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Women's Leadership Development through Higher Education

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ABSTRACT: *This study investigates how higher education shapes women's pathways to executive leadership positions, examining the role of educational interventions, role models, and organisational culture in supporting women's leadership development and career advancement in contemporary professional contexts. A design-based research (DBR) methodology, integrated with Interpretative Phenomenological Analysis, was employed. Data collection included semi-structured interviews, participant journals, focus groups, and validated leadership assessments. An MBA Women's Leadership course was developed and implemented across two iterative cycles with 45 participants. Statistically significant improvements were observed across all leadership dimensions ($p<0.001$, Cohen's $d=0.89$-1.45). At six-month follow-up, 42.9% of participants received promotions, 59.5% gained new leadership opportunities, and 83.3% pursued additional professional development activities. Findings inform the design of leadership development programmes in higher education institutions, organisational diversity and inclusion initiatives, policy development for gender equity in leadership, and evidence-based approaches to women's professional advancement in educational and corporate contexts. This research provides the first systematic integration of Design-Based Research with Interpretative Phenomenological Analysis for women's leadership development, offering both theoretical insights into leadership identity formation and practical intervention models for educational institutions.*

Key words*: Design-based research, gender equity, higher education, leadership development, women's leadership, organisational culture.*

1. Introduction

The persistent underrepresentation of women in executive leadership remains a critical global challenge for organisations and educational institutions (Catalyst, 2023). Despite women's increasing participation in higher education, their transition into senior leadership remains constrained by systemic barriers that extend beyond individual limitations to institutional, cultural, and structural dynamics (Eagly & Karau, 2002). While research demonstrates that gender-diverse leadership enhances organisational performance, decision-making, and innovation (Hunt et al., 2020), women remain disproportionately excluded from senior roles across higher education, corporate, and management contexts (Adams et al., 2021).

Higher education institutions occupy a dual position in this landscape: they shape leadership aspirations while simultaneously struggling with their own gender inequities (White & Ozkanli, 2021). Although individual-focused interventions have value, sustainable change requires approaches that integrate personal development with systemic reform (Ely et al., 2011). This study, therefore, investigates how educational interventions can support women's leadership development while addressing wider structural and cultural barriers. Three research questions guide the study: (1) How does higher education shape women's aspirations and preparation for leadership? (2) To what extent do role models influence women's access to leadership positions? (3) How significant is organisational culture in establishing leadership pathways? These interconnected questions reflect the multifaceted nature of women's leadership development, necessitating

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comprehensive, multi-level strategies. The study is significant for educational institutions seeking to strengthen leadership development, organisations advancing gender equity, and policymakers promoting inclusive environments. Employing a Design-Based Research methodology contributes both theoretical insights and practical interventions to support women's leadership development in real-world educational contexts.

2. Literature Review

2.1. Theoretical Foundations of Women's Leadership Development

The study of women's leadership development is informed by several theoretical traditions that together illuminate the intersections of gender, education, and organisational advancement. Gender role theory highlights the "double-bind" dilemma, whereby women leaders are often judged as either insufficiently assertive or "too masculine," creating contradictory expectations that hinder their leadership trajectories (Eagly & Karau, 2002; Heilman & Eagly, 2008). Social learning theory emphasises the significance of observation, modelling, and mentorship in developing leadership skills and self-efficacy (Bandura, 1977). In this context, access to female role models and mentors becomes particularly significant for women's leadership development (Brown & James, 2022).

Intersectionality theory (Crenshaw, 1989; Collins & Bilge, 2020) further advances understanding by recognising that women's experiences of leadership are shaped by the interplay of gender with race, class, disability, and other dimensions of identity. This highlights the compounded barriers faced by women from marginalised groups, whose leadership pathways cannot be explained solely through gendered analysis. Finally, Bakhtin's dialogism (1981) provides a lens for understanding how women negotiate professional identities within competing discourses of gender, leadership, and organisational culture. This perspective underscores the dynamic and dialogic nature of identity construction in women's leadership development.

