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Empowerment and Sustainability: Investigating Barriers to Women's Transition from Higher Education to Empowerment in Brazil

Muhammad Qasim Rana ^{1,*}, Angela Lee ^{1,*}, José Fernando Rodrigues Bezerra ²
and Guilherme Hissa Villas Boas ³

¹ School of the Built Environment, University College of Estate Management, Reading RG1 4BS, UK

² Department of Geography, State University of Maranhão, São Luís 65055-310, Brazil; josebezerra@professor.uema.br

³ Department of Geography, Federal University of Rio de Janeiro, Rio de Janeiro 21941-596, Brazil; guilherme.hissa@igeo.ufrj.br

* Correspondence: m.rana@ucem.ac.uk (M.Q.R.); a.lee@ucem.ac.uk (A.L.)

Abstract: Gender equality continues to be a global issue, with significant disparities in attention and action between developed and developing nations. Women, in particular, face unique challenges when transitioning from higher education (HE) to empowerment compared to their male counterparts. In many developing countries, barriers to accessing formal education are prevalent, while, in others, despite access to education, women struggle to leverage their learning for societal advancement. This paper adopts the development theory approach by exploring the role of gender equality in fostering sustainable development, emphasizing how women's empowerment is integral to overall societal progress. This study focuses on Brazil, where, despite high levels of female educational attainment, women still encounter substantial obstacles in transforming their education into meaningful societal empowerment. These challenges include restricted freedom and mobility, deeply ingrained gender norms, violence and harassment, cultural and societal expectations, economic limitations, and family obligations. Survey data were collated from 192 students, alumni, and staff at three academic higher education (HE) institutions in Brazil, utilizing a range of descriptive and inferential statistical analyses to uncover the most significant barriers. This study concludes with policy recommendations aimed at various stakeholders, including government bodies, employers, and other organizations, to support a smoother transition for women from higher education to empowerment. These recommendations include improving workplace policies, enhancing legal protections, and promoting gender equality in leadership roles, all of which are essential to narrowing the gender gap in Brazil.

Keywords: Brazil; higher education; sustainability; empowerment; gender equality



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1. Introduction

According to the most recent statistics, 16.9% of Brazilian women aged 25 and older had attained higher education (HE) qualifications, compared to 13.5% of men in the same age group in 2018 [1]. However, despite this educational advancement, women face persistent wage gaps, earning less than their male counterparts for the equivalent work [2]. Thus, while Brazil appears to be fulfilling the United Nation's Sustainable Development Goal 4 (UNSDG), which focuses on ensuring quality education for all [3], it is falling short on Goal 5, which advocates for gender equality, particularly in terms of employment and empowerment. The transition from HE to empowerment is crucial for women to achieve gender parity in professional domains [4]. Women's empowerment involves providing them with the means to control their own lives, make informed decisions, and engage fully in society [5]. This includes equal opportunities in education, employment, and leadership, alongside efforts to dismantle the systemic barriers that perpetuate gender inequality.

Empowerment further encompasses fostering self-confidence and independence, enabling women to exercise their rights, access vital resources, and contribute meaningfully to their communities. Tackling issues such as wage inequality, gender-based violence, and discriminatory practices is essential to advancing women's empowerment, which not only promotes gender equality but also leads to more inclusive, equitable societies.

Nevertheless, the transition from HE to empowerment remains increasingly complex and challenging. Women face both horizontal and vertical gender-based obstacles in male-dominated industries [6]. Horizontal barriers occur when one gender dominates certain sectors, limiting access to support or underrepresentation, while vertical barriers arise from the unequal distribution of men and women within organizational hierarchies, where women are often found in lower tier roles but are underrepresented in leadership positions for an example from the construction industry in Peru, see [7]. Previous research has highlighted significant issues related to women's empowerment across various sectors [8]; for example, in HE in Egypt, see [9,10]. While the transition from HE to empowerment is a global challenge [11,12], the hurdles are often more pronounced for women [13,14], exacerbating gender inequalities across professional landscapes.

