish the distribution and severity of childhood trauma but cannot fully explain the subjective and relational context of neglect. Qualitative case material can provide information about emotional availability, family communication, caregiving, criticism, rejection, and other experiences that may underlie CTQ responses.

The usefulness of combining these approaches is demonstrated by recent Indian mixed-methods research. Rajan et al. (2024) combined quantitative assessment of emotional abuse with qualitative interviews among adolescents attending psychiatric services and found that qualitative narratives added contextual understanding to the quantitative prevalence estimates. The present study therefore adopts a mixed-methods framework to examine both how much trauma was reported and, where documented in the records, how those experiences were described and situated within family relationships.

3. Methods

3.1 Research Design

A convergent mixed-methods design was used. Quantitative analysis examined CTQ scores and trauma severity, while qualitative analysis examined relevant narrative material contained in counselling case records.

The two strands were analysed separately and subsequently integrated during interpretation. The quantitative component addressed the distribution and interrelationships of trauma dimensions, whereas the qualitative component was intended to explain the contextual meaning of the patterns identified quantitatively.

3.2 Setting and Participants

The study was conducted using case records from the Wellness G Centre, a psychological counselling facility in Kannur district, Kerala, India. The quantitative sample consisted of 32 adult women aged 18–45 years ($M = 28.0$, $SD = 6.15$).

Access to records was granted with written authorization from the centre's supervising psychologist, and all identifying information was excluded to preserve participant confidentiality; the researcher had no direct contact with participants. Participants were selected purposively from counselling records.

Inclusion criteria

Participants were required to:

1. be women aged 18–45 years;
2. have been registered for psychological counselling at the study setting;
3. have documented childhood-trauma information;
4. have completed CTQ assessment records; and
5. have sufficiently complete information for analysis.

Exclusion criteria

Records were excluded when:

1. CTQ data were substantially incomplete;
2. essential demographic information was unavailable; or
3. the record did not contain sufficient information to establish eligibility.

3.3 Data Sources

Two sources of information were used.

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Quantitative data: CTQ scores documented in counselling records.

Qualitative data: Narrative material concerning childhood experiences contained in the counselling records.

3.4 Childhood Trauma Questionnaire

Childhood trauma was assessed using the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003). The measure assesses emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. The CTQ uses Likert-type responses concerning childhood experiences. Subscale scores were calculated according to the scoring procedure used in the original assessment records.

3.5 Quantitative Data Analysis

Data were analysed using descriptive and inferential statistics. Means and standard deviations were calculated for CTQ dimensions and total scores. Frequencies and percentages were used to describe severity categories. Pearson correlations were used to examine relationships among CTQ dimensions. Because the sample consisted of only 32 participants, inferential results were interpreted cautiously, and statistical significance was not treated as evidence of causal relationships.

3.6 Qualitative Analysis

Qualitative material was analysed using thematic analysis.

The analysis should proceeded through the following stages:

1. familiarization with the case material;
2. identification of meaningful segments concerning childhood experiences;
3. initial coding;
4. grouping related codes;
5. development of candidate themes;
6. review and refinement of themes; and
7. integration of qualitative themes with quantitative CTQ findings.

4. Results

4.1 Participant Characteristics

The participants ranged from 18 to 45 years of age (M = 28.0, SD = 6.15). Thirteen participants (41%) were aged 18–25 years, 15 (47%) were aged 26–35 years, and four (13%) were aged 36–45 years.

Table 1. Demographic and Sample Characteristics of Participants (N = 32)

Characteristic	Category	n	%
Age group	18–25 years	13	41
	26–35 years	15	47
	36–45 years	4	13
Total		**32**	**100**

4.2 Quantitative Profile of Childhood Trauma

The mean total CTQ score was 77.66 (SD = 10.37), with scores ranging from 58 to 96. Based on the classification used in the study, 19 participants (59%) were in the high-trauma category and 13 (41%) were in the moderate category. No participant was classified in the low-trauma category.

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Table 2. Descriptive Statistics and Severity Classification of CTQ Dimensions (N = 32)

CTQ Dimension	M	SD	% Severe
Emotional Neglect	20.81	1.62	100%
Physical Neglect	15.62	2.70	78%
Emotional Abuse	17.53	3.08	75%
Physical Abuse	12.84	6.51	44%
Sexual Abuse	10.84	8.37	22%
Total CTQ Score	**77.66**	**10.37**	**—**

Percentages represent participants classified as severe according to the scoring criteria applied in the original dataset.

Emotional neglect had the highest mean score and the lowest standard deviation among the five dimensions. All 32 participants were classified within the severe range for emotional neglect. Physical neglect and emotional abuse were also frequently classified as severe. In contrast, physical abuse and sexual abuse demonstrated greater variability. Severe physical abuse was observed in 44% of participants, while severe sexual abuse was observed in 22%.

4.3 Correlations Between CTQ Dimensions and Total Score

Table 3. Pearson Correlations Between CTQ Dimensions and Total CTQ Score (N = 32)

S. No.	CTQ Dimension	R	p
1	Emotional Neglect	.627	< .001
2	Physical Neglect	.487	.005
3	Emotional Abuse	.355	.046
4	Physical Abuse	.281	.119
5	Sexual Abuse	.065	.722

Each dimension contributes directly to the total CTQ score, these correlations should not be interpreted as independent associations with an external measure of trauma. The relatively weak correlation for emotional neglect should also be considered alongside its very limited variability in this sample.

Emotional neglect had the strongest correlation with the total CTQ score, followed by physical neglect and emotional abuse. The weaker associations for physical abuse and sexual abuse are likely influenced by the restricted variability in these dimensions, particularl emotional neglect.

Inter-dimensional analysis showed that active and passive forms of maltreatment tended to co-occur within the same households (Table 4). Sexual abuse showed no significant correlation with any other dimension, consistent with the broader observation that sexual abuse often occurs under distinct circumstances and via different perpetrators than other trauma types (Felitti et al., 1998).

Table 4. Notable Inter-Dimensional Correlations among CTQ Subscales (N = 32)

Dimension Pair	r	p
Physical Abuse – Emotional Abuse	.452	< .05
Emotional Abuse – Physical Neglect	.441	< .05
Sexual Abuse – all other dimensions	ns	ns

Note. Only correlations reaching or approaching conventional significance are shown; ns = not significant. Physical abuse and emotional abuse were significantly inter-correlated, as were emotional abuse and physical neglect, indicating overlap between active and passive forms of maltreatment within the same households.

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4.4 Age-Related Findings

One-way ANOVA revealed no statistically significant difference in total CTQ scores across the three age groups, indicating that this sample provides no evidence of an overall age effect on cumulative trauma severity. Dimension-specific trends were also examined and are summarized in Table 5.

Table 5. Trauma Indicators by Age Group (N = 32)

Age Group	n	% High-Trauma	Notable Dimension Pattern
18–25 years	13	62%	Numerically highest sexual abuse scores
26–35 years	15	54%	—
36–45 years	4	75%	Numerically highest physical abuse scores

Note. Total CTQ score by age group: F(2, 29) = 0.44, p = .65 (not significant). Physical abuse score by age group: F(2, 29) = 3.41, p = .05 — a result at the conventional threshold for significance but based on a very small and unequal oldest-group cell (n = 4). The 75% high-trauma figure for the 36–45 group is based on only three of four respondents and should not be treated as a stable estimate.

Because the design is cross-sectional and retrospective, these age-related patterns cannot distinguish between a true developmental accumulation of trauma effects, a cohort effect (i.e., generational differences in exposure or willingness to disclose it), and simple sampling variability in a very small subgroup; longitudinal or purpose-designed, adequately powered studies would be required to adjudicate between these explanation.

4.5 Qualitative Findings

The qualitative analysis of the available counselling case-record narratives identified several recurring patterns in participants' descriptions of childhood experiences. These narratives provided contextual information that complemented the CTQ findings, particularly the high prevalence of emotional neglect and emotional abuse. Five broad themes were identified: (1) emotional unavailability of caregivers, (2) criticism and invalidation, (3) gendered expectations and restricted emotional expression, (4) co-occurrence of neglect and other forms of maltreatment, and (5) enduring interpersonal and emotional consequences. Because the qualitative material was derived from retrospective counselling records rather than interviews conducted specifically for this study, the themes is interpreted as contextual patterns rather than as estimates of prevalence in Table 6.

Table 6. Qualitative Themes Identified from Counselling Case Records

S. No.	Theme	Description	Relationship with CTQ findings
1	Emotional unavailability of caregivers	Narratives described limited emotional responsiveness, lack of warmth, difficulty obtaining comfort, and perceptions that emotional needs were not recognised within the family.	Consistent with the uniformly severe emotional-neglect scores.
2	Criticism, rejection and emotional invalidation	Participants' accounts referred to recurrent criticism, belittlement, comparison with others, or dismissal of feelings and personal concerns.	Provides contextual support for the high emotional-abuse scores.
3	Gendered expectations and restricted emotional expression	Some narratives reflected expectations concerning obedience, adjustment, family responsibility, and suppression of emotional expression.	Offers a sociocultural context for the prominence of emotional neglect and abuse among women in the sample.
4	Co-occurrence of neglect and maltreatment	Narratives indicated that inadequate emotional caregiving could occur alongside other adverse experiences, including physical forms of maltreatment.	Complements the observed association between emotional abuse and physical neglect.

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S. No.	Theme	Description	Relationship with CTQ findings
5	Enduring emotional and interpersonal consequences	Case narratives indicated difficulties involving self-worth, emotional regulation, trust, interpersonal relationships, or coping following adverse childhood experiences.	Provides contextual interpretation of the high cumulative CTQ burden, although causal relationships cannot be established.

This qualitative pattern is particularly important in interpreting the quantitative finding that all participants were classified as having severe emotional neglect. Rather than treating the CTQ score as evidence of a single type of experience, the case narratives suggest that emotional neglect may involve persistent absence of emotional responsiveness within everyday family relationships.

Emotional Unavailability and Unmet Emotional Needs

A prominent qualitative pattern concerned participants' descriptions of caregivers as emotionally unavailable or insufficiently responsive to their emotional needs. The narratives indicated that childhood distress was not always met with reassurance, affection or opportunities for emotional communication. In some accounts, emotional needs appeared to be subordinated to expectations concerning academic performance, obedience, household responsibilities, or maintaining family harmony.

Criticism, Rejection and Emotional Invalidation

A second theme involved experiences of criticism, rejection, comparison, or invalidation. Participants' narratives indicated that expressions of sadness, anger, fear, or vulnerability were sometimes discouraged or dismissed. Repeated negative feedback from caregivers may have contributed to participants' perceptions of themselves as inadequate or undeserving of emotional support. This theme provides qualitative context for the finding that emotional neglect was among the most frequently severe CTQ dimensions. The quantitative data demonstrate the extent of endorsement within the sample, whereas the qualitative material helps illustrate the interpersonal context in which such experiences were understood by participants.

Gendered Expectations and Emotional Suppression

The narratives also suggested that childhood experiences were sometimes shaped by expectations associated with being female within the family. These expectations included obedience, adjustment to family circumstances, prioritisation of family needs, and restraint in expressing negative emotions. The present study cannot establish that gender norms caused emotional neglect or abuse. Nevertheless, the qualitative material indicates that gendered expectations may form part of the social context through which emotional experiences were interpreted and managed.

Co-occurrence of Different Forms of Maltreatment

The qualitative accounts further indicated that adverse childhood experiences were not necessarily isolated events. Narratives describing emotional neglect sometimes occurred alongside descriptions of criticism, physical punishment, inadequate caregiving, or other adverse family experiences. This pattern complements the quantitative finding that emotional abuse was positively correlated with physical neglect ($r = .441$, $p < .05$) and that physical abuse was positively correlated with emotional abuse ($r = .452$, $p < .05$). Importantly, these correlations should not be interpreted as evidence that one form of maltreatment caused another. Rather, the quantitative and qualitative findings together suggest that different forms of childhood adversity may occur within the same family environment.

Perceived Long-Term Consequences

The counselling narratives also contained accounts of continuing emotional and interpersonal difficulties associated with participants' childhood experiences. These included difficulties with emotional expression, self-worth, interpersonal trust, relationship formation, and coping with distress. The qualitative findings therefore provide context for understanding why childhood trauma may remain clinically relevant during adulthood. However, because the present study did not employ a longitudinal design or a validated measure

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of adult psychological outcomes, the findings cannot establish that childhood trauma caused these adult difficulties.

4.6 Integration of Quantitative and Qualitative Findings

The mixed-method findings demonstrate substantial convergence between the CTQ results and the qualitative case-record material. Quantitatively, emotional neglect was the most pervasive dimension, with all 32 participants classified within the severe range. Qualitatively, narratives repeatedly centred on emotional unavailability, inadequate emotional responsiveness, criticism, and restricted emotional expression. Similarly, the elevated emotional-abuse scores were supported by narratives involving criticism and invalidation.

The qualitative findings therefore add context rather than additional prevalence estimates. They help explain what high CTQ scores may represent in the everyday family experiences described in counselling records. At the same time, the qualitative component should not be used to generalise these experiences to all Indian women, because the sample was small, purposively selected, clinically based, and restricted to women attending one counselling setting.

Table 7. Integration of Quantitative and Qualitative Findings

S. No.	Quantitative finding	Qualitative pattern	Integrated interpretation
1	Severe emotional neglect among 100% of participants	Emotional unavailability and unmet emotional needs	Emotional neglect appeared to be a pervasive feature of participants' reported childhood environments.
2	Severe emotional abuse among 75%	Criticism, rejection and emotional invalidation	Qualitative accounts provide contextual meaning for the elevated emotional-abuse scores.
3	Severe physical neglect among 78%	Narratives of inadequate caregiving and unmet needs	Suggests that emotional and caregiving deprivation may overlap within some childhood environments.
4	Physical abuse correlated with emotional abuse	Narratives describing multiple forms of adverse treatment	Supports the interpretation that maltreatment may cluster rather than occur as isolated experiences.
5	Emotional abuse correlated with physical neglect	Accounts combining emotional deprivation with inadequate caregiving	Suggests co-occurrence of active and passive forms of maltreatment.
6	High cumulative CTQ scores	Narratives describing multiple adverse experiences	Indicates that childhood adversity in this clinical sample was often multidimensional.

5. Discussion

The principal finding of this study was the exceptionally high level of emotional neglect within a sample of adult women seeking psychological counselling. All 32 participants were classified in the severe emotional-neglect range, while 75% were classified as having severe emotional abuse and 78% as having severe physical neglect. This pattern indicates that, within this particular clinical sample, childhood adversity was characterized more consistently by neglect and emotional maltreatment than by physical or sexual abuse.

This finding is important because emotional neglect can be less visible than physical violence and may therefore be less readily identified during routine psychological assessment. Recent Indian research similarly indicates that emotional maltreatment remains under-recognized despite substantial occurrence in clinical populations. Rajan et al. (2024), for example, found high rates of emotional abuse among adolescents attending psychiatric services and demonstrated that emotional abuse frequently co-occurred with other psychosocial adversities.

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The current findings also complement evidence from Kerala. Maheshwari et al. (2024) found that a substantial proportion of psychiatric patients in a South Indian tertiary-care setting had experienced childhood trauma, with emotional abuse being particularly common. The present study differs in its sample composition because it focused exclusively on adult women seeking psychological counselling and found emotional neglect, rather than emotional abuse, to be the most consistently severe CTQ dimension.

This difference is potentially meaningful. It suggests that the experience of childhood adversity among women in counselling may involve not only overt acts of abuse but also persistent deficits in emotional care. However, because the samples, measures, and clinical settings differ, the finding should be regarded as a population-specific observation rather than evidence that emotional neglect is universally more prevalent than emotional abuse in India.

The result is also consistent with recent Indian research linking childhood neglect to adult relational difficulties. Shibu and Simon (2024) reported associations between childhood neglect, rejection sensitivity, and relational patterns among Indian adults. This supports the relevance of neglect to adult psychological functioning while also demonstrating why the current study should avoid interpreting the CTQ results as merely a historical description of childhood events.

The quantitative findings further showed that physical abuse was positively associated with emotional abuse, while emotional abuse was positively associated with physical neglect. These relationships support a cumulative and co-occurring conceptualization of maltreatment. A child experiencing physical punishment may simultaneously experience criticism, humiliation, emotional invalidation, or inadequate caregiving. The findings therefore caution against treating the five CTQ dimensions as completely independent categories.