2.2. Systemic Barriers to Women's Leadership Advancement

The literature consistently identifies multiple systemic barriers that constrain women's progression into executive positions. Structural barriers represent perhaps the most visible constraints on women's leadership advancement. The glass ceiling effect continues to limit women's progression to senior leadership positions across sectors (Federal Glass Ceiling Commission, 1995). Research by Adams et al. (2021) demonstrates that women are often over-represented in precarious leadership positions, a phenomenon known as the "glass cliff," where women are more likely to be appointed to leadership roles during times of crisis or when the likelihood of failure is high.

Cultural barriers represent equally significant constraints on women's leadership development, though they are often less visible and more difficult to address than structural barriers. Ahmed (2022) documents how everyday sexism and exclusionary cultures continue to undermine women's experiences in educational and professional environments. These cultural dynamics are reinforced by gender stereotypes that associate leadership with masculine characteristics and devalue the collaborative, inclusive leadership styles often exhibited by women leaders (Catalyst, 2023).

Psychological barriers, which are often experienced at the individual level, are frequently the result of systemic and cultural factors that erode women's confidence and self-efficacy in leadership contexts. Imposter syndrome, characterised by persistent feelings of inadequacy despite evidence of competence and achievement, disproportionately affects women and can significantly constrain their willingness to pursue leadership opportunities (Clance & Imes, 1978). These psychological barriers are exacerbated by the lack of female role models in leadership positions, which can make it difficult for women to envision themselves in similar roles.

2.3. The Role of Higher Education in Leadership Development

Higher education institutions play a crucial role in shaping leadership aspirations and capabilities, yet research reveals significant challenges in how these institutions support women's leadership development. Acker (2006) argues that higher education institutions often maintain conventional hierarchical and male-dominated structures that limit opportunities for women's growth and leadership development. These institutional structures are reflected in faculty composition, administrative hierarchies, and informal power networks that can exclude women from leadership development opportunities.

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Research on pedagogical approaches within higher education reveals that traditional leadership education often adopts approaches that reflect masculine leadership models and fail to address the unique challenges and strengths that women bring to leadership contexts (Ely et al., 2011). More inclusive pedagogical approaches that incorporate collaborative learning, reflective practice, and attention to diverse leadership styles can more effectively support women's leadership development (Shapiro et al., 2022). The literature also emphasises the significance of institutional culture in fostering women's leadership development. Inclusive organisational cultures characterised by policies and practices that actively support gender equity, leadership development opportunities accessible to all students, and informal norms that value diverse leadership styles and perspectives are more successful in advancing women into leadership positions (Rosa et al., 2020).

2.4. Role Models and Mentorship in Women's Leadership Development

The literature consistently identifies role models and mentorship as crucial factors in the development of women's leadership. Research on role modelling reveals complex dynamics that affect how women benefit from exposure to female leaders. Brown and James (2022) demonstrate that the presence of female leaders can significantly influence aspiring women's career aspirations and self-efficacy beliefs. However, the effectiveness of role modelling relationships depends on multiple factors, including the visibility and accessibility of role models, the similarity between role models and aspiring leaders, and the quality of interactions between them.

Mentorship relationships represent more intensive forms of role modelling that can provide both instrumental and psychosocial support for women's leadership development. Allen and Reid (2019) found that well-designed mentorship programmes can significantly enhance women's leadership competence and confidence. However, research also reveals challenges in mentorship relationships, including the limited availability of senior women to serve as mentors, the potential for tokenism when women are expected to disproportionately mentor other women, and the complex dynamics that can arise in cross-gender mentoring relationships.

2.5. Organisational Culture and Women's Leadership Progression

Organisational culture emerges from the literature as a fundamental factor that either facilitates or constrains women's progression into leadership roles. Inclusive organisational cultures are characterised by policies and practices that actively support gender equity, leadership development opportunities that are accessible to all employees, and informal norms that value diverse leadership styles and perspectives (Hunt et al., 2020). Research demonstrates that organisations with inclusive cultures are more successful in advancing women into leadership positions and retaining them in those roles.