As the global call for gender fairness grows louder [15]; particularly in Brazil, see [16], understanding the exceptional barriers women face during this pivotal phase of their careers becomes essential [9]. By focusing on women's experiences during this transition, the need to contribute valuable insights to the broader discourse on gender and career dynamics to bridge the gender gap in a developing economy is critical [17]. Although women are highly represented in various notable positions through educational attainment in developed nations [18], the reverse is the case in developing nations as a result of limited empowerment. Consequently, the barriers to women transitioning from HE to empowerment remain a significant challenge and require further research. Understanding of the status of women transitioning from HE to empowerment in Brazil remains limited. In contrast, some research has examined this transition in other countries, including the Gulf states [19], Lebanon [20,21], the United Arab Emirates [22], and Egypt [9,10]. This paper proposes to meet the challenge using Brazil as a case study. A comprehensive literature review informed the development of a survey questionnaire, which was administered across Brazil. The collected data were analyzed using descriptive and inferential statistics, and the findings were discussed in conjunction with previous research efforts. This combined approach enabled the formulation of targeted recommendations and well-supported conclusions.

2. Literature Review

The treatment of gender identity in this study recognizes that it is not a binary concept solely based on biological capacities, as such an understanding is increasingly contested in feminist and gender theory [23,24]. Butler's theory of gender performativity challenges the notion that gender is a fixed and inherent characteristic, arguing instead that it is constructed through repeated social behaviors and cultural norms. This perspective shifts away from biological determinism, suggesting that gender is fluid and continuously shaped by external forces [23]. In the context of this study, it is essential to acknowledge that women's experiences in HE and their transition to empowerment are mediated not only by biological sex but also by socially constructed gender roles. These roles often dictate family-related responsibilities and expectations, such as caregiving, which disproportionately impact women. However, these roles are not universal, and this study recognizes the importance of intersectionality, as gender identity intersects with factors like race, class, and sexual orientation to produce different outcomes for women [25]. Empowerment is a multi-dimensional development that qualifies a power or an organization to recognize their uniqueness and self-esteem in all phases of life through a better right of entry to understanding, independence in decision-making, liberty from preventive duties and practices, and a capacity to plan their lives and govern over inducing circumstances. Past research efforts have contemplated the concept of empowerment in both theory and practice as a final goal or the next step in life [26]. Sen [27] provided significant theoretical

insights into women's empowerment, describing it as one of the major concerns in the process of development for many nations around the world today [28], captured in past studies [29,30]. Meanwhile, women's empowerment is essential to improve independence, economic liberation, and health, among other elements. The concept of empowerment is central to this study, particularly in women's transition from higher education (HE) to professional and personal autonomy. However, empowerment is a contested and multi-dimensional concept, requiring a thorough exploration of its meanings, processes, and barriers. This literature review will examine the key theoretical frameworks that inform the understanding of empowerment and the structural barriers that hinder women's empowerment, particularly in developing country contexts like Brazil, including family-related issues, gendered norms, economic factors, freedom and mobility, and violence and harassment.

2.1. Family-Related Issues

Achieving a work–life balance is a significant challenge for women in an organization such as construction [6]. Many struggle to manage their professional responsibilities alongside family obligations, negatively affecting both personal and work relationships [31]. The conflict between work and family commitments often makes it nearly impossible for career-driven women to manage both their homes and professions effectively [32]. Women are frequently subjected to the same long working hours as their male counterparts, limiting their ability to fulfil domestic duties and participate in extracurricular activities [33].

Additionally, women meet undetectable barriers all through their careers, leading to a smaller number of professional chances compared to men [7]. However, educated parents and mothers provide leverage for their female children to pursue education and be empowered in their chosen profession [34]. Uneducated parents might not educate their female children or empower them for economic independence [35]. In other words, parents play a continuous role in determining the career and educational paths of their children [36].