At the same time, the correlation results should not be overstated. The sample consisted of only 32 participants, and correlation does not establish causation. Moreover, the correlation between each CTQ dimension and the total CTQ score has a mathematical dependency because the dimension contributes directly to the total score. Consequently, the finding that sexual abuse had the strongest association with the total CTQ score should not be interpreted as demonstrating that sexual abuse independently determines overall trauma severity.

The absence of a significant association between emotional neglect and total CTQ score requires particular caution. It does not imply that emotional neglect was unimportant. In fact, emotional neglect was the most uniformly elevated dimension in the sample. Its weak correlation with the total score is likely related partly to the very restricted variability in scores: when almost all participants are classified as severe, there is limited statistical variation with which to establish a correlation.

The age analysis also requires cautious interpretation. Total CTQ scores did not differ significantly across age groups. Although the oldest group had a higher proportion of participants classified as having high trauma, the oldest group consisted of only four participants. The cross-sectional design also means that the observed pattern cannot demonstrate that trauma accumulated with age. Cohort differences, recall differences, selective help-seeking, and differences in counselling presentation could all contribute to age-related variation. This caution is particularly important because childhood trauma is sometimes described as becoming progressively more harmful across adulthood. Longitudinal research is better suited to testing such developmental hypotheses. The present cross-sectional data demonstrate variation between age groups but cannot establish a trajectory of cumulative psychological effects.

The study's mixed-methods contribution lies in its attempt to move beyond prevalence estimates toward contextual understanding. Quantitative data identify the unusually high frequency of emotional neglect, whereas qualitative case-record analysis can potentially illuminate what that neglect meant in everyday family relationships. This combination is valuable because the same CTQ score may arise from different relational contexts.

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Recent research among rural Indian women similarly demonstrates the importance of examining pathways between childhood adversity and adult mental health rather than treating childhood trauma as an isolated historical variable. Jiwani et al. (2025) found associations between adverse childhood experiences and adult mental-health symptoms among rural Indian women and identified intimate partner violence as an important interpersonal context.

Research in Kerala has also begun examining protective factors that may modify the relationship between childhood adversity and adult functioning. Recent work has investigated mindfulness and psychological capital as potential buffers among women in Kerala. This suggests an important direction for future research: rather than documenting trauma exposure alone, studies should examine resilience, social support, coping, psychological resources, and access to mental-health services.

6. Scientific Contribution

The scientific contribution of this study is not simply that emotional neglect was found to be severe. Its contribution is more specifically that, within a clinically selected sample of adult women seeking counselling in Kerala, emotional neglect showed an unusually consistent pattern across participants and coexisted with substantial emotional and physical neglect.

The mixed-methods framework provides a second contribution by connecting quantitative trauma severity with the contextual experiences documented in counselling records. This approach can help distinguish between the measurement of trauma exposure and the lived context in which trauma occurred. The study also contributes to gender-sensitive research by focusing specifically on adult women receiving psychological counselling rather than treating women as a subgroup within a general population sample.

Finally, the study provides preliminary Kerala-specific evidence that may inform larger studies examining childhood trauma, emotional neglect, gender, family relationships, and adult mental health.

7. Practical Implications

The findings have several implications for psychological counselling.

First, trauma assessment should include emotional neglect rather than focusing exclusively on physical and sexual abuse.

Second, counsellors should consider childhood emotional experiences when assessing adult interpersonal difficulties, emotional regulation, self-worth, and relationship concerns.

Third, screening should be conducted sensitively because emotional neglect may be difficult for clients to identify as maltreatment, particularly when material needs were adequately met.

Fourth, counselling interventions should avoid assuming that childhood trauma always involves a single dramatic event. Chronic emotional unavailability and repeated invalidation may be clinically relevant even in the absence of severe physical violence.

Finally, larger Indian studies should examine whether culturally specific concepts of family duty, gender roles, emotional restraint, and caregiving influence how women recognize and report emotional neglect.

8. Limitations

The study has several limitations.

First, the sample size was small ($N = 32$), substantially limiting statistical power and generalizability.

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Second, participants were drawn from a single counselling facility and were therefore not representative of adult women in Kerala or India.

Third, the use of secondary case records limited control over the completeness and consistency of the available information.

Fourth, CTQ responses are retrospective self-reports and may be influenced by recall, interpretation, and current psychological state.

Fifth, the cross-sectional design does not permit conclusions about causal relationships or changes in trauma effects across age.

Sixth, the age-group analysis was based on very unequal group sizes, particularly the 36–45-year group ($n = 4$).

Seventh, correlations involving the total CTQ score require cautious interpretation because the total is mathematically composed of the individual dimensions.

Finally, the qualitative component is dependent on the completeness and nature of existing counselling records. It should not be represented as interview-based qualitative research unless participants were actually interviewed for the study.

9. Conclusions

This mixed-methods study identified a high burden of childhood trauma among 32 adult women seeking psychological counselling in Kerala, with emotional neglect showing the most consistent elevation across participants. Severe emotional neglect was present in all participants, while severe emotional abuse and physical neglect were also common. The findings contribute context-specific evidence that emotional neglect warrants greater attention in trauma assessment among Indian women. However, the small clinical sample and cross-sectional design prevent population-level or causal conclusions. Future research should use larger, multi-site samples and combine trauma assessment with measures of adult mental health, gendered family experiences, social support, resilience, and qualitative accounts of childhood caregiving.

10. Declarations

Ethical Approval

The study involved secondary analysis of counselling records. Ethical approval/permission was obtained for the use of de-identified records for research purposes.

Confidentiality

All personally identifying information was removed from the dataset before analysis. No individual participant is identifiable in the reported findings.

Conflict of Interest

The authors declare no conflict of interest.

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ORIGINAL ARTICLE

Digital Gender-Based Violence Perpetrated by AI in Latin America: Between a Legal Vacuum and the Lack of Protection for Women in Public Life

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ABSTRACT

This research analyzes digital gender-based violence facilitated by artificial intelligence (AI) against women politicians, journalists, and human rights defenders in Latin America, with particular attention to Mexico and Argentina. Using a documentary and comparative legal analysis approach, the study examines academic research, legal frameworks, electoral case law, and the MESECVI Inter-American Model Law to Prevent, Punish, and Eradicate Gender-Based Digital Violence against Women. The study proposes understanding the protection gap not as an absolute absence of legislation, but as identifiable failures throughout the response chain: the definition of conduct, the protection of legally protected interests, attribution and evidence, urgent measures, institutional responsibility, platform intervention, and reparation. The findings show that evidence on digital violence is more robust in the case of politically active women, whereas specific evidence on AI-generated attacks against journalists and women human rights defenders remains limited. Mexico provides legal recognition of real or simulated intimate content, but its framework is characterized by subnational fragmentation and insufficient coverage of non-sexual synthetic attacks; Argentina has a broad framework for protection against digital violence, although it lacks a specific criminal offense addressing deepfakes involving adults. The study concludes that the regional response requires institutional coordination, rapid protection, differentiated responsibility, and comprehensive reparation, in accordance with the framework proposed by the MESECVI Model Law.

Keywords *Artificial intelligence; Deepfakes; Digital gender-based violence; Women in public life; MESECVI Model Law; Latin America*

1. Introduction

Generative artificial intelligence (AI) has transformed the way digital violence is perpetrated. The democratization of this technology has made it possible to create realistic images, videos, or audio recordings from public photographs, brief recordings, or material extracted from platforms such as social media. The aggressor does not need to have had physical contact with the victim; nevertheless, the resulting synthetic content can be disseminated as if it were real. In attacks against women, the manipulation of this content is often sexual, degrading, or designed to suggest incompetence, sexual availability, or humiliation.

It is easy to overlook the political impact of this form of violence if the analysis is limited to privacy or image rights. Women who work in public life are targeted not only as individuals, but also as participants in institutions that depend on their credibility and visibility. A manipulated sexual video can discredit a candidate; a fake audio recording can associate a journalist with a position she never expressed; a manipulated image can expose a woman human rights defender to threats and force her to reduce her public activity.

This research addresses three issues related to the above. First, it analyzes how digital gender-based violence perpetrated through AI affects women politicians, journalists, and human rights defenders in Latin America. Second, it examines the gaps that persist in national legal frameworks regarding synthetic content generated through AI, and how these gaps produce impunity or insufficient protection. Finally, it addresses what the Follow-up Mechanism to the Belém do Pará Convention (MESECVI) Inter-American Model Law contributes, or should contribute, to closing the protection gap.

Likewise, this research makes two contributions to the literature on technology-facilitated gender-based violence in Latin America. First, it develops an analytical framework that understands the protection gap as a failure at specific and identifiable points in the enforcement chain, such as definition, protected interests, attribution, remedies, institutional responsibility, and guarantees of protection and reparation, rather than as a single missing legal provision. Second, it applies this framework to demonstrate that Mexico and Argentina fail at different points in the chain, which implies that the region needs a coordinated reform covering the entire chain, rather than a single model provision copied across all jurisdictions.

The argument unfolds in four steps. First, generative AI must be understood as an amplifier of digital violence against women, not as a gender-neutral technological risk. Second, the strongest evidence in the region primarily identifies politically active women; evidence concerning women journalists and human rights defenders is more limited and often refers to technology-facilitated violence in general, rather than to specific AI-driven attacks. Third, Mexico and Argentina present two distinct forms of legal gaps: Mexico recognizes intimate and simulated digital content relatively explicitly, but its implementation is fragmented and its coverage remains uncertain outside sexualized material; Argentina has a broad framework on gender-based violence and important protection measures, but it does not have a clearly defined adult deepfake offense in its Criminal Code. Fourth, the MESECVI Model Law provides a valuable regional architecture, but its legal function must be precisely defined: it is a model law and an interpretive resource, not a treaty. Its strength lies in translating binding Inter-American principles into concrete legislative and institutional duties.

The analysis is deliberately limited. The term “AI-driven” refers to images, audio, video, and other forms of automated manipulation, whether generative or synthetic. Earlier forms of online harassment are used as a reference point, given that the current literature does not yet isolate the AI component. This distinction is important because evidence that digital gender-based violence produces self-censorship does not, by itself, prove that a particular consequence was caused by a deepfake.

2. Method and Analytical Framework

The study combines documentary analysis with comparative legal analysis. The documentary analysis consists of academic studies, systematic reviews, legal commentaries, and research conducted by regional organizations and civil society actors. The legal analysis examines the current federal framework in Mexico, the national framework in Argentina, relevant Mexican electoral case law, and the MESECVI Model Law. The core legal texts govern matters related to the enactment and drafting of the law; academic literature is used to interpret their legal meaning, document their effects, and identify problems linked to implementation. Bills are understood as evidence of debates on reform, and not as enacted laws.

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The analytical framework understands the protection gap as a failure at several points in the enforcement of the law. From this perspective, the analysis is not limited to determining whether an applicable legal provision exists, but rather examines whether the legal framework is capable of responding comprehensively to the different stages of AI-driven digital gender-based violence.

First, the analysis considers the dimension of definition and legality. This involves examining whether the law clearly covers conduct such as the generation, alteration, simulation, dissemination, and amplification of content, or whether, by contrast, it is limited to sanctioning only the disclosure of authentic material. This distinction is important because AI systems make it possible to produce synthetic content that can cause harms similar to, or even more serious than, those resulting from the dissemination of real images.

Second, the analysis addresses the interests protected by the normative framework. It examines whether legislation adequately recognizes legal interests such as dignity, privacy, sexual autonomy, identity, reputation, psychological integrity, political participation, and professional activity. Protection against these forms of violence cannot be reduced to the removal of content, since their effects extend across multiple dimensions of victims' personal, social, and public lives.

The method also considers problems of attribution and evidence. At this point, the analysis examines whether authorities have the legal and procedural tools to identify the creator, distributor, coordinator, or amplifier of the content, as well as to preserve the evidence necessary to prove their participation. This dimension is especially relevant in digital environments, where the circulation of material may be rapid, anonymous, coordinated, and technically complex.

Another important aspect concerns assistance and response times. The analysis seeks to determine whether the victim can access fast, accessible, and reviewable protection measures before the dissemination of the material becomes practically irreversible. In cases of digital violence, institutional delay can aggravate the harm, since each reproduction, download, or redistribution of the content contributes to expanding its effects.

The analytical framework also incorporates institutional responsibility. It examines whether digital platforms, electoral bodies, prosecutors' offices, courts, and victim support services are connected through clear procedures. The absence of coordination among these institutions can deepen the protection gap, leaving victims facing fragmented, slow, or insufficient responses.

Likewise, the analysis considers the relationship between the legal response, freedom of expression, and due process. It evaluates whether the normative framework adequately distinguishes between gender-based violence, legitimate criticism, satire, journalism, and political disagreement. This distinction is essential to avoid disproportionate responses while also ensuring that freedom of expression is not used as a justification for reproducing forms of violence, intimidation, or silencing.

The documentary and comparative method also analyzes the dimension of reparation. The central question is not only whether the remedy allows one copy of the content to be removed, but whether it contributes to restoring the victim's autonomy, dignity, and participation. In this sense, an adequate response must include measures that address the harm produced and allow women to recover, as far as possible, their presence, voice, and agency in digital and public spaces.

Finally, this framework also imposes limits on the argument. A model law cannot, by itself, establish binding contractual obligations, and the existence of a legal remedy does not prove that such a remedy works in practice. Similarly, a specific offence related to AI does not constitute a complete solution if victims cannot file complaints, authorities cannot preserve evidence, or platforms cannot prevent the content from being republished.

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3. AI-Driven Violence in the Public Sphere

3.1 Synthetic Representation as Scalable Gender-Based Violence

Deepfakes intensify older forms of digital gender-based violence by making falsification scalable, personalized, and visually persuasive. Misogynistic stereotypes are materialized as concrete evidence through face replacement, voice synthesis, photo manipulation, and fabricated sexual scenes. The distinction between real and fabricated material does not eliminate the harm. In sexualized deepfakes, the victim loses control over her image and sexual identity, even when the scene never occurred.

In political disinformation, false audio or video may continue to circulate even after it has been debunked. Synthetic media also generate what Westerlund (2019) refers to as the "infocalypse": an environment in which it is no longer possible to distinguish what is real from what is not. The development of hyperrealistic artificial images may contribute to consolidating this condition, in which it becomes highly complex to differentiate the fictional product from the genuine one, and in which a woman's identity and conduct can be manipulated with relative ease and impunity due to the difficulty of identifying the falsehood and of combating the uncertainty and confusion generated by these synthetic productions (Soler, 2023).

This technology also reduces access costs. A perpetrator can use public photographs, voice samples, or simple consumer tools instead of obtaining private files or possessing advanced technical knowledge. Therefore, the relevant legal question is not only who disclosed an authentic intimate image, but also who generated, requested, altered, disseminated, monetized, or algorithmically amplified a synthetic representation that causes harm to women.

3.2 Women Politicians

The strongest evidence on digital gender-based violence in Latin America concerns women in politics. A study conducted by UN Women (2026) in Argentina revealed that digital violence appears as the area of highest prevalence: 89.3% of national legislators and 66.9% of councilwomen reported having experienced situations of violence in this sphere. Monitoring of the 2021 legislative campaign in the City of Buenos Aires showed that women candidates received Twitter, now X, messages containing expressions of violence at a frequency more than twice that of men: 3.55% of messages addressed to women were classified as violent, compared with 1.73% of those addressed to men (Gandulfo & Santamarina, 2025, p. 192).

The feminist NGO Corporación Humanas (2021) analyzed gender-based political violence on X against women and sexually diverse persons who were candidates for Chile's Constitutional Convention, during the period between candidate registration and the close of the electoral campaign. Based on the analysis of 257,792 posts, the study identified 23,967 as containing explicit violence, equivalent to 9.2% of the total. The main manifestations were discriminatory expressions, which represented 69% of cases, and discrediting messages, which accounted for 31%. Among the former, the study highlighted the belittling of candidates' abilities, allusions to their bodies and sexualities, classist insults, and references to gender roles, while the latter sought to undermine their trajectory, credibility, and political legitimacy. This study predates the current wave of generative AI, but it identifies the communicative patterns that synthetic media can intensify.