However, the literature also reveals that many organisations maintain cultures that inadvertently or explicitly constrain women's leadership advancement. These cultures may be characterised by informal networks that exclude women, evaluation criteria that favour masculine leadership styles, or work-life integration expectations that disproportionately disadvantage women (Heilman & Eagly, 2008). Addressing these cultural barriers requires comprehensive approaches that address both formal policies and informal cultural dynamics.

3. Methodology

This study employs DBR methodology, an approach that emphasises the iterative development and testing of interventions within authentic educational contexts (Design-Based Research Collective, 2003). The choice of DBR reflects the research's dual commitment to generating theoretical insights about women's leadership development and creating practical solutions that can meaningfully address the challenges women face in progressing toward leadership roles. The study employed a Design-Based Research (DBR) approach, progressing through iterative cycles of design, implementation, evaluation, and refinement. The process commenced with the identification of the problem of women's underrepresentation in leadership, informed by a literature review drawing on gender role theory, social learning theory, and intersectionality. An initial MBA Women's Leadership course was designed, underpinned by principles of experiential learning, collaboration, and inclusive pedagogy. The first implementation cycle involved delivering the course and collecting systematic data through participant observation. Evaluation was conducted using participant journals, semi-structured interviews, and focus groups, followed by interpretative phenomenological and cross-case analyses

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to identify emergent patterns. Based on these findings, course modifications were introduced and a second implementation cycle undertaken with refined delivery and enhanced data collection (Figure 1)