2.2. Sociocultural Values

Empowerment, as understood in this study, is not a hierarchical concept where individuals 'occupy' higher or lower positions. Instead, empowerment is a process that enables individuals to expand their choices, exercise agency, and enhance their dignity and freedom. This process is deeply influenced by sociocultural values, which shape the opportunities available to women and the constraints they face. In many contexts, traditional gender norms and sociocultural values restrict women's ability to fully realize their capabilities, particularly in professional and public spheres [27]. These norms often reinforce the idea that women's primary roles are within the domestic sphere, limiting their participation in decision-making in their personal and professional lives. Cultural perspectives in developing nations may devalue women based on their gender [37]. Women often occupy lower positions in terms of empowerment, have lesser earnings, have restricted job decisions, and have insignificant authority compared to men [38]. Societal perception deters women from leadership and management roles, starting from their teenage years [39]. Girls frequently lack the right to proper teaching and training in some classes, impacting their sureness and enthusiasm for management duties [40]. Moreover, women frequently accept unsatisfactory career directions and experience limited informative opportunities in their professional pursuits [41]. Additionally, social norms are found to limit women's empowerment opportunities [6]. Researchers similarly agree with social cognitive theorists asserting that social norms greatly influence women's professional growth [42].

2.3. Gendered Norms

Gender inequalities pose significant barriers to women's empowerment, hindering their ability to achieve equal rights and opportunities in society. Empowering women is essential for building a more just future, particularly for younger generations [43].

Recognizing women's rights and ensuring their access to economic opportunities is vital for their participation in the labor market. Universities play a crucial role in promoting employment prospects for both men and women, thus contributing to reducing gender disparities in the workforce. Achieving gender equality involves inspiring women through education, training, and awareness-raising efforts [44]. Integrating gender perspectives into education is closely tied to fostering respect and challenging societal inequalities between men and women [45]. Gender stereotypes remain pervasive, particularly in Brazil's science, technology, engineering, and mathematics (STEM) fields [46], where women are significantly underrepresented compared to the humanities [47]. This imbalance limits women's opportunities in the labor market. Studies show that it may take up to 59 years to close the gender gap in STEM fields in Latin America and approximately 100 years globally [48], underscoring the urgent need for continued efforts to address these disparities.

2.4. Economic Factors

The contribution of women in the labor market generally leads to improved economic and social status for women, as well as their empowerment [49]. This shift not only enhances the utilization of human resources but also stimulates economic growth and helps alleviate poverty. As Mujahid [50] emphasizes, understanding the factors that influence women's decisions to enter or avoid the labor market is crucial for policymakers aiming to design effective legislation that promotes economic development. Identifying and addressing these factors can guide strategies to empower women and overcome barriers to their participation. The role of women's empowerment as a critical indicator of economic performance is increasingly recognized in both developing and developed nations [51]. Economic challenges such as gender wage gaps and limited employment opportunities are major hurdles [52], while discriminatory hiring practices and unequal career advancement opportunities further underscore the need for systemic policy and organizational reforms to achieve workplace gender equality [17].

2.5. Freedom and Mobility

Sen [27] highlighted that past national development efforts were often criticized for portraying women as passive recipients of welfare. In contrast, it was argued that women should be viewed as active agents of change, essential in shaping their futures [53]. Empowering women not only enhances their agency but also brings broader social benefits, including increased assets, knowledge, and decision-making freedom, which enable self-actualization and improved functioning (for an example in Latin America and the Caribbean, see [54]). However, freedom for women should not merely be seen as the ability to make decisions but rather as the opportunity to access the resources that make those decisions possible. As Cohen [55] asserts, the core issue for women is not about achievements with the resources available but about gaining access to those resources in the first place.