Likewise, across 48 studies on technology-facilitated gender-based violence against politically active women, 62% documented changes in political messaging, 39% reported reduced online participation, 29% reported withdrawal from online presence, and 20% reported withdrawal from political roles (Koch et al., 2025). These findings do not demonstrate that every withdrawal was caused by AI. However, they do show why synthetic media must be considered a problem of participation rather than an isolated insult.

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AI adds at least three specific risks to this pattern. It can fabricate evidence of misconduct with the appearance of documentary proof, personalize attacks at scale, and coordinate multiple variants of the same defamation across different platforms. The immediate harm is reputational, but the institutional effect is exclusion. A candidate who spends campaign time debunking a falsified recording has fewer resources for political communication. A candidate who withdraws from a platform reduces her visibility.

Mexican electoral doctrine offers a useful legal response to this problem. An analysis of 49 decisions by the Superior Chamber of the Electoral Tribunal distinguishes protected criticism from gender-based political violence by examining the communicative context, the gender component, multimodality, repetition, and the functional effect on political-electoral rights (Herrán & Pazos, 2025). This approach is important for synthetic content because it does not treat falsity as the only legal threshold. It asks how representation operates within gendered power relations and whether it restricts equal participation.

3.3 Journalists

Direct evidence on AI-generated attacks against women journalists in Latin America is less conclusive than the evidence concerning women politicians. However, the available literature establishes a relevant basis. The data show a worsening of the effects of digital violence against women journalists and media workers, particularly in relation to self-censorship and the pursuit of institutional responses. In 2025, 45% of them reported having self-censored, representing a significant increase from the 30% recorded in 2020 (Posetti et al., 2026). Furthermore, there has also been an increase in the reporting and prosecution of these incidents, as female journalists were twice as likely to report incidents to the police, rising from 11% in 2020 to 22% in 2025, and were more willing to take legal action against perpetrators and enablers of digital violence, with an increase from 8% to 14% (Posetti et al., 2026).

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Focus groups with Latin American women journalists revealed that violence on social media permeates the stages of news production and involves various actors, including political or governmental provocateurs who encourage coordinated harassment and collective censorship (Harlow et al., 2022). This violence affects professional routines, perceptions of safety, and coping strategies.

Synthetic content can intensify these harms without creating an entirely new mechanism. A manipulated audio recording can attribute a partisan statement to a journalist, a sexualized image can divert attention from an investigation to her body, a fake video can circulate to portray her as corrupt or professionally incompetent. The result is an attack on credibility directed at the conditions under which journalism operates: trust, access to sources, and the ability to address the public.

A journalist may be targeted for retaliation because of her reporting, which raises heightened concerns regarding democratic information and reprisals. Moreover, measures intended to protect her must not become instruments for suppressing information or legitimate criticism. The MESECVI Model Law expressly recognizes this tension by protecting journalists and women communicators, while also requiring legality, proportionality, and legal reasoning for restrictions on freedom of expression.

3.4 Human-Rights Defenders and Feminist Activists

Research on women human rights defenders and feminist activists also contains less AI-specific evidence, but it documents a very similar pattern. Interviews with 22 feminist women in Colombia and Costa Rica revealed that all had experienced technology-facilitated gender-based violence, including misogynistic hate speech. Most combined deterrent responses, such as reducing online activity, with resistance and collective coping strategies (Guntrum et al., 2025).

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Some 43% of them have experienced unsolicited sexual advances via private messages, 15.3% have been subjected to the nonconsensual sharing of personal images, and 8.4% have been targeted by deepfakes or manipulated content (Posetti et al., 2026). This harassment causes severe psychological consequences and limits their freedom of expression; 26% of them have been diagnosed with or received treatment for anxiety or depression, and 15% for post-traumatic stress disorder, leading to self-censorship on social media and silence in the workplace. However, despite these obstacles, women human rights defenders are the group most likely to seek formal redress by reporting incidents to the police and taking legal action (Posetti et al., 2026).

For this group, the situation is unique, as their public role is to defend rights. A woman defender who withdraws from digital platforms loses the ability to document abuses, mobilize supporters, or reach affected communities. A campaign against a feminist activist can also have a chilling effect on an entire movement by making participation seem dangerous. Therefore, the legal response must take into account the public role played by the victim and the collective rights affected by her silencing.

3.5 A Common Harm Pathway

Across these groups, AI-driven digital violence tends to follow a common sequence:

8. A woman is represented through a sexualized, criminalized, degrading, or politically discrediting fabrication.
9. The content is amplified through networks that reward novelty, outrage, and repetition.
10. The victim must disprove the content while the original creator or coordinator remains difficult to identify.
11. Platforms, authorities, and courts respond through separate and sometimes contradictory channels.
12. The victim changes her conduct, withdraws, or bears the cost of continued exposure.
13. The public sphere loses information, participation, professional diversity, and trust.

This sequence explains why removal alone is inadequate. The harm begins with production, grows through amplification, becomes difficult to prove as copies proliferate, and continues through reputational and professional effects after the original file is removed.

4. The Legal Problem: A Protection Gap, Not a Simple Vacuum

4.1 Where National Frameworks Fail

The phrase “legal vacuum” is rhetorically powerful but legally imprecise. Both Mexico and Argentina have laws that can be applied to certain attacks involving synthetic agents. The underlying problem is that these laws do not consistently cover the entire process of harm, as summarized in Table 1.

Table 1. Recurring weaknesses along the synthetic-media harm pathway in Mexico and Argentina

Stage of the harm	Recurring legal weakness	Consequence
Generation	Statutes may focus on capturing or disclosing authentic material	Synthetic creation may be difficult to classify under strict legality principles
Dissemination	Rules may cover the first upload but not coordinated re-uploading or amplification	Copies and mirrors remain available after removal
Attribution	Anonymous accounts, foreign platforms, and missing logs impede proof	Investigations end without identifying the responsible actors
Emergency protection	Judicial or administrative channels may be slow, fragmented, or inaccessible	Remedies arrive after reputational and safety harms have escalated
Platform responsibility	Notice, preservation, moderation, and algorithmic duties may be unclear	Victims bear the cost of detection and repeated reporting

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Stage of the harm	Recurring legal weakness	Consequence
Public-life harm	Privacy or defamation categories may not capture political exclusion	Damage to participation and democratic equality disappears from the analysis
Reparation	Removal and punishment may be treated as sufficient	Professional, psychological, symbolic, and economic harms remain unrepaired

The legality problem is particularly urgent in the field of criminal law. A law drafted around the "recording," "photographing," or "capturing" of an intimate event may not clearly address a synthetic representation created without any physical act. The Penal Code of the State of Hidalgo, in Mexico, highlights this concern, as the provision was designed from a "biographical record" paradigm, that is, it assumes that the content is the result of an actual capture of a person's privacy (López-Cerón, 2026, p. 7689). Therefore, when comparing this to deepfakes, it becomes clear that the generated material is not a "capture" of reality, but rather a "creation" of it. This could make it difficult for a judge to impose sanctions for the creation of a synthetic recording in which the body does not belong to the victim, even though the face does (López-Cerón, 2026, p. 7689).

A related distinction concerns the scope of criminalisation across different forms of technology-facilitated sexual abuse. As Yusifli (2026) argues in a policy commentary on Azerbaijan, criminalising the creation or dissemination of non-consensual AI-generated sexual deepfakes does not necessarily address cyberflashing, which involves sending unsolicited sexual images to recipients. Although these forms of abuse are legally and conceptually distinct, the comparison illustrates a broader issue relevant to the present analysis: legal protection depends not only on whether digital sexual abuse is recognised in law, but also on whether the applicable definitions cover the specific conduct through which harm occurs.

4.2 Due Diligence and Private Actors

The Inter-American standard of due diligence serves as a bridge between private digital abuse and public liability. States are not automatically liable for every harmful act committed by a private user. Liability depends on factors such as knowledge of a real and immediate risk to an identifiable person or group, the existence of reasonable preventive measures, and a failure to act with due diligence (Abi-Mershed, 2009; Clérico & Novelli, 2014). In cases of gender-based violence, the requirement for due diligence is reinforced by the structural and discriminatory nature of the harm.

Applied to synthetic media, this standard has three implications. First, authorities must treat repeated attacks against women politicians, journalists, and women human rights defenders as a structural risk, rather than as a series of isolated disputes between users. Second, prevention must be practical and specific, through user-friendly reporting channels, trained personnel, monitoring during electoral periods, coordination among platforms, digital security measures, and protocols for preserving evidence. Third, timing is decisive for effectiveness. A remedy that is only available after the content has been published, shared, copied, and stored may be legally available in practical terms, but it is insufficient.

The standard does not eliminate guarantees of due process or freedom of expression. It requires the State to intervene in response to gender-based discrimination, acting in accordance with legality and observing the criteria of necessity, proportionality, privacy, and the possibility of judicial review. For this reason, the most consistent framework integrates immediate provisional measures with reasoned scrutiny, the preservation of evidence, and subsequent avenues for challenging restrictions.

5. Mexico: Formal Recognition and Fragmented Protection

5.1 The Current Federal Framework

The General Law on Women's Access to a Life Free from Violence (LGAMVLV), currently in force in Mexico, provides one of the clearest legal bases in the region for addressing synthetic intimate content.

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Article 20 Quater defines digital violence as any intentional act carried out through the use of information and communication technologies, by which real or simulated images, audio, or videos of a person's intimate sexual content are exposed, distributed, disseminated, exhibited, transmitted, commercialized, offered, exchanged, or shared without that person's consent, approval, or authorization, causing psychological or emotional harm in any sphere of their private life or to their self-image. It also includes intentional acts that cause harm to women's intimacy, privacy, and/or dignity when committed through information and communication technologies (Cámara de Diputados, 2026a).

Article 20 Sexies of the LGAMVLV provides that, in cases of digital or media violence, in order to guarantee the integrity of the victim, the Public Prosecutor's Office or the judge shall immediately order the necessary protection measures. These may include ordering, electronically or in writing, digital platform companies, media outlets, social networks or websites, as well as natural or legal persons, to interrupt, block, destroy, or remove images, audio, or videos related to the investigation, once the legal requirements have been satisfied. In such cases, the online service provider responsible for administering the computer system, website, or Internet platform where the content is hosted must be fully identified, as must the precise location of the content on the Internet, including the Uniform Resource Locator (Cámara de Diputados, 2026a).

The current Federal Criminal Code typifies a related federal offence. Article 199 Octies provides that the offence of violation of sexual intimacy is committed by any person who discloses, shares, distributes, or publishes images, videos, or audio of the intimate sexual content of an adult without that person's consent, approval, or authorization. The same applies to anyone who video-records, audio-records, photographs, prints, or produces images, audio, or videos with intimate sexual content of a person without that person's consent, approval, or authorization. Article 199 Nonies applies the same penalties when the material does not correspond to the person identified in it (Cámara de Diputados, 2026b). Taken together, these provisions could provide a legal avenue for prosecuting at least some sexual deepfakes, addressing both unauthorized production and the discrepancy between the person represented and the person identified.

However, the importance of this avenue should not be overstated. The federal provisions do not explicitly use the terms "artificial intelligence" or "deepfake." They focus on intimate sexual material and do not criminalize, as a general offence, non-sexual synthetic impersonation, fabricated political statements, or gender-biased disinformation. Moreover, the Federal Criminal Code, by itself, does not indicate who commissioned the content, who coordinated its dissemination, or at what point a platform's omission becomes legally relevant.

5.2 State Fragmentation and Proof

Mexico's main weakness lies in the uneven application of federal recognition across state criminal legislation and practice. As of September 2026, only thirteen of the thirty-two states expressly address AI or deepfakes in their criminal codes: Aguascalientes, Baja California, Durango, the State of Mexico, Jalisco, Morelos, Nayarit, Oaxaca, Quintana Roo, San Luis Potosí, Sinaloa, Tamaulipas, and Zacatecas.

Although most of these criminal codes now recognize the problem, many remain structured around the logic of "disseminating" content, rather than the entire chain of production, circulation, storage, and consumption of sexualized synthetic material, or the use of AI as a means of producing the content. A law that punishes dissemination but not generation may exclude from sanction the person who produced or created the material. Likewise, a law that overlooks consent may weaken the link with sexual autonomy. A law that omits storage or re-uploading may fail to address the persistence of the harm.

The analysis of the Criminal Code of the State of Hidalgo makes the legality problem more concrete. Article 183 Bis, as examined in that study, uses verbs such as video-recording, photographing, or capturing. The author argues that these verbs presuppose a biographical event and may not encompass a synthetic image without a physical referent (López-Cerón, 2026). This conclusion refers to the specific local

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provision examined, not to all Mexican laws. Its broader significance lies in the fact that "simulated" language in a general law on violence and concrete criminal-law coverage cannot be treated as equivalent.

The problem of law enforcement also lies in the evidence. The case of Diego "N," a student at the National Polytechnic Institute (IPN) who obtained photographs from his female classmates' social media accounts and used AI tools to create deepfakes, which he stored, distributed, and sold through Telegram groups, demonstrates the difficulty of linking a person to specific AI-generated acts, even when authorities possess large amounts of material as evidence. The judge found that there was insufficient evidence and no witness who could corroborate that Diego "N" personally manipulated the images with AI. Diego "N's" legal defense argued that finding the deepfakes stored on his iPad and cellphone proved that he possessed them, but did not prove beyond dispute that he had produced them. It was argued that, in the absence of direct records of the rendering process, he could have downloaded or received them from a third party, which generated the "reasonable doubt" on which the judge relied to acquit him (see Editorial, 2024; Maza, 2023).

5.3 Political Expression and Electoral Protection

Mexican electoral case law offers a useful safeguard against the excessive application of the law. An analysis of 49 decisions by the Superior Chamber of the Electoral Tribunal of the Federal Judiciary (TEPJF) during the 2023–2024 electoral process shows that judicial authorities protect political criticism when it focuses on public performance, but impose restrictions when messages rely on stereotypes of subordination or sexualization against women (Herrán & Pazos, 2025). Social networks and digital platforms are the spaces in which these conflicts most frequently arise, requiring an analysis of symbolic violence—which is established when discourse seeks to delegitimize women through representations of inferiority or lack of political agency—and of the impact on political-electoral rights (Herrán & Pazos, 2025).

This contextual approach is especially valuable for synthetic media. Falsity alone should not transform satire, journalism, or political criticism into gender-based violence. The decisive questions are whether the content is presented or amplified in a deceptive manner, whether it reproduces gender subordination, whether it attacks a woman on the basis of her gender or public role, and whether it seeks or produces the effect of undermining her political rights. Multimodality and repetition may increase the risk, since a fabricated audiovisual message can have a greater symbolic impact than an isolated text.

The lesson from Mexico is therefore ambivalent. The country needs clearer and more specific coverage of AI, together with improved implementation. However, it also has a doctrinal basis for protecting freedom of expression: a contextual test that analyzes gender, form, repetition, reach, and political effect, rather than uniformly equating all offensive or false speech with violence.

6. Argentina: Broad Protection, Incomplete Criminal Specificity

6.1 Ley 26.485 and Ley Olimpia

Argentina's Law 26.485, amended by Law 27.736, known as Ley Olimpia, recognizes digital violence within a comprehensive framework on gender-based violence. The amended law protects women's digital rights and their ability to remain in and participate in digital spaces. Its definition of digital or telematic violence includes conduct that uses information and communication technologies to cause physical, psychological, economic, sexual, or moral harm. It specifically covers intimate or nude material, whether real or edited, attributed to a woman without her consent; misogynistic hate speech; sexist stereotypes; harassment; threats; extortion; surveillance; unauthorized access; disclosure of data without consent; and future forms of cyberattack that affect the protected rights (Congreso de la Nación Argentina, 2023).

The Argentine legal framework is significant because it is not limited to the disclosure of intimate images. It recognizes the digital environment as a space in which dignity, identity, reputation, freedom, participation, and security may be affected. It also creates several procedural tools. The law requires access to public resources to obtain computer forensic expertise, specialized legal assistance, and the diligent

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preservation of digital evidence. It allows a judge to order the alleged aggressor to cease digital disturbance or intimidation, prohibit digital contact, and order platforms or websites to remove specific content through a reasoned order identifying the corresponding URL. Such an order may require the preservation of traffic, subscriber, and content data for 90 days, renewable only once, subject to the applicable rules on confidentiality and cooperation (Congreso de la Nación Argentina, 2023).