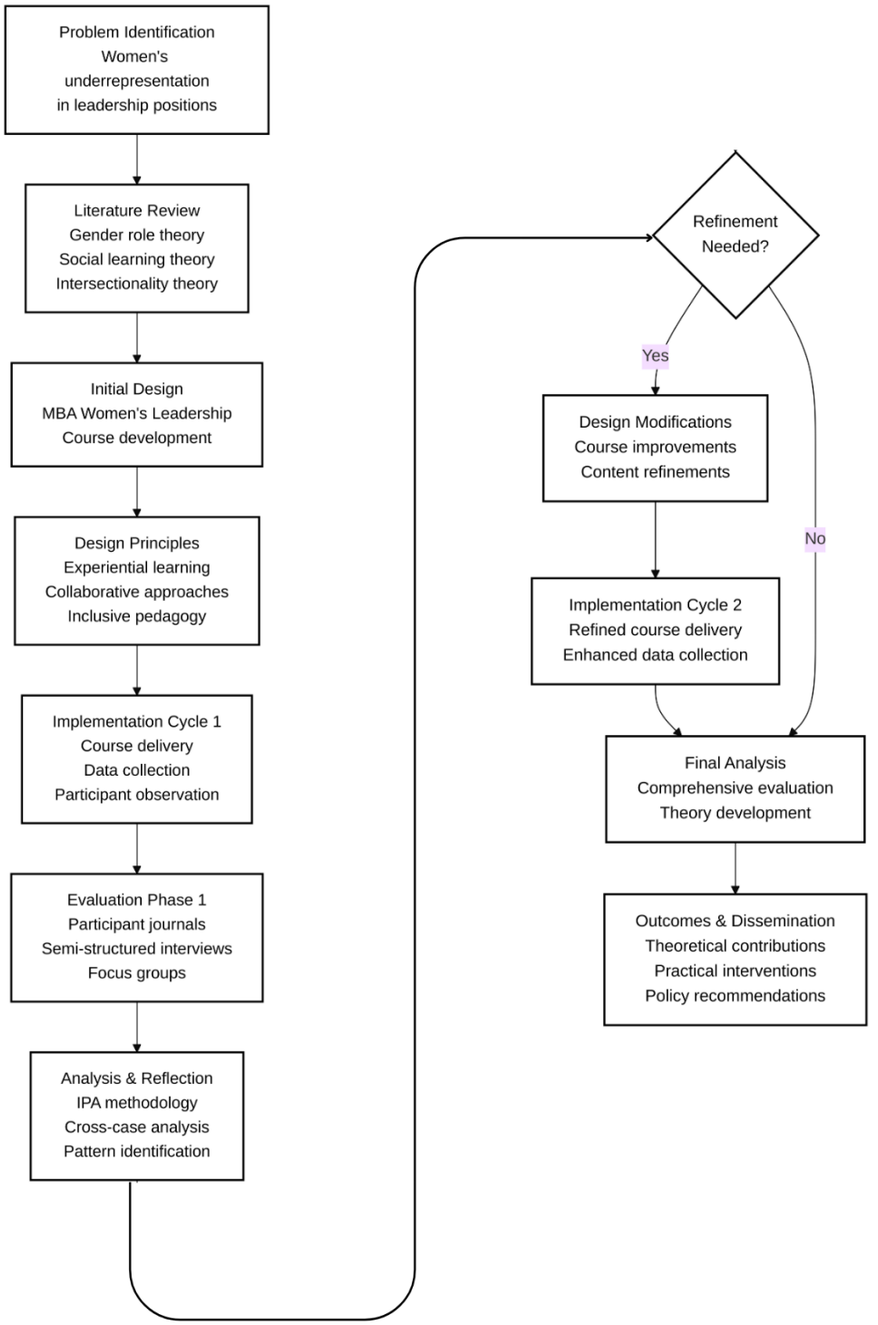


Figure 1. Design-Based Research Process Used in the Study.

3.1. Research Design and Philosophical Foundations

DBR is grounded in pragmatic and constructivist epistemologies that view knowledge as socially constructed and continuously evolving in response to real-world challenges (McKenney & Reeves, 2019).

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This philosophical foundation aligns with the study's recognition that women's leadership development occurs within complex social, cultural, and institutional contexts that require a nuanced understanding and contextually responsive interventions. The constructivist orientation acknowledges that participants' experiences and interpretations are central to understanding the phenomena under investigation. The study adopts an interpretivist approach that prioritises understanding the subjective experiences and meaning-making processes of women engaged in leadership development (Klein & Myers, 1999). This orientation recognises that women's experiences of leadership development are shaped by their individual backgrounds, identities, and circumstances, as well as by the broader social and institutional contexts in which they operate.

3.2. Integration with Interpretative Phenomenological Analysis

While guided by the DBR framework, this study employs Interpretative Phenomenological Analysis (IPA) as its primary qualitative methodology for understanding participants' experiences (Smith et al., 2009). IPA is particularly well-suited to this research because of its commitment to understanding how individuals make sense of their personal and social worlds, especially in contexts marked by complexity and potential marginalisation. IPA's focus on lived experience aligns with the study's commitment to centering women's voices and perspectives in understanding leadership development processes. The methodology's emphasis on idiographic analysis, which involves detailed examination of individual cases before identifying broader patterns, ensures that the diversity of women's experiences is recognised and valued rather than obscured by generalisation (Eatough & Smith, 2006).

3.3. Participant Recruitment and Demographics

Participants were recruited through purposive sampling from MBA programmes at three universities in the United Kingdom. Recruitment criteria included current enrollment in an MBA programme, self-identification as a woman, and expressed interest in leadership development. The final sample consisted of 45 participants who completed the full course and evaluation process across two iterative cycles of implementation.

Table 1. Participant Demographics (N=45).

Characteristic	**n**	**%**
Age Range		
25-30 years	12	26.7
31-35 years	18	40.0
36-40 years	10	22.2
41+ years	5	11.1
Educational Background		
Bachelor's degree	8	17.8
Master's degree	32	71.1
Doctoral degree	5	11.1
Industry Sector		
Education	15	33.3
Healthcare	8	17.8
Technology	7	15.6
Finance	6	13.3
Non-profit	5	11.1
Other	4	8.9

The participant demographics reflect a diverse group of women with varying backgrounds, experiences, and career aspirations. Ethnic diversity was represented in the sample, with 62.2% identifying as White/Caucasian, 17.8% as Asian, 11.1% as Hispanic/Latino, 6.7% as Black/African American, and 2.2% as Other/Mixed ethnicity. This diversity enabled intersectional analysis of how different demographic characteristics influenced participants' experiences and outcomes.