Building on these ideas, Nussbaum [56] proposed ten fundamental societal capabilities necessary for a decent life, focusing on women's unique needs. Duflo [57] and Wang et al. [26] further identified four interconnected dimensions critical for women's empowerment: responsiveness to barriers, economic empowerment, psychological well-being, and political engagement. These dimensions offer a comprehensive framework for understanding the multifaceted nature of women's empowerment, addressing both structural inequalities and personal agency.

2.6. Violence and Harassment

A variety of academic practices exhibit significant gender disparities, notably the underrepresentation of women in the HE system, especially in leadership roles, and biased employment practices. In the absence of effective communal procedures to enhance the representation of women in universities, the prevailing male-centered values perpetuate

unfair activities [58]. This discrimination frequently manifests as gender-based violence, which remains a significant but poorly comprehended and unsolved problem [59]. A report by the European Research Programme indicated that harassment in HE obstructs hard work, leading to a smaller amount of gender-segregated employment and the gender wage gap [60]. Violence based on gender occurs in the forms of defilements, sexual harassment, and abuse. Harassment varies by culture, agency, historical context, and location, and it is defined as any unwanted verbal, non-verbal, or physical conduct of a sexual nature that violates a person's dignity [58]. Similarly, harassment in the context of cyber is among the most dangerous and common forms of gender-based violence, affecting 90% of women [61]. Previous research has shown that women are significantly more likely to report experiencing harassment than men, with 20-40% of women reporting harassment in their workplace or educational settings. In contrast, the reported rate among men is much lower, ranging from 2-4% [60,62]. These disparities highlight the disproportionate impact of harassment on women and underscore the importance of addressing the gender-specific challenges in creating safer and more equitable environments.

3. Methodology

This study explores the barriers faced by women in Brazil during the transition from HE to empowerment. The survey method was chosen as the primary data collection tool due to its effectiveness in capturing a broad spectrum of responses from a diverse group of respondents, being particularly suited for collecting quantifiable data on perceptions, experiences, and attitudes across large populations [63], ensuring a wide representation of experiences [64]. Additionally, due to the sensitive nature of the topic, an online approach provided both anonymity and convenience, which encouraged more honest and candid responses [65]. This study is grounded in a post-positivist epistemology, which acknowledges an objective reality but recognizes that understanding is mediated through empirical investigation. This perspective suits this study's quantitative approach, aiming to identify patterns while acknowledging the limitations of fully capturing complex social phenomena [66]. Ontologically, this study follows a critical realist perspective, recognizing that the barriers to women's empowerment are real and external but experienced differently based on individual contexts [67]. This allows for both the identification of structural barriers and the understanding of how these barriers are perceived across different groups.

The survey questions and statements were carefully constructed based on a comprehensive review of the existing literature on barriers to women's empowerment, particularly in the context of HE in developing countries. The purpose was to capture a broad range of factors—family-related issues, sociocultural norms, gendered expectations, economic barriers, and workplace dynamics—that may impact women's transition from HE to empowerment. These barriers often manifest in multiple areas of life, from family responsibilities to professional opportunities, which necessitates a holistic set of questions. The statements were carefully worded to assess the respondent's perceptions and their personal experiences of the identified barriers. For instance, the family-related issues section explored how traditional gender roles and family responsibilities may influence women's educational and career aspirations. The use of a Likert scale response format enabled the participants to express varying levels of agreement or disagreement, which allowed even potentially outdated or controversial statements to offer valuable insights into prevailing societal norms and pressures, without assuming that the respondents personally endorsed those beliefs [68]. Employing the Likert scale facilitated rigorous quantitative analysis through descriptive and inferential statistical methods to help identify significant patterns and relationships across variables such as age, education level, and professional experience, yielding deeper insights into the systemic barriers women face during their transition from higher education to empowerment [68].