These provisions emphasize recognition and protection. However, they do not automatically establish an adult deepfake offence in the Criminal Code. Their practical effectiveness depends on the willingness and capacity of courts, prosecutors, platforms, and victim support institutions to apply them quickly and consistently.

6.2 The Criminal-Law Gap

The current Argentine National Criminal Code contains provisions concerning sexual representations of minors, privacy, threats, extortion, and other offences that may be relevant in particular cases. Article 128, the provision most directly related to synthetic sexual content, concerns representations of minors. The national code does not provide for a specific offence addressing the creation of deepfakes involving adults.

Although bills have been introduced in Congress to address this omission, this study understands them as indications of an ongoing debate on reform, rather than as criminal codification already in force. Therefore, the legal analysis must avoid describing these bills as if they had already amended the Criminal Code.

6.3 Access to Justice and Institutional Dispersion

Argentina also shows how a progressive legal framework may fail at the level of access. Research on violence in the media identifies responsibilities distributed among the Public Defender's Office, communications regulators, institutions linked to gender-based violence, the prosecutor's office, the courts, and other bodies. The Public Defender's Office may receive complaints, provide training, and issue recommendations, but it does not have the same sanctioning powers as a regulator. Information on cases and precedents is difficult to obtain, and administrative procedures may be excessively formal or geographically inaccessible (Rodríguez, 2024).

The survey of legislators reinforces this institutional diagnosis. Most respondents recognized the problem, but many did not know how to report it (Koch et al., 2025). During an electoral campaign, a remedy that depends on interaction with several institutions may arrive only after the attack has already affected visibility, campaign resources, or public credibility. Therefore, the relevant protection gap lies not only in the absence of a criminal provision, but also in the lack of a single, rapid, and understandable mechanism connecting reporting, preservation, removal, investigation, support, and reparation.

7. Comparative Synthesis

Mexico and Argentina should not be ranked simply as a stronger and a weaker system. They reveal different points of failure, summarized in Table 2.

Table 2. Comparative synthesis: Mexico and Argentina

Issue	Mexico	Argentina	Comparative significance
Gender-violence framework	Federal framework expressly includes real or simulated intimate content; state implementation varies	Comprehensive Law 26.485 expressly includes digital violence and edited intimate material	Both recognize more than ordinary defamation, but scope and implementation differ
Criminal specificity	Federal Articles 199 Octies and 199 Nonies provide a textual route for some sexual deepfakes but do not expressly mention AI; state texts vary	No clearly tailored adult deepfake offense in the national Penal Code reviewed	Mexico has greater formal specificity for sexual content; Argentina relies more heavily on combined legal categories

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Issue	Mexico	Argentina	Comparative significance
Non-sexual synthetic attacks	No dedicated general offense for fabricated political or professional content	Broad gender-violence definition may cover harms, but criminal classification remains dispersed	Public-life harms risk disappearing into defamation or generic harassment
Emergency measures	Article 20 Sexies provides for interruption, blocking, destruction, or elimination and evidence preservation	Ley Olimpia permits reasoned platform-removal orders, no-contact measures, and data preservation	Both have remedies; effectiveness depends on speed, access, and institutional coordination
Attribution and evidence	State fragmentation and technical proof remain major obstacles	Law 27.736 recognizes computer expertise and preservation, but institutional routes are dispersed	Legal entitlement does not equal investigative capacity
Political expression	Electoral jurisprudence supplies contextual safeguards based on gender anchor, multimodality, repetition, and political effect	The broad framework requires similar safeguards but lacks an equally developed AI-specific electoral pathway in the sources reviewed	The Model Law can connect protection and expression across both systems
Platform responsibility	Duties remain largely tied to individual orders and sectoral rules	Platforms may receive judicial removal orders, but general intermediary duties are limited	The regional model supplies a more systematic co-regulatory approach
Reparation	Removal and sanctions are more visible than comprehensive repair	Courts and agencies have used deletion, rectification, publication, fines, and training, but access is uneven	Both need remedies that restore participation, income, dignity, and agency

The comparison supports three conclusions. First, statutory recognition is necessary but not sufficient. Second, synthetic sexual content and non-sexual public-life disinformation should not be collapsed into one offense: they involve overlapping but distinct protected interests and expression risks. Third, the decisive gap lies in coordination. The victim needs a system that can act across criminal, civil, administrative, electoral, and platform domains without requiring her to solve the jurisdictional and technical problems herself.

8. The MESECVI Model Law as an Inter-American Response

8.1 Status and Legal Function

The MESECVI adopted the Inter-American Model Law to Prevent, Punish, and Eradicate Gender-Based Digital Violence against Women at the XXII Meeting of the Committee of Experts, held in Fortaleza, Brazil, on December 10, 2025. This instrument is a model law, not a treaty. It does not replace the binding obligations arising from the American Convention on Human Rights, the Convention of Belém do Pará, or other ratified instruments. Its importance lies in its legislative and interpretive character: it establishes how those obligations can be translated into national norms, institutions, procedures, and remedies (MESECVI, 2025).

The Model Law is more specific than a general declaration on the harms caused by digital violence. It identifies AI-generated or AI-altered intimate material, coordinated attacks, the algorithmic amplification of discriminatory bias, false or malicious content, harassment campaigns, threats against women in politics, and gender-biased disinformation. It also expressly includes women's public and political participation, including women's rights defenders (MESECVI, 2025).

Its contribution should be understood as an integrated architecture, rather than as the requirement of a new offence. The sections of the Model Law reinforce one another: definitions make harms visible; State obligations generate prevention and support; intermediary obligations address amplification; procedural rules safeguard evidence and enable urgent measures; provisions on liability distribute responsibility; and reparations address the consequences that removal alone cannot undo (MESECVI, 2025).

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8.2 Prevention and Public Participation

Articles 8, 10, 12, and 13 link digital violence to citizen participation, prevention, elections, and data. The Model Law requires the training of justice officials, electoral bodies, political parties, security forces, and other professionals; monitoring and risk assessment during elections; summary complaint procedures; specialized support; and data disaggregated by gender, age, ethnicity, disability, economic status, and territory (MESECVI, 2025).

This represents a significant advance over victim-centered advice that shifts onto women the responsibility to protect their accounts or avoid hostile platforms. Prevention becomes a public obligation. For Mexico, this means connecting federal and state gender-based violence institutions with electoral authorities and digital forensic services. For Argentina, it means transforming the broad rights enshrined in Law 26.485 into an accessible response system, with clear institutional responsibility and published performance data.

8.3 Rapid and Reviewable Remedies

Articles 39 to 42 establish multiple avenues for filing complaints, including prosecutors' offices, police, specialized units, electoral authorities, courts, and cybercrime agencies. Authorities receiving complaints may order or request urgent precautionary measures in cases of imminent harm. Article 41 provides for the temporary and controlled removal of digital content, while preserving the material as evidence, restrictions on profiles or digital interactions, and other measures necessary to prevent irreparable harm or revictimization (MESECVI, 2025).

The legal design is important because it separates provisional protection from final adjudication. A victim should not have to wait for a criminal conviction before requesting removal or safety measures. At the same time, the Model Law requires reasoned decisions and immediate judicial review when fundamental rights are restricted. Article 47 prohibits prior censorship and blocking without a reasoned judicial order and requires legality, suitability, necessity, and proportionality (MESECVI, 2025).

For synthetic media, a rapid remedy system should include at least four elements:

14. a complaint channel that does not require the victim to identify the original creator;
15. temporary removal or de-indexing with preservation of the content and relevant technical data;
16. protection against obvious re-uploading and coordinated amplification;
17. a rapid and reasoned review that distinguishes unlawful gender-based harm from legitimate expression.

8.4 Intermediary and Algorithmic Accountability

The Model Law adopts a co-regulatory framework. The state sets binding obligations and principles, while intermediaries develop implementation mechanisms subject to public oversight. Large-scale intermediaries operating for profit and serving users in the territory are subject to differentiated duties regardless of their principal place of business.

The instrument goes beyond notice-and-takedown. It requires public points of contact, access to human representatives, clear moderation rules, complaint and appeal procedures, internal evaluation teams with qualified human personnel, risk assessment, transparency, and periodic review. It also addresses algorithmic accountability. Intermediaries must prevent amplification of unlawful or harmful content, audit adverse gender effects, incorporate human-rights and intersectional perspectives into recommendation systems, and apply safety by design and by default.

This framework addresses a weakness visible in both national cases: the platform often controls the most important evidence and the mechanisms of continued circulation, but national law may treat it only as a passive host responding to an individual court order. The Model Law does not make every platform automatically liable for every user post. It uses a graduated approach tied to the intermediary's role, duties,

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technical capability, and conduct. That is more compatible with proportionality than either blanket immunity or automatic liability.

8.5 Investigation, Jurisdiction, and Responsibility

Articles 17, 36, 46, and 48 recognize the transnational character of digital violence. The Model Law supports expedited cooperation, joint investigative arrangements, preservation and transfer of electronic evidence, mechanisms for resolving jurisdictional conflicts, and cooperation with intermediaries subject to legality, proportionality, judicial oversight, and safeguards against politically motivated prosecution (MESECVI, 2025).

It also requires specialized units, trained personnel, technological tools, adequate budgets, institutional coordination, and preservation of evidentiary integrity. Jurisdiction may arise where the offense occurs in whole or in part, where the victim is a national, resident, visitor, or migrant, where the perpetrator is a national or resident, or where the relevant service is accessed from the territor (MESECVI, 2025)y.

The responsibility provisions are equally important. The Model Law permits concurrent criminal, civil, and administrative liability; recognizes civil liability of legal entities; provides for platform liability where an intermediary facilitates, tolerates, or fails reasonably to prevent the violence in light of its role and technical capacity; and creates electoral consequences for attacks in political processes. These provisions operationalize the idea that responsibility should be allocated across the actors best positioned to prevent or reduce the harm, without erasing individual culpability (MESECVI, 2025).

8.6 Transformative Reparation

Article 62 treats reparation as comprehensive, adequate, effective, and transformative. It includes removal where possible, restoration of digital identity, repair of honor and reputation, compensation for material and non-material harm, psychological and social services, public acknowledgment, symbolic measures, and institutional, legislative, educational, and technological reforms. The Model Law also allows funds to support reparation when the perpetrator cannot be identified or lacks the capacity to pay (MESECVI, 2025).

This approach reflects the inter-American understanding that gender violence is connected to structural inequality. The goal is not simply to return the victim to the conditions that made the attack possible. Reparation should restore agency and rebuild the conditions for participation (Clérico & Novelli, 2014). For a politician, that may include support to resume public activity and correction of a fabricated claim. For a journalist, it may include professional and reputational repair. For a defender, it may require digital security, protection against retaliation, and support for continued advocacy.

8.7 Freedom of Expression

The Model Law's protection of expression is not a peripheral safeguard. Article 64 protects journalists, communicators, activists, human-rights defenders, and others engaged in legitimate reporting, investigation, or communication. Any restriction must be based on a reasoned judicial decision and comply with legality, necessity, proportionality, and the inter-American three-part test. The Model Law also recognizes the digital environment's special effect on circulation of ideas and democratic participation (MESECVI, 2025).

This framework supports a narrower and more defensible theory of liability. The trigger should not be falsity alone, because public debate includes error, parody, interpretation, and contestation. The stronger case for intervention arises when synthetic or manipulated content is combined with gender bias, lack of consent or deceptive attribution, coordinated amplification, threats, sexual humiliation, or a credible effect on safety, dignity, journalism, or political participation.

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9. Discussion

The findings of this study largely confirm the international literature on technology-facilitated gender-based violence (TFGBV), while the Mexican and Argentine evidence adds two elements that remain underdeveloped in that literature: a legality-based explanation of why criminal statutes fail to reach synthetic content, and a doctrinal test for distinguishing gender-based violence from protected political expression.

9.1 Where the Regional Evidence Confirms Prior Research

The costs of political participation identified in Section 3.2 echo Koch et al.'s (2025) systematic review of 48 studies on technology-facilitated violence against politically active women, which found that a substantial proportion of victims changed their political messaging, reduced their participation, or withdrew entirely from political roles. The campaign-monitoring study in Buenos Aires (Gandulfo & Santamarina, 2025) reproduces this pattern at the national level: self-censorship, disproportionate attacks against women's bodies and private lives rather than their platforms, and low trust in reporting channels. This regional evidence therefore corroborates, rather than contradicts, the international pattern, and suggests that generative AI is intensifying a pre-existing dynamic rather than creating an unprecedented one.

Similarly, the "agent provocateur" dynamic documented by Harlow et al. (2022) among Latin American journalists is consistent with the Mengolini-type pattern, in which political actors themselves amplify or legitimize abusive content. Both point to violence that is not merely peer-to-peer, but may be linked to the State, which is relevant for interpreting due diligence obligations within the Inter-American system. The due diligence analysis developed in Section 4.2, based on Abi-Mershed (2009) and Clérico and Novelli (2014), likewise confirms the broader Inter-American doctrine that State responsibility for private harms online depends on foreseeability and preventive capacity, rather than on the State itself being the author of the content. This doctrine was developed outside the digital sphere but, as this study shows, extends consistently to it.

9.2 Where the Regional Evidence Extends the Literature

Most of the international literature on gender-based violence documents its prevalence and psychological or political repercussions, but tends to treat the applicable law as background rather than making it an object of analysis. By contrast, the comparative legal study presented here –particularly the case of the Criminal Code of the State of Hidalgo analyzed by Cerón (2026)– reveals a concrete doctrinal mechanism through which protection gaps are generated: legislative language based on verbs that refer to physical apprehension, such as "recording" or "photographing," cannot be directly transferred to synthetic production without risking non-compliance with the prohibition of analogy in criminal law. The gap is not due simply to a lack of political will or resources, as much of the general literature suggests, but may also be a structural feature derived from the way criminal statutes are drafted around a physical-evidentiary paradigm that the technology no longer requires.

Second, the Mexican electoral case law synthesized from Herrán and Pazos (2025) provides a contextual criterion that analyzes gender anchoring, multimodality, repetition, and the functional effect on political participation, elements that rarely appear in the broader literature devoted to deepfake regulation. That literature often frames the problem as a dilemma between removal and freedom of expression. This criterion also offers a way to operationalize the graduated responsibility required by the MESECVI Model Law itself. In this sense, a regional doctrinal approach could help support the Inter-American standard, rather than merely receive it.

Third, the article's main empirical conclusion –that AI-specific evidence concerning journalists and human rights defenders remains substantially scarcer than evidence concerning politicians (Sections 3.3 and 3.4)– is itself a relevant finding for the literature. It suggests that research on gender-based violence at work has developed unevenly across professional groups, and that claims about the effect of AI on journalists' safety

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are currently based more on documented mechanisms (Harlow et al., 2022) than on group-specific quantitative evidence comparable to that available for politicians (Gandulfo & Santamarina, 2025). Future research focusing specifically on AI-generated attacks against journalists and defenders, rather than on online harassment in general, would strengthen claims that are currently made by extension.

Finally, the implementation gap documented in both countries confirms and provides legal support for the broader literature on institutional dispersion. Rodríguez's (2024) analysis of dispersed responsibility among Argentine institutions addressing violence in the media, together with evidence on Mexican state-level fragmentation (Flores & García, 2025), describes the same underlying problem in two different institutional frameworks: legal recognition, without a single, defined, and viable institutional pathway, does not by itself protect victims. The articulated reading of these two national literatures, as carried out in this study, reveals a regional pattern that single-country studies cannot identify on their own.

10. Conclusions

Main Findings. Generative AI turns gender-based violence into a problem of scalable representation, and it does so through a common and traceable pathway of harm across the three groups examined. The empirical literature is strongest for politically active women, while direct evidence on specific AI-driven attacks against journalists and defenders remains limited. Mexico and Argentina demonstrate why the "legal gap" is an incomplete diagnosis. On the one hand, Mexico's federal framework expressly recognizes real and simulated intimate content, but leaves non-sexual synthetic attacks less clearly classified and depends on uneven state-level implementation. On the other hand, Argentina's Law 26.485 provides broad recognition and protective tools, but lacks a clearly defined adult deepfake offence in the Criminal Code. In both countries, the decisive gap lies in coordination across the entire chain of harm: generation, dissemination, attribution, platform responsibility, safeguards for expression, and reparation.