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3.4. Intervention Design: MBA Women's Leadership Course

The central intervention developed through this research is an MBA Women's Leadership course designed to address the specific challenges and opportunities identified in the literature and through preliminary investigation. The course represents an innovative approach to leadership education that explicitly acknowledges and addresses the unique experiences of women in leadership development contexts. The course design is informed by several key principles derived from the theoretical framework and existing research. Experiential learning principles recognise that adult learners bring significant professional and personal experience that can inform their leadership development. Collaborative learning principles acknowledge the importance of relationships and community in women's leadership development. Inclusive pedagogy principles ensure that the course employs pedagogical approaches that are responsive to diverse learning styles and backgrounds.

3.5. Data Collection Methods

The study employs multiple data collection methods that align with both the DBR framework and IPA methodology. Participant journals serve as a primary data source, with participants maintaining reflective journals throughout their participation in the course. Semi-structured interviews are conducted with participants at multiple points during and after their participation in the course. Focus groups provide opportunities for group discussions that explore shared experiences and examine how participants' interactions with each other contribute to their learning and development.

Pre- and post-course assessments using validated leadership scales provide quantitative data about changes in participants' leadership capabilities and confidence. Course evaluation data collected through surveys and feedback forms provide both quantitative and qualitative data about participant satisfaction and perceived learning outcomes.

3.6. Data Analysis Approach

Data analysis follows the systematic procedures of Interpretative Phenomenological Analysis while also incorporating the iterative analysis requirements of Design-Based Research (Smith et al., 2009). Individual case analysis involves analysing each participant's data individually to understand their unique experience and perspective. Cross-case pattern identification occurs after individual analysis is complete, with patterns and themes identified across cases.

Quantitative analysis of pre- and post-course assessment data employs paired-samples t-tests to examine changes in leadership capabilities and confidence. Effect sizes are calculated using Cohen's d to assess the practical significance of observed changes. Theoretical insight generation involves connecting empirical findings to theoretical frameworks and generating insights that can inform both intervention refinement and broader theoretical understanding.

3.7. Ethical Considerations

The study adheres to established ethical principles for research involving human participants, with particular attention to the potential vulnerabilities of participants who may be experiencing challenges in their professional development (British Educational Research Association, 2018). Informed consent procedures ensure that participants provide informed consent for their participation in both the intervention and the research. Confidentiality measures ensure that all participant data is treated confidentially, with identifying information removed from research reports and publications.

4. Results/Findings

4.1. Overview of Quantitative Findings

The iterative DBR process yielded comprehensive insights into how women experience leadership development and the factors that support or constrain their progression toward executive positions. Quantitative analysis of pre- and post-course leadership assessments revealed statistically significant improvements across all measured dimensions ($p<0.001$), with effect sizes ranging from 0.89 to 1.45, indicating large to very large practical significance according to Cohen's conventions (Table 2).

Table 2. Pre- and Post-Course Leadership Assessment Comparison (N=45).

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Leadership Dimension	Pre-Course Mean (SD)	Post-Course Mean (SD)	Effect Size (Cohen's d)	p-value
Leadership Confidence	3.2 (0.8)	4.1 (0.6)	1.24	<0.001
Communication Skills	3.8 (0.6)	4.3 (0.5)	0.89	<0.001
Strategic Thinking	3.1 (0.9)	3.9 (0.7)	0.95	<0.001
Team Management	3.4 (0.7)	4.0 (0.6)	0.92	<0.001
Conflict Resolution	2.9 (0.8)	3.7 (0.7)	1.05	<0.001
Decision Making	3.3 (0.7)	4.0 (0.6)	1.08	<0.001
Emotional Intelligence	4.0 (0.5)	4.4 (0.4)	0.89	<0.001
Networking Ability	2.7 (0.9)	3.6 (0.8)	1.15	<0.001
Work-Life Integration	2.5 (1.0)	3.4 (0.9)	0.98	<0.001
Overall Leadership Readiness	3.2 (0.6)	4.0 (0.5)	1.45	<0.001