Scientific Contribution. This study contributes an analytical framework that understands the protection gap as a failure at specific and identifiable points in the enforcement chain, rather than as an undifferentiated absence of law, and applies it consistently across two national systems. It also identifies a specific legality mechanism, the use of capture-based verbs that conflict with the prohibition of analogy in criminal law, which helps explain why Mexican prosecutions involving synthetic content may fail even when recognition exists. In addition, it shows that Mexican electoral case law provides a transferable doctrinal test for separating gender-based violence from protected freedom of expression. Finally, it argues that the MESECVI Model Law, adopted on December 10, 2025, should be interpreted as a coherent regional architecture connecting prevention, elections, specialized services, rapid and reviewable remedies, intermediary accountability, algorithmic governance, investigation, international cooperation, responsibility, and transformative reparation, rather than as an isolated provision to be copied into domestic law.

Limitations. This is a documentary and comparative legal study, not primary empirical research, and it relies on existing studies with varying sample sizes and degrees of representativeness. AI-specific evidence concerning journalists and human rights defenders is scarcer than evidence concerning politicians, which reduces confidence in the claims made about these groups without excluding them from the legal analysis. The legal materials were current as of September 2026 and remain subject to reform, especially as Mexican state legislatures and the Argentine Congress continue to debate AI-specific provisions. Finally, the comparative scope is limited to two countries; extending the framework to other Latin American jurisdictions is a task for future research, not a claim made here.

Policy Implications. Mexico's priority is to harmonize and implement existing recognition rather than starting from scratch; Argentina's priority is to connect its broad rights-based framework with criminal specificity and operational capacity; and both States share a minimum standard of prevention, rapid protection, specialized investigation, graduated responsibility, cross-border cooperation, transformative reparation, and safeguards for expression, following the structure of the MESECVI Model Law.

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The protection gap will not be closed simply by adding the word “deepfake” to the criminal code. It will be closed only when the law can operate across the entire chain of synthetic harm: before production, where feasible; immediately after detection; during the investigation; across platforms and borders; and after removal, through reparation and guarantees of non-repetition. That is the contribution that the MESECVI framework should bring to Mexico, Argentina, and the Inter-American system more broadly.

Declarations

Conflict of Interest

The author declares no conflict of interest.

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Data Availability

Not applicable, this article is a documentary and comparative-legal analysis and does not generate a new primary dataset.

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ORIGINAL ARTICLE

Gendered Visibility and Sacred Authority: A Thematic Analysis of the Oloolu Masquerade Controversy in Ibadan

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ABSTRACT

Oloolu is an ancient masquerade festival celebrated annually in Ibadan, southwestern Nigeria, and remains a significant expression of Yoruba cultural heritage. The customary restriction preventing women from seeing the masquerade continues to raise questions about gender, sacred authority, and access to cultural space. This paper examines the recent controversy surrounding Wasilat Olalere, a TikTok post that was alleged to show the *Oloolu* masquerade and that triggered a contested public narrative, disputed claims about what she filmed, why she underwent traditional cleansing, and whether she did so willingly. This paper primarily draws on Stuart Hall's theory of representation and feminist anthropological perspectives, supplemented by moral panic theory, to account for the controversy's rapid escalation. The study explores how womanhood, tradition, and sacred authority were represented and contested as the controversy unfolded online, using digital ethnography and thematic analysis of Facebook, YouTube, TikTok, and X posts, videos, and comment threads. It identifies key themes around gendered visibility, cultural transgression, women's bodies, and competing claims to truth and tradition. The paper argues, cautiously, that the *Oloolu* controversy reveals how women's bodies and visibility become sites through which sacred boundaries and cultural authority are negotiated, not a conclusion the data proves beyond doubt, but one it supports fairly consistently. The paper contributes to broader discussions on gender, religion, tradition, and digital public culture in contemporary Yoruba society.

Keywords *Gender; Tradition; Digital Ethnography; Sacredness; Yorùbá*

1. Introduction

This paper is about how a sacred tradition uses gender to decide who may see and take part in ritual, and about what happens to that rule once social media gets involved. Restrictions on women's presence at masquerade festivals are common in Yorùbá religious life. Among the *Awórí* of Ọ̀lọ́, for instance, women are barred from the *Oro* sanctuary and told to stay indoors during the annual *Oro* festival; the belief is that a woman who sees the masquerade will fall ill or die (Ayodele, 2015). Scholars of Yorùbá gender and religion disagree about what this means. Some read it as straightforward subordination; others read it through indigenous structures of seniority and spiritual protection instead (Morton-Williams, 1954; Oyèwùmí, 1997; Willis, 2016). That disagreement is why the gendering of masquerade space is still worth studying rather than a settled question.

The *Oloolu* masquerade holds a similar place in Ibadan. The *Oloolu* family runs the festival and presides over its annual outing, held this year between 28 and 30 July 2026. Women are traditionally forbidden from

viewing it along its processional routes. Custodians say a woman who sees it risks being cursed, or "held" by it, and that this can lead to death unless reversed through spiritual atonement.

In July 2026, Wasilat Olalere, a Muslim resident of Ibadan, posted a TikTok video showing security personnel and onlookers ahead of the masquerade's procession, captioned to mark its location. *Oloolu* custodians accused her of filming the masquerade itself, in violation of custom, and took her to the *Oloolu* family compound, where she underwent traditional cleansing rites (Akeem, as cited in Vanguard News, 2026a). A video that circulated afterward showed her attributing an illness to the encounter. She later disputed this in a separate interview, saying she had neither seen the masquerade nor fallen ill, and that her earlier statement had been made under duress (PUNCH, 2026a; Tribune Online, 2026b). The story spread across Facebook, TikTok, and X. Activists such as Omoyele Sowore called the cleansing ritual a violation of her dignity (Sahara Reporters, 2026); the *Oloolu* family maintained the rites followed established custom (Vanguard News, 2026a). What started as a local religious dispute became, within days, a networked argument over gender, consent, and tradition, playing out across several platforms at once.

This paper reads that argument through three resources: Stuart Hall's (1997) theory of representation, feminist anthropological work on gender and religion in Africa (Oyèwùmí, 1997), and moral panic theory (Cohen, 1972; Goode & Ben-Yehuda, 1994). The Theoretical Framework below explains all three properly; in short, the first two explain how the meaning of the event was contested, and the third explains why the contest moved as fast as it did. Using digital ethnography and thematic analysis, the study examines posts, videos, and comment threads across Facebook, YouTube, TikTok, and X to see how different publics framed the controversy. The question guiding it is this: how do cultural traditions regulate gendered access to sacred space, and how do those boundaries get renegotiated once a dispute over them plays out on social media instead of through slower, offline channels? The aim is not just to show that the *Oloolu* restriction is gendered and contested; existing scholarship on Yorùbá masquerade already shows that. It is to show what changes, empirically and theoretically, when the contest happens in real time across several platforms at once, something the literature reviewed in Section 2 has not examined for a masquerade tradition specifically. The paper argues that the *Oloolu* controversy shows how women's bodies and visibility become the ground on which sacred authority, cultural identity, and gender relations get fought over, and, more specifically, that the target of public blame shifted mid-controversy in a way classical moral panic theory doesn't fully anticipate, a finding the Conclusion takes up in full.

2. Literature Review

The literature for this paper falls into four strands: Yorùbá masquerade and gendered sacred space; the wider debate over gender in Yorùbá society; digital ethnography of religion in Africa; and studies of representation, escalation, and digital publics in Nigeria.

2.1 Yorùbá Masquerade Tradition and Gendered Sacred Space

Scholarship on Yorùbá masquerade keeps running into the same tension: the restrictions on women's presence are real and well documented, but what they mean is not settled. Morton-Williams's (1954) early ethnography of the *Egungun* society in south-western Yorùbá kingdoms is still the reference point most later writers work from. Ayodele (2015), studying the *Oro* cult among the *Awórí* of Ọ̀lọ́, a close parallel to *Oloolu*, confirms that the belief a woman will be "consumed" for seeing the masquerade is still current, and that the restriction has real, measurable effects on women's access to public space and livelihood. Willis (2014, 2016) pushes back, though: working from colonial archives and his own fieldwork in Otta, he argues earlier Western scholarship overstated masquerade as a simple stage for male domination, and missed women's documented roles as sponsors, ritual specialists, and custodians of the oral histories that give masquerades their meaning. Van Beek and Leyten (2023), looking across the whole continent, make a related point at a larger scale: secrecy and gendered restriction in masquerade cultures vary too much by region to read as one universal pattern of patriarchy.

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This kind of contested, unevenly enforced restriction is not just a Yorùbá masquerade problem. Comparable exclusions run through sacred spaces that have no historical connection to it at all. Nas (2022), studying the "Women in Mosques" movement in Turkey, documents women confined to visually obstructed balconies, justified through fitnah, and one telling inconsistency: the same religious authority runs a mosque in Maryland where women pray on the open floor. Restrictions defended as sacred and unchangeable, in other words, often turn out to be locally administered rather than doctrinally fixed. Christian institutions show something similar. Women are the overwhelming majority of active members in the Presbyterian Church of East Africa but have never held its national offices, and where formal inclusion does exist, it can end up recruiting women to police other women rather than represent them (Kairu, Kiboi, & Mombo, 2020; Chisale, 2020; Pillay, 2020). Reversal happens too: Falck (2021) describes ancestral spirits once taken from Nyaura women by force in Papua New Guinea that now possess only female mediums, who lead prayer from a position once held by men, and Gruenbaum, Earp, and Shweder (2022) warn against assuming every women-only ritual restriction is a straightforward loss, since these spaces can also generate political capital and mutual aid among the women inside them. Even the specific mechanism used against ritual transgression, purifying the body instead of arguing about it, recurs widely: Orthodox Jewish niddah law, Islamic ghusl, and Nepali chaupadi all treat a woman's body as something needing ritual correction before it can re-enter ordinary life (Bobel et al., 2020), a comparison this paper comes back to when accounting for what was done to Wasilat's body under Theme 2. None of this settles what the *Oloolu* restriction means for the women living under it. But it does support Van Beek and Leyten's (2023) point: masquerade secrecy doesn't reduce to one universal reading.

2.2 Gender in Yorùbá Society: Contesting the Binary

This sits inside a wider, still unresolved question: is "gender" even the right lens for precolonial Yorùbá society? Oyèwùmí's (1997) foundational argument is that Yorùbá social life was organised more around seniority than a fixed male-female binary, and that colonial contact is what imported the binary that now feels natural. Muraina and Ajimatanraejoje (2023) take this seriously but push back on part of it: contemporary Yorùbá society does hold firmly to binary gender categories in practice, even while recognising historically powerful female offices such as the Íyálóde (Awe, 1977) and *Yèyé Ọ̀ṣun*. Familusi (2012) and Barber (1991) add texture. Familusi documents both the real constraints Yorùbá custom places on women and the genuine authority certain female roles carry. Barber's study of *oríkì* praise poetry shows women as central producers of the oral tradition that sustains institutions like *Oloolu*, not bystanders to it. Together, this work rules out an easy reading of the *Oloolu* restriction as simply "oppressive" or simply "misunderstood tradition." It is genuinely contested, and this paper treats that contest as part of the subject rather than something to resolve before the analysis begins.

This kind of contest over meaning shows up elsewhere in comparative gender scholarship too. Wilson (2012), reinterpreting the Akan "myth of separation" in Ghana, shows that a single origin story can be read either as blaming women or as evidence of their collective capacity, depending on which detail the interpreter foregrounds. Muonwe (2016) cautions against assuming pre-colonial African gender relations were more equal than they were: even the Ọṣmụ title-holders of Onitsha could only take office once menstruation no longer marked them as defiling. Both point to the same thing: mobilising history to legitimise or delegitimise a present restriction, exactly what happens around *Oloolu* and gets examined under Theme 4, is a recognised move in disputes like this, not something invented for this controversy. Khan's (2022) broader argument, that the modern category of "religion" is itself gender-coded, feminine, private, and emotional against a masculine, rational "secular" public sphere, is one more way of reading why customary and rights-based framings of *Oloolu* talk past each other so consistently, a point this paper comes back to in the discussion.

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2.3 Digital Religion and Digital Ethnography in Africa

A separate strand looks at what happens when African religious and cultural life moves onto digital platforms. Kazira and Pasura's (2026) study of Nigerian and Zimbabwean youth in the UK diaspora is the most directly relevant. It finds that digital engagement with African Traditional Religions doesn't just mirror offline practice; it reshapes who holds religious authority and how belonging gets claimed, with TikTok specifically named as a place where young people reclaim spiritual practices otherwise sidelined in their upbringing. This builds on older work by Ukah (2008), who showed that Nigerian religious actors have long treated whatever media technology is available, radio, roadside signage, now social media, as an extension of religious infrastructure rather than something separate from it. The implication for this paper is that digital platforms are not a neutral backdrop to the *Oloolu* controversy. They are an active part of how sacred authority gets asserted and challenged.

2.4 Nigerian Digital Publics and Escalation

Nigerian media scholarship offers a useful, locally grounded alternative to importing moral panic theory wholesale from its British origins. Uwalaka (2023), studying how the Nigerian military handled an attack on the Nigerian Defence Academy, documents an "online firestorm," a term Nigerian communication scholars use for the kind of fast, morally charged, Facebook-driven escalation this paper examines. The same pattern shows up in the 2020 #EndSARS protests, where viral videos and influencer amplification produced nationwide moral consensus and street mobilisation within days (Abimbade et al., 2022; Akerele-Popoola et al., 2022; Dambo et al., 2022; Ojedokun et al., 2021; Ononiwu et al., 2025). Iwuoha and Aniche (2022) add another layer: the state's own repressive response, most visibly at the Lekki Toll Gate, got tangled up with and sped up by the same online circulation the protest had relied on. Nigerian digital publics, in other words, have their own well-documented dynamics of escalation once an issue breaks and starts moving from pillar to post on social media. A closer structural parallel comes from Bello's (2019) netnographic study of mob justice and social media in Nigeria, which found that social media acts as an extension of the street mob, speeding up punitive public action against an accused person often well before the underlying facts are established, a dynamic that maps closely onto how the Wasilat controversy unfolded. Taken together, these cases show that rapid public reaction, demand for accountability, and the difficulty of correcting a circulating narrative follow recognisable patterns on Nigerian social media, which gives this paper a domestically grounded comparison point alongside Cohen (1972) and Goode and Ben-Yehuda's (1994) classical moral panic model.

Put together, the literature leaves a fairly clear gap. Gendered restriction on masquerade viewing is real but contested in meaning. Digital platforms are reshaping religious and cultural authority across Africa. Nigerian digital publics escalate controversies in identifiable ways. What nobody has done yet, so far as I can tell, is watch all three happen at once, in real time, around one unfolding event. That is what this paper tries to offer through the *Oloolu* and Wasilat Olalere case.

3. Theoretical Framework

This paper answers that question with three theoretical resources: Stuart Hall's theory of representation, feminist anthropological work on gender in Yorùbá society, and moral panic theory. They don't carry equal weight; they do different jobs.

Hall's (1997) central idea is that meaning doesn't exist naturally inside an event. It gets made, through language, images, and the stories people tell about what happened. He calls this the constructionist approach: things don't have one true, fixed meaning waiting to be found; they get their meaning through how they're represented, and by whom. That matters here because the "event" at the centre of this paper, what Olalere actually filmed and what it meant, was never a settled fact. It was built, contested, and rebuilt through competing accounts: the custodians' claim that she saw the masquerade, Olalere's own denial, and everything the public said afterward. Hall's framework lets the paper treat that disagreement as the actual

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subject of study, not noise to clear away before getting to "what really happened." Hall also argues representation is a site of struggle: different groups compete to fix the meaning of an event in ways that serve their own standing. Here, the *Oloolu* custodians, Islamic commentators, human-rights voices, and ordinary social media users weren't just describing the controversy differently. Each was trying to make their version the one that stuck.

To track those attempts more precisely, the paper also uses Hall's (1980) earlier account of how audiences decode a message: as a dominant-hegemonic reading, taking the intended meaning at face value; a negotiated reading, accepting parts of it while contesting others; or an oppositional reading, rejecting the intended meaning and substituting one's own. The 1997 account explains why meaning is never simply given; the 1980 typology gives a concrete vocabulary for how different *Oloolu* publics decoded the same restriction differently, custodians reading it as dominant-hegemonic common sense, activists reading it oppositionally. Theme 1 uses this distinction throughout.

Alongside this, the paper draws on Oyèwùmí's (1997) argument, still debated, that gender as understood in the West doesn't map cleanly onto precolonial Yorùbá social organisation, where seniority and other principles historically carried more weight than a strict male/female divide. This is useful in two ways. First, it warns against assuming the *Oloolu* restriction is a straightforward case of "men excluding women," the way a Western reader might first assume. Other scholars of Yorùbá masquerade have shown that gendered restrictions on ritual space are often bound up with seniority, spiritual protection, and role, not a simple gender hierarchy (Morton-Williams, 1954; Willis, 2016). Second, feminist anthropology also insists that indigenous framings shouldn't be used to excuse harm. Studies of comparable restrictions, such as the *Oro* cult exclusion of women in Ọ̀lọ́, Lagos, document that the women affected often experience them as a real curtailment of freedom, regardless of how the restriction is culturally justified (Ayodele, 2015). Holding both points together, taking the tradition seriously while also taking women's own accounts of it seriously, lets the paper avoid two easy but weaker positions: treating the restriction as simple oppression, or treating any criticism of it as Western intrusion. I am not certain I have kept that balance in every part of the analysis that follows. I have tried, but the reader should judge for themselves whether I have leaned too far in either direction at points.

The paper's third resource, moral panic theory, plays a narrower, supporting role. Developed by Cohen (1972) and refined by Goode and Ben-Yehuda (1994), it describes what happens when a society reacts to something with alarm out of proportion to the actual threat and quickly settles on who or what to blame: concern, hostility toward whoever is blamed, public agreement that something bad happened, a reaction bigger than the event warrants, and a fast rise and fall in intensity. This framework isn't an equal partner to representation theory here; it does one job, explaining the speed and shape of the public reaction to Olalere's post, which representation theory alone doesn't account for. Within days, an ambiguous video led to a public cleansing ritual, national news coverage, and a fast-forming consensus that something serious had happened, a pattern that matches Goode and Ben-Yehuda's criteria closely. This isn't a mismatch of unrelated ideas, either: Hall co-authored one of the founding applications of moral panic theory, Policing the Crisis (Hall et al., 1978), so pairing the two continues a line of thinking Hall himself started.

The paper doesn't apply moral panic theory uncritically, though. Cohen's original model assumes a fairly stable "folk devil," one clear person or group blamed throughout, and the *Oloolu* case doesn't fit that: Olalere was cast as the transgressor first, then public commentary reframed her as a victim of coercion, and the *Oloolu* custodians became the ones facing scrutiny instead. I treat that shift as a real finding, not a complication to explain away. It is evidence that blame in a moral panic can move and get renegotiated in real time on social media, rather than staying fixed on one target the way the classical model expects.

So the three resources split the work between them. Hall's theory of representation and feminist anthropology explain how meanings of womanhood, sacredness, and transgression got built and fought

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over. Moral panic theory explains why the controversy escalated as fast and visibly as it did, and catches the moment the public's target of blame reversed.

4. Methodology

Data came from public posts on YouTube, Facebook, X, and TikTok, found by searching keywords like *Oloolu*, Wasilat Olalere, and Ibadan masquerade. The corpus falls into four clusters: the initial accusation and its spread (Táni Olohun, Mogaji Kola Olótu, and Hajia Mewolaka's posts); the institutional and ritual response (footage of the atonement process and the BBC News Yoruba interview with the *Oloolu* spokesperson); Olalere's own account (her Lagelu FM and Esà Òkè Sunnaatic TV interviews, and Akéwùgbàgold's account of visiting her family); and counter-narratives contesting the restriction's spiritual authority (Sheikh Ajigini's account of Baba Ajagbemokeferi, and other women's claims of having seen the masquerade without incident). I only included public posts, videos, and comment threads that explicitly addressed the case, in Yorùbá or English. Near-identical reposts and posts from accounts with almost no engagement got noted but not separately coded. Collection ran from 26 July to 7 August 2026. By then, new material was mostly repeating what had already been coded rather than adding to it, which is what I mean by thematic saturation here. The primary data is my own first-hand observation of these broadcasts, posts, and videos as they circulated in real time, a position worth being upfront about, since some of what I read as settled may look different in hindsight. Where useful, I triangulated this against contemporaneous Nigerian news coverage, cited separately as secondary corroboration rather than as the source of the ethnographic account itself.

I analysed the data using Braun and Clarke's (2006) six-phase thematic analysis: familiarisation, initial coding, theme generation, review, definition, and reporting. Initial, line-by-line coding produced a working list of codes rather than four themes: appeals to ancestral or divine consequence, rights- and constitutional-language framings, descriptions of the atonement ritual, claims and counter-claims about Olalere's condition, and invocations of past precedent. I then grouped these by shared analytic logic rather than surface topic. Competing justifications for the restriction became Theme 1. What was physically done to Olalere, and how it was discussed, became Theme 2. Claims later contradicted by broadcast or police confirmation, and how those corrections were received, became Theme 3. Historical precedent invoked to argue for or against the restriction's legitimacy became Theme 4. I checked this grouping against the theoretical framework rather than reading it straight off the framework: Hall's (1980) reading typology for Theme 1, Cohen's (1972) and Goode and Ben-Yehuda's (1994) moral panic criteria for Theme 3. One candidate theme, provisional sympathy for Olalere among commenters who otherwise accepted the punishment's logic, got folded into Theme 2 after review rather than kept separate. It recurred too thinly to stand on its own.

5. Case Description: The Wasilat Olalere versus Oloolu Narratives

This section reconstructs the controversy as it played out across social media and broadcast platforms. The primary data is first-hand ethnographic observation: named Facebook accounts, TikTok posts, and the Lagelu FM and Esà Òkè Sunnaatic TV broadcasts where Olalere gave her own account. Where relevant, I triangulate this against contemporaneous news coverage of the same events, cited separately as secondary corroboration rather than the source of the account itself. Two competing narratives come out of this material: the one *Oloolu* custodians and their supporters put out, and Olalere's own account, once she was able to speak publicly in her own words.

5.1 The initial accusation

The controversy began with reports from several Facebook accounts, most prominently Tan Tolorun, a traditional worshipper, and Mogaji Kola Olootu, a well-known radio broadcaster. Both claimed that during

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one of *Oloolu*'s public appearances, Olalere had disguised herself as a man, entered the crowd along the masquerade's route, filmed the *Oloolu* masquerade itself, and posted the footage to her TikTok account. Hajia Mewolaka, a female Muslim public commentator, then posted her own condemnation of Olalere on Facebook, criticising her for allegedly cross-dressing to record the masquerade. From these first posts, the claim spread fast across Facebook, YouTube, X, and TikTok, with many other accounts repeating the same version of events.

5.2 The atonement ritual and the death rumour

A few days later, videos began circulating showing Olalere at the *Oloolu* shrine undergoing what custodians described as an atonement process, footage that matches contemporaneous news reporting of the same events (e.g., Vanguard News, 2026a; PUNCH, 2026a). Not long after, a rumour spread widely across social media that she had died from encountering the masquerade, a claim also picked up independently by several news outlets at the time (Tribune Online, 2026a; QED.NG, 2026; Leadership, 2026). This rumour was directly contradicted when Lagelu FM, a prominent Ibadan radio station, brought Olalere onto its programme *Ibi Ayé ń Lọ* by phone, an interview I observed directly as part of this study's data collection and which was also reported by several outlets (Tribune Online, 2026a; PUNCH, 2026b; Vanguard News, 2026b). On air, she confirmed she was alive and gave her own account of events for the first time. She said she had not filmed the *Oloolu* masquerade and had not disguised herself as a man to do so. What she had filmed, she said, was the *Àmọ̀tẹ́kùn* regional security personnel and the crowd gathered in the area, posted on TikTok under the account name "Adeola tí ó care," with a caption noting that *Oloolu* was passing through the Atolu area, meant, she said, as a public alert for people to avoid the route. Once the video started circulating, other users pressured her to take it down, which is what prompted her to speak publicly and clarify that she had not died.

Her account was corroborated soon afterward. The *Oloolu* festival's official spokesperson, interviewed by BBC News Yoruba, also confirmed that Olalere had not died.

5.3 Olalere's fuller account

In a further interview with Esà Òkè Sunnaatic TV, broadcast on Facebook and observed directly as part of this study's data collection, Olalere gave a fuller account of what had happened to her. She said that on the Friday after the video's circulation, people came to her home saying they had been sent to arrest her on the order of the Olubadan of Ibadan, the city's traditional monarch. She was taken to Ode Aje Police Station and held overnight until the following Saturday. She repeated that she had not filmed the masquerade itself, only the security vehicles and the crowd, and that she had meant to warn others away from the area, not to violate any restriction. In an interview with Alwazeer Akéwùgbàgold, she added that even the police officer who checked what she had posted confirmed she had not filmed *Oloolu*, only the crowd. The *Oloolu* people, led by Sokoti, took her to the *Oloolu* compound anyway, an account that broadly matches the *Oloolu* compound secretary Oluwo Ishola Akeem's own public confirmation that she was taken from her home and later underwent the traditional cleansing rites (Vanguard News, 2026a; PUNCH, 2026b).

She then described the atonement process in detail. *Oloolu* custodians collected ₦400,000 from her husband, on top of several sacrificial materials already supplied, including a live goat, which she herself was made to carry around her neck, as shown in circulating video footage. Parts of this sequence are corroborated by a separate account from her mother, Mrs Sekinat Wasiu, who confirmed to Tribune Online (2026a) that she personally shaved her daughter's hair as part of the rites. Olalere was stripped of her clothing except for a red wrapper, and her mother was instructed to cut and shave her hair. The goat was then killed and its blood poured over her body; she was told not to bathe until the next day, so the blood could dry. After this, she said she was brought into a room with *Oloolu* custodians present, where another video was recorded and broadcast live on Facebook. In it, she was instructed to say she had felt unwell upon seeing the masquerade, that she had bled, had a severe headache, and other symptoms she attributed

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to spiritual affliction from *Oloolu*. She maintains none of this happened to her, that she had neither seen nor filmed the masquerade at any point, and that she was told to make these statements regardless.

6. Findings and Discussion

Data collected across Facebook, YouTube, X, and TikTok show several recurring themes in public commentary, organised below. One thing worth saying before I go further: the boundaries between these four themes are not as tidy as the headings suggest. Several comments and posts could sit under more than one. I placed them where they did the most analytical work, not because they belong there exclusively.

6.1 Theme 1: Rights vs. Tradition

In the days before *Oloolu* appeared, two audiences read the same restriction in strikingly different ways. Hall's (1980) encoding/decoding model captures this well: a message is never guaranteed to be understood as intended, because audiences interpret it through their own beliefs and social position. For the custodians of *Oloolu* and their supporters, the restriction on women viewing the masquerade needed no defence. It was accepted as sacred and self-evidently correct, what Hall (1980) calls the dominant-hegemonic reading. Muslim activists such as Ajiginni, Alagusiy, and the Office of the Grand Mufti of Yorubaland, Ile-Ife, Osun State (Sheikh Daud Molaasan), read the same restriction very differently. They rejected it outright and replaced the language of taboo with the language of constitutional rights, an example of what Hall (1980) calls an oppositional reading.

This divide was not just among activists. Ordinary commenters expressed both positions clearly. One defended the tradition and turned the rights-based framing back on its own authors:

> *"Muslims put women in hijab for life, yet their aafas are coming out to say Oloolu is discriminating against women."*

This does more than defend *Oloolu*. It argues that if Islam may restrict women's dress, Yorùbá tradition may equally restrict women's movement, a plain, everyday instance of the contest Hall (1980) describes: an audience declining the oppositional reading on offer and defending its own interpretation as equally legitimate. That matters because it shows the disagreement was never confined to elite spokespeople on either side. It was being fought out, line by line, in the comment sections themselves.

A second commenter made the same defence more gently:

> *"please let us respect peoples belief systems."*

A third, responding to claims equating *Egungun* (masquerade) with religion, insisted on *Oloolu*'s standing as an indigenous cultural institution in its own right:

> *"Egungun is not religion, iam older and mature than you, Egungun is our festival pls don't mislead the public."*

Against these stands the oppositional reading, most fully expressed by X user @Yusuyfasunmogejo, who rejected the sacred framing altogether and recast the restriction as economic and gendered harm:

> *"Tell me what is more than the oppression of locking women in their homes and preventing them from going to work in the one of tradition? ... women are the ones who constitute the major traders in the Ibadan markets. What is the sense in this? What about pregnant women who may need emergency services? ... Our daughters, sisters, mothers, and aunts will come out and nothing will happen. This is 2026, we are not in 1960."*

Read side by side, these are two incompatible ways of coding the same restriction. The custodians and commenters defending them speak in the register of customary authority, respect owed to inherited belief. @Yusuyfasunmogejo speaks in a different register entirely, not religious at all, but economic and practical: women locked out of the markets they trade in, pregnant women unable to reach emergency care, a

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restriction she treats as simply incompatible with 2026. It would be a mistake, though, to read this second voice as an imported, secular rights discourse displacing an authentically Yorùbá one. Elsewhere in the controversy, Muslim preachers and activists such as Ajiginni and Alagusiy make a related but distinct argument, not that the restriction violates women's rights in the abstract, but that Islamic religious freedom exempts Muslim women from a restriction that was never theirs to begin with. That argument draws on a vocabulary, Islamic-reformist reasoning, that is every bit as indigenous to Yorùbá Muslim communities as the custodians' own. Oyèwùmí's (1997) account of how gender categories were reshaped through colonial and religious encounter is useful here mainly as a caution against the tidier story: what looks like tradition versus outside rights talk is closer, on this evidence, to two internally Yorùbá systems of legitimacy, customary and Islamic-reformist, contesting the same ground, with @Yusuyfasunmogejo's economic argument sitting alongside them as a third, more secular voice rather than the only alternative to tradition.

6.2 Theme 2: Punishment on the Body

Theme 1 was fought through words. Theme 2 is where the matter actually got settled, on Wasilat's body. Douglas's (1966) classic account of pollution and taboo argues that societies police their symbolic boundaries most intensely at points of perceived contamination, and that the body is often the surface where that boundary-work happens. Ortner (1974) takes this further into feminist territory: women are cross-culturally positioned as the symbolic site where nature and culture, order and disorder, get negotiated, which is one reason, she argues, why female transgression tends to be punished more visibly and more bodily than the equivalent male transgression. The ritual performed on Wasilat, seated naked in a mortar, doused in a goat's blood, her head shaved, then paraded around the shrine while being filmed, fits this pattern with unusual precision, I think. The punishment was not incidental to the controversy. It was the controversy's resolution, staged, it seems, specifically to be witnessed and redistributed on the very platforms that carried the original accusation.

Looking through the comment threads beneath the ritual footage (posted by Abidex000 on TikTok), what struck me most was how little resistance there was to this logic, even among viewers who seemed a little uneasy about it:

> *"That will be a good lesson for others. I still believe they sent her for that to really know what will happen. Don't joke with tradition and culture."*
>
> *"person wey want to do content now be content for others"*

Even the more sympathetic comments stopped short of questioning the punishment's premise:

> *"She was only doing that because she don't want you people kill her... deep down she don't want to... you're only forcing her."*

Whether Wasilat submitted to the cleansing willingly or under duress is hard to settle definitively from the data I have, but what evidence there is points, on balance, toward coercion rather than consent. Her own account, given separately to Lagelu FM and Esa Oke Sunnatic TV, describes being "whisked" by *Oloolu*'s people led by Sokoti and held overnight in police custody before the ritual took place, a sequence that does not, at least to my reading, suggest a voluntary approach to atonement. Al-Wazeer Akéwùgbàgold's later intervention, securing an agreement that the ₦400,000 collected from her husband be returned, also suggests that even within the community mediating the dispute, the payment and ritual were understood as something extracted from her family rather than freely offered. The one comment that gestured toward her agency, "she was only doing that because she don't want you people kill her... you're only forcing her," is telling less because it describes real choice than because it shows how thin the line was between the ritual being framed as chosen and the ritual being coerced under threat. That ambiguity is worth sitting with: cultural transgression narratives often depend on the appearance of voluntary submission to stay legitimate, even where the underlying reality is closer to compulsion.