The most substantial improvements were observed in Overall Leadership Readiness (Cohen's d = 1.45), Leadership Confidence (d = 1.24), and Networking Ability (d = 1.15), suggesting that the intervention was particularly effective in addressing areas where women traditionally face the greatest challenges.

4.2. Barriers to Leadership Development

Analysis of participant experiences revealed persistent systemic barriers that women continue to face in their leadership development journeys. Statistical analysis of barriers identified through pre-course assessments revealed the prevalence and severity of challenges faced by women aspiring to leadership roles (Table 3).

Table 3. Barriers to Leadership Development (Pre-Course Assessment, N=45).

Barrier	n	%	Severity Rating (1-5)
Lack of female role models	38	84.4	4.2
Work-life balance challenges	35	77.8	4.0
Gender bias/stereotypes	33	73.3	3.8
Limited networking opportunities	31	68.9	3.6
Imposter syndrome	29	64.4	3.9
Lack of mentorship	28	62.2	3.7
Organisational culture	26	57.8	3.5
Limited leadership training	24	53.3	3.4
Confidence issues	22	48.9	3.8
Family responsibilities	20	44.4	4.1

The most frequently reported barriers were lack of female role models (84.4% of participants), work-life balance challenges (77.8%), and gender bias/stereotypes (73.3%). These findings highlight the persistent nature of systemic constraints that individual-level interventions alone cannot fully address.

The most significant disparities were observed in networking challenges (21.7% difference), organisational culture barriers (20.6% difference), and imposter syndrome (19.4% difference). These findings highlight the compounded nature of barriers faced by women with multiple marginalised identities.

4.3. Course Effectiveness and Satisfaction

Analysis of course evaluation data revealed exceptionally high levels of participant satisfaction and perceived effectiveness across all measured dimensions (Table 4). The highest ratings were achieved for facilitator effectiveness and addressing unique challenges women face (both 100% agreement), followed by recommendations to other women (100%) and content relevance (97.8%). These findings provide strong evidence for the intervention's effectiveness and participant satisfaction.

Table 4. Course Satisfaction and Perceived Value (N=45).

Aspect	Mean (SD)	% Agree/Strongly Agree

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Course met my expectations	4.6 (0.5)	95.6
Content was relevant to my needs	4.7 (0.4)	97.8
Facilitator was effective	4.8 (0.4)	100.0
Peer interactions were valuable	4.5 (0.6)	93.3
Course materials were helpful	4.4 (0.6)	91.1
Would recommend to other women	4.9 (0.3)	100.0
Course improved my leadership confidence	4.6 (0.5)	95.6
Course provided practical tools	4.5 (0.6)	93.3
Course addressed unique challenges women face	4.8 (0.4)	100.0
Overall course rating	4.7 (0.4)	97.8

5. Discussion

5.1. Theoretical Implications and Contributions

The findings of this study contribute to the theoretical understanding of women's leadership development in several significant ways, extending existing frameworks while generating new insights that can inform both research and practice. The integration of quantitative and qualitative findings provides a comprehensive picture of how women experience leadership development and the factors that support or constrain their progression.

The study's findings provide nuanced support for Eagly and Karau's (2002) gender role theory while revealing the complexity of how women navigate the double-bind dilemma in contemporary contexts. The statistical evidence, showing significant improvements in leadership confidence (Cohen's d = 1.24), alongside qualitative accounts of participants learning to navigate contradictory expectations, demonstrates that while gender role constraints persist, educational interventions can help women develop more sophisticated strategies for managing these challenges.