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What is striking, and analytically significant precisely because it is missing, is that almost none of the commenters asked why this restriction falls on women specifically, and not on men who might equally record the procession. That silence is itself data, in a way. It matches what Ortner (1974) and later feminist anthropologists describe as the naturalisation of gendered taboo: the norm survives not mainly through active agreement, but through the absence of a question that would otherwise seem obvious to ask. Whether this silence reflects real acceptance of the restriction or just a kind of collective fatigue with arguing about it is harder to say from the comment data alone.

6.3 Theme 3: Rumor and Moral Panic

Theme 3 follows a moral panic sequence that closely matches Cohen's (1972) original model and its later refinement by Goode and Ben-Yehuda (1994): a perceived transgression, rapid amplification by moral entrepreneurs with large audiences, the construction of a folk devil, and a punitive response that escalates as the story travels. Tani Olohun's video alone drew over 13,000 views. Mogaji Kola Olootu's account carried the claim to his 1.8 million followers. Mewolaka's page, with over 700,000 followers, spread it further still. Each retelling added a more dramatic detail; Kola Olootu's version claimed she was "bleeding from her private part" with "seven days left to live."

Underneath this amplification, though, ran a second, much quieter evidentiary track. Lagelu FM interviewed Wasilat directly, and she said she had filmed only an *Amotekun* patrol vehicle and the waiting crowd, never the masquerade, and that she had not died. Mr. Gbolahan Ishola confirmed this account to BBC News Yoruba (2026). Esa Oke Sunnatic TV visited her residence and recorded the same account, including her statement that the police had confirmed the footage showed nothing more than the crowd. Two established broadcast outlets and a direct police confirmation landing on a materially different account than the one reaching over a million followers is a fairly clear example of what Goode and Ben-Yehuda (1994) call the disproportion criterion of moral panics: public reaction bearing little relationship to what could actually be verified.

What is most revealing, at least to me, is that the correction did not replace the rumour. The two circulated together, on the same threads, competing for the same audience:

> *"Dey play, if you find out Wasila is alive tomorrow what will you do? She's alive doing well at oremeji area in Ibadan. Believe social media at your own risk 😂😂😂"*

against, on the very same thread:

> *"O ti ku saiye..." (She's a living dead)*

and, further down:

> *"Stop spreading fake news. Wasila is alive and well at her home in oremeji / sokoti area of Ibadan."*

That the death narrative kept going even after a verified correction had entered the same comment space points to something Cohen's (1972) model anticipates without, I think, fully capturing at this level of detail: once a rumour has symbolic value, here, confirming the punishment of a transgressive woman, it can keep circulating more or less independent of whether it is factually true, because its social function has already been served, in a sense. Goode and Ben-Yehuda's (1994) framework does not fully anticipate this either. Moral panic here worked not just through exaggeration but through outright refusal of correction, which says something about how much power digital amplification now holds over which version of events actually sticks.

6.4 Theme 4: History as Argument

The final theme shows this same contest over meaning stretching backward into history. Ajiginni's invocation of Ajagbemokeferi, who reportedly let his wives view *Oloolu* in 1977 without fatal consequence, one of whom, he says, is alive today, remarried to a professor, and mother of twins, works as a deliberate

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counter-memory. He uses it specifically to challenge the claim that female viewing carries automatic spiritual consequence, recasting the restriction as a socially maintained rule rather than an unchangeable law of nature.

This counter-memory was immediately contested by the Isedale Abinibi Wa account, which held that only one wife was involved, that Ajagbemokeferi suffered a slow and disfiguring death, and that his wife died only nine days after him. Ajiginni disputed this directly, placing live calls to Ajagbemokeferi's friends, with whom he had performed Hajj together in 1991, who reportedly rejected the Isedale Abinibi Wa version on air. Because Ajiginni's account rests on this direct, first-hand testimony gathered live, it strikes me as somewhat more credible, on balance, than the Isedale Abinibi Wa version, which relies on secondhand narration without comparable verification, though I would stop short of calling either version fully settled. Ajiginni cited further instances showing how Ajagbemokeferi went on to live what he called a fulfilling life after the 1977 confrontation with *Oloolu*, including that he conducted his children's weddings in the 1990s, and that he gave his house to the Osun State Government to serve as the state house when Osun State was carved out of Oyo State, until the state secured a permanent government house, at which point the property was returned to him. Ajiginni publicly challenged traditionalists to debunk the facts he had laid out.

Deciding which version is correct is not something the data lets me settle, and I am not sure it needs to be. What matters is that even history became something people argued over rather than a settled fact. Both sides understood that winning the argument about what happened in 1977 would also mean winning the argument about whether today's restriction makes sense. Amadiume (1987) offers a useful comparative warning here: customs that look ancient and unchangeable often turn out, on closer inspection, to be more recent and more flexible than they present themselves as being. The dispute over Ajagbemokeferi's wives may never be fully resolved, but its persistence, the fact that people are still fighting over a 1977 event, is itself telling. The past was never really neutral ground in this controversy to begin with.

Put together, these four themes are really one dynamic showing up on four different surfaces. An argument about constitutional rights, a punishment carried out on a woman's body, a rumour that outran its own correction, and a dispute over historical memory all trace back to the same underlying anxiety about eroding customary authority. Wasilat's body became the site where that anxiety got, in effect, settled, while spectacle and rumour made sure the punishment resonated far beyond the shrine itself. This fits Oyèwùmí's (1997) argument that access to sacred and cultural space in Yoruba society stays deeply gendered, a woman's presence, or even the mere suspicion of it, treated as transgression more or less regardless of intent. It also suggests struggles over tradition here are inseparable from struggles over gender, visibility, and the right to move freely in public space. Whether that inseparability is unique to this case, or a wider pattern worth testing elsewhere, is a question this paper can only gesture toward.

7. Conclusions

This paper examined the Wasilat Olalere controversy, a Muslim TikTok user in Ibadan accused of filming the *Oloolu* masquerade in July 2026 and then made to undergo a cleansing ritual for it, to ask how a customary, spatially contained restriction on women's presence becomes a networked, multi-platform argument once it is disputed online. Four things came out of that. The dispute over rights and tradition turned out to run through at least three distinct, and not equally acknowledged, vocabularies rather than a simple two-sided fight. The punishment inflicted on Olalere's body, the goat's blood, the shaved head, the forced statement, worked as boundary maintenance regardless of what she had actually done, which is why the correction that followed changed nothing about how she was treated. The rumour and its correction moved through the same platforms at the same speed, and the target of public blame shifted mid-controversy, from Olalere to the *Oloolu* custodians, inside about two weeks. And the argument over

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Ajagbemokeferi's wives showed that even the historical record used to settle the dispute is itself unsettled, and still being fought over nearly fifty years on.

The paper's contribution is narrower than "gendered exclusion exists and is contested," which the literature already establishes. It is that this case does not fit the tradition-versus-outside-rights framing most of the comparative literature in Section 2 relies on. Since two of the three positions arguing it, customary and Islamic-reformist, are both indigenous to Yorùbá Muslim life, and that Cohen's (1972) model of a fixed target does not survive contact with a controversy where the accusation and its correction share the same platform in real time. That matters beyond this one case because both of those literatures, on gendered sacred space and on moral panic, tend to be built from single-tradition or pre-digital examples; if either pattern, a three-vocabulary contest or blame that moves mid-panic, turns out to be common rather than unique to Ibadan in 2026, it would mean two fairly established frameworks need updating for how these disputes now actually happen. Testing that would mean returning to this case once it has settled, or watching whether the same two patterns show up the next time a Yorùbá tradition has this kind of argument in public.

Declarations

Ethics statement

This study analysed publicly accessible social media posts and news coverage rather than data obtained through direct human-subjects research. My institution does not require ethics approval for this kind of research.

Conflict of interest

There is no conflict of interest in this research work.

Funding

No funding was received for this work.

Data availability

The underlying social media corpus can be shared, for example as links only, subject to platform terms of service and the identifiability of named accounts.

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ORIGINAL ARTICLE

Painted Prayers: Kolam as a Global South Indian Indigenous Method for Research with Indian Immigrant Women

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ABSTRACT

Research on racialized immigrant women often uses methods that miss their own ways of understanding and describing their experiences. This can reinforce colonial and patriarchal ideas about race, gender, and migration. This article introduces Kolam, a traditional floor art practiced by Indian women, as a Global South Indian Indigenous, arts-based method to explore immigrant mothers' experiences of migration and settlement. Drawing on Critical Race Feminism's focus on counter-storytelling and Indigenous and Global South ways of knowing, the article shows how Kolam fits the culture of Indian immigrant mothers (IIM) and lets participants take an active role in the research, rather than just being subjects. The study involved 20 IIM in the Greater Toronto Area who made Kolam and discussed their work in interviews and group conversations. The article explains the method's design, how it was analyzed using narrative thematic analysis and art-verbal triangulation, and how ethical issues around insider-outsider roles were handled. Two participant artworks are shared to show how the method brings out themes like precarity, aspiration, faith, and identity through colour and line. The article ends by reflecting on collaborative knowledge-making and ongoing power dynamics in participatory research, arguing that arts-based methods rooted in culture can help recognize more kinds of knowledge in research.

Keywords *Kolam, arts-based research, Global South Indian Indigenous methodology, counter-storytelling, Critical Race Feminism, decolonial methods, epistemic justice, immigrant women*

1. Introduction

Research on racialized immigrant women has often used extractive, positivist approaches that see the researcher as the expert and the participants as 'the other.' This can lead to accounts that oversimplify their experiences and reinforce existing inequalities (Cannella & Manuelito, 2008; Smith, 2012; Thambinathan & Kinsella, 2021). For example, Indian immigrant mothers (IIM) in this study are often grouped into broad categories like 'women of colour' or 'South Asian women,' which ignores the unique cultural, religious, and socioeconomic parts of their lives and misses their real experiences.

To fill this gap, the article uses Kolam, a traditional floor art made by Indian women, as a Global South Indian Indigenous, arts-based method to study immigrant women's emotional experiences of migration and settlement. Emotional experiences here refer to how mothers see and navigate the challenges, uncertainties, and opportunities of migration. Rather than using an outside method, this approach starts with a cultural practice participants already know and explores what can be learned when research is grounded in their

traditions. Guided by Critical Race Feminism's idea of counter-storytelling and Indigenous and Global South ways of knowing, the article argues that Kolam fits IIM culture and shows a non-extractive way to do research, or 'knowing with' (Santos, 2015), by working together with participants instead of just studying them.

This article is based on a qualitative study with twenty IIM in the Greater Toronto Area (GTA) who made Kolam and discussed their work in interviews and group discussions. The main findings about poverty, exclusion from the job market, ongoing patriarchy, and loss of self are discussed in detail elsewhere (Pandian, in press, in review). Here, the focus is on what Kolam brings to research. Since the method itself is the main contribution, it deserves special attention. This article offers three main contributions: (1) it introduces Kolam as a culturally grounded qualitative research methodology rather than a cultural practice used merely to facilitate discussion; (2) it demonstrates how participant-created artwork can function effectively as data, interpretation, and counter-storytelling simultaneously (3) finally, it expands discussions of arts-based and decolonial methodologies by developing a Global South Indian Indigenous approach rooted in participants' own traditions.

The article explains the study's theoretical background, then describes the Kolam method and how it was analyzed, shows what knowledge it produces through two participant artworks, and ends by reflecting on the art-making process, power dynamics in shared knowledge, and the wider impact of this approach on feminist and participatory research.

2. Theoretical Framework

2.1 Critical Race Feminism

Critical Race Feminism (CRF) argues that race, gender, class, and other identities never operate alone. Instead, these identities intersect and create forms of disadvantage that cannot be understood by analyzing these categories in isolation (Crenshaw, 1991; Wing, 2003). Three tenets of CRF guide this study: (1) anti-essentialism, which rejects a singular women's experience and emphasizes within-group heterogeneity (Harris, 1990); (2) intersectionality, which considers gender only in conjunction with race, migration status, and class (Crenshaw, 1991; Samuels & Ross-Sheriff, 2008); and (3) counter-storytelling, which foregrounds the voices of women of colour in opposition to dominant master narratives. CRF also recognizes non-traditional forms of data, such as life narratives, poetry, and art forms central to women of colour, as legitimate sources of knowledge (Collins, 2000; Wing, 2000). In line with this scholarship, the present study treats an art practice not merely as artwork but as a mode of inquiry.

2.2 Indigenous and Global South methodologies

Indigenous methodologies understand knowledge as embodied and relational, grounded in community relationships (Kovach, 2009; Smith, 2012; Wilson, 2001; Thambinathan & Kinsella, 2021). Global South Scholars also vehemently echo this sentiment and increasingly emphasize participatory, decolonial, and culturally responsive approaches that prioritize reciprocity, reflexivity, and participant involvement in knowledge production (Lenette, 2022b; Santos, 2015). On the contrary, Colonial/Positivist research historically constructed the colonized woman as an exotic object of study through the accounts of unqualified "research travellers," whose inferences excluded the woman's own voices (Cannella & Manuelito, 2008; Smith, 2012). Acknowledging racialized women's narratives as legitimate sources of knowledge holds both political and scholarly significance (Razack, 1998).

2.3 Gender and Knowledge

IRM and CRF converge on decolonization, self-determination, and the significance of women narrating their own experiences- both place accountability with the community. However, IRM has been critiqued for insufficiently theorizing gender (Smith, 2012); CRF equips this study with an explicit intersectional and

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anti-colonial framework that centers gender. By drawing on arts-based research methods and feminist and decolonial perspectives, this study positions Kolam as a research methodology.

2.4 Terminological clarification for the Methodological approach

Before moving on, terminological clarification is needed and critical. Drawing on Indigenous methodology, this study does not equate the diasporic Indian women involved, or a tribal art, with Indigenous peoples in the settler-colonial context, whose methodologies are closely tied to sovereignty, land, and treaty. Agreeing with Global South and decolonial scholarship (Santos, 2015; Smith, 2012), the approach draws on Indigenous methodological principles of relational and embodied knowledge, self-determination in knowledge production, and resistance to extractivist positivist research. The term 'Global South Indian Indigenous methodology' is used here deliberately to indicate that 'Global South' and 'Indian' specify the cultural context and Kolam form. At the same time, 'Indigenous' refers to methodological commitments rather than Indigeneity in the settler-colonial sense, aligning more closely with the original meaning of a practice native to a people's own cultural world. The term is employed with caution, recognizing the limitations of the analogy and the importance of not conflating 'Global South,' 'diasporic,' and 'Indigenous' identities.

3. Kolam as Method

3.1 History

Kolam (Rangoli in Maharashtra or Alpana in Bengal) is an ephemeral floor art drawn with rice powder, created only by Indian women every morning, traditionally (Mitter, 2001; Nagarajan, 2019). Mitter (2001) documents that this floor-painting tradition predates colonial rule and survived it as one of the few women's ritual arts, and that it has long been a specifically women's practice. Kolam is not institutionalized: it is decentered, learned informally through watching and doing, and passed between women throughout generations, from mother to daughter, aunt to niece, grandmother to granddaughter, and older woman to young girl (Nagarajan, 2019). Colour, too, carries cultural and religious resonance and offers a spontaneous, everyday vocabulary of emotion.

3.2 Kolam through an Indigenous epistemic lens

Kolam, as a practice, rooted in everyday experience, relationships, and visual art, aligns closely with Indigenous epistemology. Nagarajan (2019) describes it as a "painted prayer" through which women communicate their own and their family's well-being and emotional state to the land and community. Because participants were already familiar with Kolam despite their diverse backgrounds, the method draws on their existing cultural knowledge, fosters active engagement, and grants participants greater agency in representing their experiences. As an art form that predates and survived colonial rule (Mitter, 2001), Kolam resists colonial research dynamics.