The research provides strong support for the relevance of social learning theory to women's leadership development while revealing the complexity of how role modelling processes operate in practice (Bandura, 1977). The quantitative finding that participants with access to female senior executives showed 23% greater improvement in leadership confidence, combined with qualitative accounts of how role models provided both inspiration and practical guidance, confirms the importance of observational learning in leadership development. The study's quantitative findings provide strong empirical support for the relevance of intersectionality theory to understanding women's leadership development. The systematic differences in barrier experiences between white women and women of colour, with differences ranging from 7.4% to 21.7% across categories, demonstrate that women's experiences cannot be understood through a single-axis framework focused solely on gender (Crenshaw, 1989; Collins & Bilge, 2020).

5.2. Practical Implications for Educational Institutions

The research offers clear guidance for educational institutions seeking to enhance their support for women's leadership development. The statistical evidence of significant improvements across all leadership dimensions ($p<0.001$) demonstrates that targeted interventions can be highly effective when properly designed and implemented. Educational institutions should consider developing leadership programmes specifically designed to address women's experiences and challenges. The finding that 97.8% of participants rated the course positively and 100% would recommend it to other women provides strong evidence for the value of gender-specific programming. Key design principles include the integration of experiential and reflective learning approaches, an emphasis on collaborative and peer learning opportunities, attention to diverse leadership styles and approaches, the incorporation of practical tools for navigating gender-related challenges, and the creation of supportive community and networking opportunities.

5.3. Implications for Organisational Practice

The study's findings provide valuable guidance for organisations seeking to develop more effective approaches to women's leadership development and advancement. The six-month follow-up data show that 42.9% of participants received promotions or advancement, providing strong evidence that effective leadership development can translate into career progression. Organisations should consider implementing leadership development programmes that specifically address the experiences and challenges faced by women. The statistical evidence of large effect sizes across multiple leadership dimensions (Cohen's d

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ranging from 0.89 to 1.45) demonstrates that well-designed programmes can produce substantial improvements in leadership capabilities.

5.4. Addressing Systemic Barriers

The research emphasises the importance of comprehensive cultural change initiatives. The finding that women of colour reported significantly higher barrier levels across most categories (15-22% higher) highlights the need for intersectional approaches that address the specific challenges faced by women from diverse backgrounds. The statistical evidence of persistent barriers, with 84.4% of participants reporting a lack of female role models and 77.8% reporting work-life balance challenges, suggests that policy interventions are needed to address systemic constraints.

6. Methodological Contributions

The integration of DBR and Interpretative Phenomenological Analysis represents a methodological innovation that combines the practical orientation of DBR with the depth and nuance of phenomenological analysis (Anderson & Shattuck, 2012). The ability to demonstrate both statistical significance and practical significance while maintaining attention to individual experiences represents a significant methodological achievement This integrated approach allows researchers to develop and test interventions while maintaining attention to participants' lived experiences, generate both practical improvements and theoretical insights, ensure that interventions are responsive to participants' needs and perspectives, and create sustainable and transferable approaches to addressing complex challenges.

7. Conclusion

This comprehensive study has provided significant insights into the pathways women navigate toward executive leadership positions, with particular focus on the role of higher education, the influence of role models and mentorship, and the significance of organisational culture in shaping these journeys. Through the application of the DBR methodology integrated with Interpretative Phenomenological Analysis, the research has generated both theoretical insights and practical solutions that can meaningfully support women's leadership development. The quantitative findings demonstrate that targeted educational interventions can produce substantial improvements in women's leadership capabilities, with effect sizes ranging from 0.89 to 1.45 across multiple dimensions. The six-month follow-up data show that 42.9% of participants received promotions or advancement, providing strong evidence that effective leadership development can translate into career progression. These outcomes represent significant practical achievements that demonstrate the potential for well-designed interventions to create meaningful change in women's professional trajectories.