3.3 Kolam as counter-storytelling methodology

Examined through the CRF lens, Kolam functions as counter-storytelling, offering a way to narrate experiences that may be difficult to articulate verbally (Leavy, 2015; Mikkonen et al., 2020; Sinding et al., 2014; Wing, 2000). Art conveys complexities and lived experience in ways that structured questioning fails to capture. For example, Chilean 'arpilleras', North American 'quilts', and 'body-mapping' are arts-based research forms that are increasingly recognized (Clover, 2011; Leavy, 2015; O'Neill, 2017; Seppälä et al., 2021). In this respect, Kolam aligns with a broader tradition of women's art as knowledge and testimony. The closest study is Redwood, Gale, and Greenfield's (2012) use of a Rangoli-making activity using lentils with South Asian women in the United Kingdom to generate conversation within health-services research. However, in that study, the artwork was incidental, a tool to elicit discussion rather than data in its own right and not as a decolonial methodology. The present approach differs in several respects. Redwood and

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colleagues used dried pulses, grains, and spices glued onto boards, materials selected to represent food preparation for a study of diet and diabetes, so the medium and its colours lacked symbolic significance. In contrast, this study employs the traditional powdered medium of Kolam, where each colour carries cultural and religious meaning and serves as a vocabulary of emotion, rendering material and colour choices analyzable data. More fundamentally, Kolam is treated as analyzed knowledge and counternarrative, not as an incidental by-product, and the practice is theorized through CRF and Global South Indian Indigenous epistemology as a research method.

4. The Method

4.1 Participants and setting

In this study, twenty pregnant and parenting Indian immigrant mothers aged 20 to 45 participated. All the participating mothers had one or more children under four and had immigrated to Canada between 2017 and 2024. They lived in Oshawa, Brampton, or Hamilton in the GTA, as these sites had a high concentration of Indian immigrant communities and were accessible to participants. The participant sample was diverse, with five from North India who speak English or Hindi and fifteen from South India who speak English, Tamil, Malayalam, and Telugu. Community translators were engaged when needed with participant consent. Participants were recruited through snowball sampling via peer networks and online communities as they are close-knit. They were compensated with gift cards of their choice toward participation, travel, and childcare. In keeping with the study's CRF commitments, a demographic instrument was restructured to let participants self-define (identify) rather than accept imposed categories.

4.2 The Research Design

Data were generated across four sessions. Session 1 focused on establishing a safe and informed space. After a shared cultural ritual (the lighting of the kuthuvilakku, or oil lamp), participants received full information about the study, provided consent, and collaboratively brainstormed colour meanings and prompts. This brainstorming produced a shared working lexicon of colour associations (Appendix B) that participants drew on, and departed from, as they wished, so that the colour code was co-defined with the community rather than imposed from a fixed cultural key (Lenette, 2022b). Several colours carried more than one association, which participants disambiguated when narrating their finished work in the interviews. Session 2 was the art-making session, in which participants created Kolam expressing their socioeconomic experiences of migration. Working in the traditional coloured powders of the form, each participant received twelve shades of Rangoli/Kolam powder that could be mixed to obtain the colours they needed, together with pencils and markers for drafting symbols and a small notebook for practising and reflecting at home. The traditional floor practice was adapted to canvas, and a light spray fixative set the powder, so that the otherwise ephemeral work could be retained and analyzed (a full list of materials is provided in Appendix A). Those needing more time completed their work at home, and a short group discussion enabled collective comparison across the three sites. Session 3 comprised individual, semi-structured interviews (mostly by Zoom, some in person), audio-recorded with consent and transcribed, in which participants elaborated the meanings of their art. Interviews lasted between 60 and 90 minutes and were digitally recorded with participant consent and transcribed by the researcher. A planned Session 4 offered participants an oral summary of findings. Initially, the art sessions were planned to be held in a rented hall; however, at participating mothers' request, sessions were held in community members' homes, with childcare provided by elders. This fostered an organic formation of a supportive micro-community across religious, caste, and linguistic differences that extends to even today.

Before the study began, participating mothers received an information letter describing the study purpose, procedures, potential risks and benefits, confidentiality protections, and their right to withdraw at any time without consequence. Participants also signed an informed consent form before participating in the art

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workshops and interviews. Consent was also obtained for the reproduction and publication of participant artwork.

4.3 Data Analysis

Verbal data were analyzed using narrative thematic analysis. Here, the narratives were treated as holistic stories before identifying emerging themes across the dataset (Ollerenshaw & Creswell, 2002; Ross & Green, 2011). Participants' artworks were analyzed through compositional analysis of colour symbolism, spatial arrangement, scale, and the inclusion or omission of elements (Bauer & Sippel, 2024; Mitchell et al., 2018; Rose, 2016). Only after this initial analysis were the visual and verbal interpretations integrated, ensuring that the image was not merely a supplement to the interview. Art and verbal accounts were triangulated for completeness, so that artistic insights addressed gaps in verbal data and confirmed themes across group discussions, interviews, and Kolam produced in three settings (Creswell & Miller, 2000; Denzin, 1978). Preliminary analysis of integrated verbal data and the artwork was returned to appropriate participants for verification. This acknowledged that participants controlled data interpretation, recognizing that interpretation occurred through active dialogue and remained open to revision until the end of the study (Byrne, 2015). Interviews were also conducted in the participant's preferred (comfortable) language, and a community translator was present when required, only with participant consent. In this study, translation was treated as interpretive with attention to conceptual equivalence and meanings that resisted direct translation.

4.4 Ethics and the insider-outsider position

Drawing on Wilkinson (1988) and Lenette (2022a), as a first-generation Indian immigrant mother and researcher who shares the participants' cultural background, I maintained reflexivity regarding my insider-outsider position throughout the study. I recognized that our shared history, culture, language, and tradition can lead to assumptions; hence, I guarded against over-identification with the study's participants, verified my interpretations with participants, and returned analyses for their approval. Honoring shared cultural practices, such as shared meals on the floor and opening rituals that echoed participants' tradition, was essential for dissolving researcher-participant hierarchies and building trust within an over-researched, research-fatigued community. Participants came from a small, close-knit community; therefore, privacy was prioritized and actively encouraged throughout the study. Participant recording in any form (audio/video/photographs) was actively prohibited; the use of pseudonyms was offered, and data were securely stored. Mothers who wished to use their own names were fully informed about knowledge dissemination approaches. The McMaster University Research Ethics Board approved the study.

5. Two Demonstrations of the Method

The two artworks below show the kind of knowledge the method brings out: embodied, metaphorical, and counter-narrative, and anchored in the participants' own interpretations. I chose these two because they show, more clearly than most, themes that ran across the twenty works: aspiration and its deferral, faith, precarity, and the decline of self. They are presented to illustrate the method rather than to develop the substantive claims set out elsewhere (Pandian, in press, in review). Artworks are reproduced with permission.

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Figure 1. Intersection of Unrealized Dreams and Religious Refuge

Source: Artwork created by a study participant during a Kolam workshop (Greater Toronto and Hamilton Area).

> *"The orange bubble indicates the dreams and hopes I had when I came to Canada. ... Everything I drew in the bubble still remains a dream even after six years. ... I wasn't very religious, but when everything failed, I had to have hope, and I held on to my religion, which is the yellow. I know it's a bubble that can break, but for now, it protects me."*

This method reveals more than a list of stressors: through colour and shape, the orange bubble , the participant shows aspiration. She highlights her ongoing worries (arrows across the scene), and faith as a refuge (the yellow). The colours have both shared and personal meanings: yellow stands for religious devotion, while orange represents unfulfilled dreams for this participant, showing that colour meanings can be both collective and individual. This artwork highlights the tensions and uncertainties that might not come up in regular conversations about coping. Interestingly, the visual and spoken stories do not completely match. While the participant talked about courage, strength, and hope, the image—with tired eyes and a delicate bubble of faith- shows exhaustion and insecurity that were less obvious in her words. Looking at both the art and the interview together gives a deeper understanding of her experience.

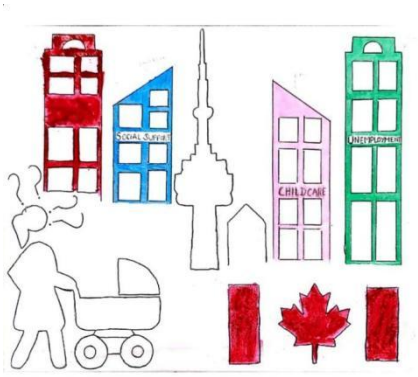


Figure 2. The Vanishing Act: Negotiating the Elusive Support Systems

Source: Artwork created by a study participant during a Kolam workshop (Greater Toronto and Hamilton Area).

> *"I drew each thing as tall buildings to say that even though it is there, it is still unreachable. I didn't colour the CN tower ... it means they call us, promising a better life, but once we land, all the promises just disappear in the background. ... I didn't colour myself or my baby girl ... we are also disappearing."*

This second artwork demonstrates the method's capacity for counter-storytelling. The intentional decision to leave the CN Tower, the home, and the mother and child uncoloured shows how the method supports counter-storytelling. She chose to leave the CN Tower, the home, and herself (the mother) and child uncoloured to indicate the availability of hard-to-reach services and fading selfhood, in a visual message aimed at 'the community and the politicians.' Here, meaning comes from what is left out: the empty, uncoloured shapes show disappearance in a way that words cannot, making the absence of colour a central part of the participant's message. The artwork communicates the participant's perspective that challenges

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dominant stories from the maker's point of view, rather than being analyzed by others. In both examples, Kolam brings out metaphor, colour symbolism, and lived testimony, letting participants be creators and owners of knowledge. study, knowledge did not come from the finished artworks and interviews alone. It also came from the art-making process itself: the interactions among the maker, the other mothers, the materials, the space, and me as researcher. Three contextual dimensions were especially telling. In terms of time, the sessions offered a rare reconnection with a tradition left behind and with a community of women; one mother reflected, "I used to do this with my amma … I never had time or thought of doing this here, so far away from home," while another described the work as therapeutic. Space mattered: these sessions were held in an elder's home, or a mother's own, and some participants asked to sit on the floor so that their Kolam could be sent "as prayers to Bhumadevi (Mother Earth)."

On the other hand, some participants picked neutral locations so their art and words would not be seen by family, showing how space can be used to protect privacy and manage power. The materials also played a role: from lighting the kuthuvilakku and sharing food to moving the art from floor to canvas, each influenced what could be expressed. As one mother said, "I usually do it on a floor … this is on a canvas; I am just letting this take over." Paying attention to time, space, and materials means seeing the process of making art, not just the finished piece, as a source of knowledge.

6. Discussion

6.1 The art-making process as a site of knowledge

In this study, knowledge did not come from the finished artworks and interviews alone. It also came from the art-making process itself: the interactions among the maker, the other mothers, the materials, the space, and me as researcher. Three contextual dimensions were especially telling. In terms of time, the sessions offered a rare reconnection with a tradition left behind and with a community of women; one mother reflected, "I used to do this with my amma … I never had time or thought of doing this here, so far away from home," while another described the work as therapeutic. That time was also pressured by childcare and by the risk of becoming visible, and vulnerable, to spouses and in-laws. Space mattered too: sessions were held in an elder's home or a mother's own, and some participants asked to sit on the floor so that their Kolam could be sent "as prayers to Bhumadevi (Mother Earth)," while others chose more neutral venues precisely to keep their art and words from being witnessed by family, a spatial negotiation of privacy and power. Materials carried their own agency: opened with the lighting of the kuthuvilakku and the sharing of food, and adapted from floor to canvas, they shaped what could be expressed. As one mother put it, "I usually do it on a floor … this is on a canvas; I am just letting this take over." Considering time, space, and materials highlights the importance of the creative process as well as the final artwork.

6.2 Knowledge co-production and the persistence of power

Even though culture-based methods can help participants become more involved, they do not remove all power differences between researchers and participants. It is important to keep noticing how power works during the research. In this study, both obvious power (e.g., institutional and funding rules) and hidden power (e.g., who sets the agenda, language, and timing) were still present. Due to Covid 19 restrictions, moving some sessions online or to less private homes also made it harder for some mothers to speak freely. As Foucault (1975) and Kesby (2005) argue, in these scenarios, 'empowerment through participation' can sometimes become another form of control. For example, one participant, juggling childcare and household responsibilities, had very little time to meet this study's demands and was clearly stressed by the study's schedule. When I realized my institutional and funding agency deadlines were affecting this participant, I tailored the pace and expectations. Also, being aware of my own position helped me manage these issues, though I could not remove or fully mitigate them. While Kolam does not erase the gap between researcher and participant, it does give participants more say in how their experiences are shown and understood (Lenette, 2022b).

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6.3 Epistemic justice

By treating the participating women's cultural practices as valid sources of research knowledge, this method broadens what counts as knowledge and whose views matter in research. This is especially important for those studying gender, knowledge-making, and future social changes. In practice, it means doing research with marginalized and racialized women, not just about them, and seeing this change as key to making research more inclusive and better at reflecting the experiences of underrepresented groups (Lenette, 2022b; Seppälä et al., 2021).

6.4 Limitations

This study used a small, carefully chosen group from three different municipalities of the GTHA, and the short session schedule (one art session, one interview, and a quick follow-up), plus moving some sessions online, limited how deeply and openly people could share compared to longer, in-person sessions. Kolam is also specific to its culture and cannot be used everywhere. What can be shared is the main idea: research methods can be based on a community's own traditions, helping bring out knowledge that might otherwise stay hidden. Researchers working with other groups should find practices that fit those communities, instead of using Kolam as a one-size-fits-all method.

7. Conclusion

This article shows that Kolam, a Global South Indigenous art form, can function as a culturally grounded qualitative research method for studying the experiences of Indian immigrant mothers. The participating mothers' artworks generated understandings of aspiration, uncertainty, faith, social isolation, identity, and erasure of self, and settlement challenges that were not fully articulated during interviews. Methodologically, the study also demonstrates how Kolam can operate not only as a cultural practice but also as a tool for data generation, interpretation, and counter-storytelling against hegemonic patriarchal and colonial narratives. In doing so, it contributes to arts-based, feminist, and decolonial methodological scholarship by introducing a Global South Indian Indigenous approach based in participants' own traditions. The study is limited by its small purposive sample, focus on three municipalities within the Greater Toronto Hamilton Area, and the cultural specificity of Kolam. Regardless, it still adds to the developing literature on culturally grounded qualitative methods by demonstrating the importance of developing research approaches that build on participants' existing cultural practices, lived experiences, and knowledge systems.

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Ethics approval and consent

The McMaster University Research Ethics Board approved the study. All participants provided informed consent, including consent for the publication of their artwork.

Conflict of interest

The author declares no competing interests.

Data availability

While selected anonymized quotations and participant artworks are presented in the manuscript with participant consent, the full interview transcripts and complete dataset are not available for sharing. Participants were recruited from a small and well-interconnected community. Hence, the risk of re-identification cannot be fully eliminated even after anonymization. For this reason, the data cannot be shared beyond the research team.

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Photograph and artwork permissions

Figures 1 and 2 were created by study participants during Kolam workshops conducted in community elders' homes and community settings in the Greater Toronto Hamilton Area. Copyright remains with the creators. Written consent for reproduction and publication was obtained from each participant prior to submission. The photograph presented in Appendix A was taken by the author, who retains copyright and grants permission for its publication

Author contributions

Dr. Lydia Pandian conceived and designed the study, collected and analyzed the data, and wrote the manuscript.

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Appendix A. Workshop materials



Workshop materials used in the study. Photograph taken and owned by the author. Permission for publication is granted by the copyright holder.

Tools (per participant, per workshop): a six-piece canvas pack as the working surface; small containers for mixing and storing the coloured powders; permanent markers (thick and thin tips), pencils, erasers, a sharpener, and rulers for drafting symbols; a small notebook for reflection and at-home practice; spray fixative to set the powder; a plastic tablecloth and tape to protect and secure the working surface; cling film to cover open powder containers; scrap paper for practising; and cleaning supplies, gloves, and hand sanitizer. Powder colours (two 50 g pots of each, mixable): post-box red, royal blue, turquoise, primrose yellow, golden yellow, brown, orange, pink, light green, dark green, violet, and white.

Appendix B. Colour meanings

The following colour-to-meaning associations were brainstormed collaboratively with participants during Session 1 and used as a shared, non-binding reference during art-making and analysis; participants remained free to assign their own meanings.

Red: fertility, prosperity, fear. Golden yellow: purity, light, and sustaining religious values. Green: financial instability, happiness, unemployment. Blue: good emotional and physical health, bravery, determination. Black: negativity, evil, decline in health, stress, anxiety. White: sacrifice for family, and abstaining from luxury and pleasure. Pink: childcare, education, pregnancy difficulty. Navy (dark) blue: social support and personal development.

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