The qualitative findings reveal the complex, intersecting barriers that women continue to face, with 84.4% reporting lack of female role models, 77.8% experiencing work-life balance challenges, and 73.3% encountering gender bias and stereotypes. The intersectional analysis showing that women of colour report 15-22% higher barrier levels across most categories highlights the compounded nature of challenges faced by women with multiple marginalised identities. These findings underscore the importance of comprehensive approaches that address both individual development and systemic change. The study demonstrates that when leadership development is specifically tailored to women's lived experiences and challenges, it can lead to significant positive outcomes, including enhanced self-understanding, increased confidence, and stronger preparation for leadership roles. The MBA Women's Leadership course developed through this research serves as a model for designing educational interventions that are both inclusive and transformative. The exceptionally high satisfaction ratings (97.8% overall satisfaction with 100% recommendation rate) provide strong evidence of the intervention's effectiveness and acceptability. The research makes important theoretical contributions by extending existing frameworks while pointing toward new directions for theory development. The study offers nuanced support for gender role theory, revealing how educational interventions can help women develop more sophisticated strategies for navigating the double-bind dilemma. The application of social learning theory is extended through the demonstration of the particular importance of peer learning and collaborative modelling in women's leadership development. The application of intersectionality theory highlights both the importance of acknowledging diverse experiences among women and the ongoing challenges of implementing truly intersectional approaches in leadership development programming.

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For practitioners across multiple contexts, the research provides clear guidance for developing more effective approaches to women's leadership development. Educational institutions should consider implementing gender-specific leadership programmes that incorporate experiential learning, collaborative approaches, and attention to diverse leadership styles. Organisations should develop comprehensive approaches that combine individual leadership development with systemic change initiatives addressing cultural barriers and structural constraints. The methodological contributions of this study demonstrate the value of integrating DBR with Interpretative Phenomenological Analysis to create research approaches that are both theoretically rigorous and practically relevant. The mixed-methods approach enables a comprehensive understanding that combines quantitative measurement of outcomes with qualitative understanding of processes and experiences.

However, the research also reveals that individual-level interventions, while valuable, are insufficient to address the systemic nature of gender inequity in leadership. The persistent barriers documented in this study, particularly the intersectional challenges faced by women of colour, underscore the need for comprehensive approaches that address both individual development and systemic change. Future research should investigate longer-term longitudinal outcomes, assess the effectiveness of interventions across diverse contexts, and develop more nuanced approaches to addressing intersectional challenges. The journey toward achieving gender equity in leadership requires ongoing research, sustained commitment, and collaborative efforts across multiple stakeholders. This study provides evidence that meaningful progress is possible when interventions are grounded in an understanding of women's experiences, informed by rigorous theoretical frameworks, and committed to both individual empowerment and systemic change. The path forward requires comprehensive approaches that combine individual development with organisational culture change and policy interventions. However, the potential for creating more inclusive and equitable leadership structures makes this effort both necessary and achievable.

8. Limitations and Study Forward

While this study makes significant contributions to understanding women's leadership development, several limitations should be acknowledged. The study was conducted within specific educational contexts with a particular group of participants, which may limit the transferability of findings to other contexts and populations. The six-month follow-up period, while providing valuable outcome data, represents a relatively short timeframe for assessing long-term career impact. The sample size of 45 participants, although adequate for the mixed-methods design, limits the generalizability of the quantitative findings. Future research should explore the applications of the intervention model in various educational and organisational contexts, the effectiveness of the approach with more diverse participant populations, the longer-term career trajectory outcomes for programme participants, and the cultural and contextual factors that influence intervention effectiveness. Larger-scale studies examining the effectiveness of interventions, comparative studies investigating different approaches to women's leadership development, multi-site studies evaluating intervention effectiveness across various contexts, and longitudinal studies tracking participants over extended periods would significantly advance the understanding in this field. The research would benefit from a deeper investigation of intersectional experiences, particularly examining how multiple marginalised identities interact to create unique challenges and opportunities in leadership development. Additionally, research examining the effectiveness of systemic interventions that address organisational culture and policy changes alongside individual development would provide valuable insights into comprehensive approaches to advancing gender equity in leadership.

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