To uncover these barriers, a survey was administered to three HE institutions in Brazil, purposely selected to be a diverse cross section of higher education institutions in Brazil, reflecting various geographic regions and institutional types:

- State University of Maranhão (Universidade Estadual do Maranhão). Located in Maranhão, a northeastern state known for its unique cultural heritage and landscape, the UEMA plays a crucial role in regional education.
- Federal University of Rio de Janeiro (Universidade Federal do Rio de Janeiro). Situated in the state of Rio de Janeiro, this university is one of the most prestigious institutions in Brazil.
- University of São Paulo (Universidade de São Paulo). Based in São Paulo, this is Brazil's largest and most influential university, often ranked among the top universities in Latin America.

By including a mix of regional institutions, this study aimed to conduct a nuanced analysis of the barriers women face in higher education settings across different contexts. The target sample for this study—comprising current students, alumni, and university staff—was deliberately selected to provide a comprehensive understanding of the transition from HE to professional empowerment. This sample allows for insights from individuals who are either in the process of transitioning or are deeply embedded in the academic environment where such transitions occur. Engaging with current students enables the exploration of their immediate challenges, aspirations, and concerns regarding future empowerment. Meanwhile, alumni could offer retrospective insights. This study focused on capturing real-time experiences from those actively engaged in this transition, thus providing actionable data. Additionally, university staff, especially those in teaching or administrative roles, are instrumental in shaping academic experiences and the opportunities available to students. Their perspectives on institutional policies, gender dynamics, and professional development initiatives are vital for understanding how women's empowerment is either facilitated or impeded within an academic setting [6,37]. Using Yamane's formula (see Equation (1)), a sample size of 384 was calculated to ensure statistical reliability. This approach resulted in 306 completed responses, of which 192 were deemed valid for analysis, yielding a response rate of 63%. This high response rate is considered adequate for meeting this study's objectives and providing robust insights into the challenges faced by women in transitioning from HE to empowerment.

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

where n = sample size, N = total population, and e = level of precision (margin error) at 5%.

The survey was designed to elicit data from the respondents, which comprised (i) background information; and (ii) their perception of the barriers facing women's transition from HE to empowerment, as elicited from the extant literature. The background information comprised age range, years of professional experience, academic field, current position, and so on. The questions on the second part of the survey were asked using the five-point Likert scale, in which one implied 'strongly disagree', two stood for 'disagree', three represented 'neither agree nor disagree', four stood for 'agree', and five represented 'strongly agree' [68]. It is important to note that ethical approval was obtained for this study before the administration of the survey. All the participants read and indicated their consent to ethical notes before filling out the survey, were assured of the confidentiality of the data received, and were free to withdraw at any point in the survey.

The background information of the respondents was analyzed using frequency distribution. The barriers facing women's transition from HE to empowerment were analyzed using descriptive and inferential statistics. First, the respondents' ratings of the barriers were analyzed using the mean score and standard deviation. After determining the normality of the dataset using the Shapiro–Wilk test, the Kruskal–Wallis H test was used to deduce the significant difference between the respondents in defined groups [69]. The significant differences between the two groups, such as the size of the establishment (i.e., respondents currently studying and those that are not studying), were determined by the Mann–Whitney U test, while the Kruskal–Wallis H test was adopted for three or more groups. After that, a post hoc test was conducted using pairwise Mann–Whitney tests and

applying a Bonferroni adjustment to control for type 1 errors [55] to determine the main groups responsible for the significant differences in this study [70,71].

4. Results of Analysis

4.1. Background Information of Respondents

Of the 192 usable responses (a 63% response rate), 152 were female (79.2%) and 40 were male (20.8%). The age, length of the respondents' professional experience, and the highest educational level of the respondents are shown in Figure 1a–c. The majority of the respondents were aged 30–39 years (33%), 40–49 years (23%), and 20–29 years (21%). Of the total respondents, most of the respondents (i.e., 39%) had 1–5 years of work experience, and 20% had more than 20 years of work experience. In addition, the highest educational level that had the most response was specialization/residency (31%) followed by bachelor's degree (21%), while the least was high school (7%). Other background information of the respondents, including their academic fields and current positions at the time of this study, is illustrated in Table 1.

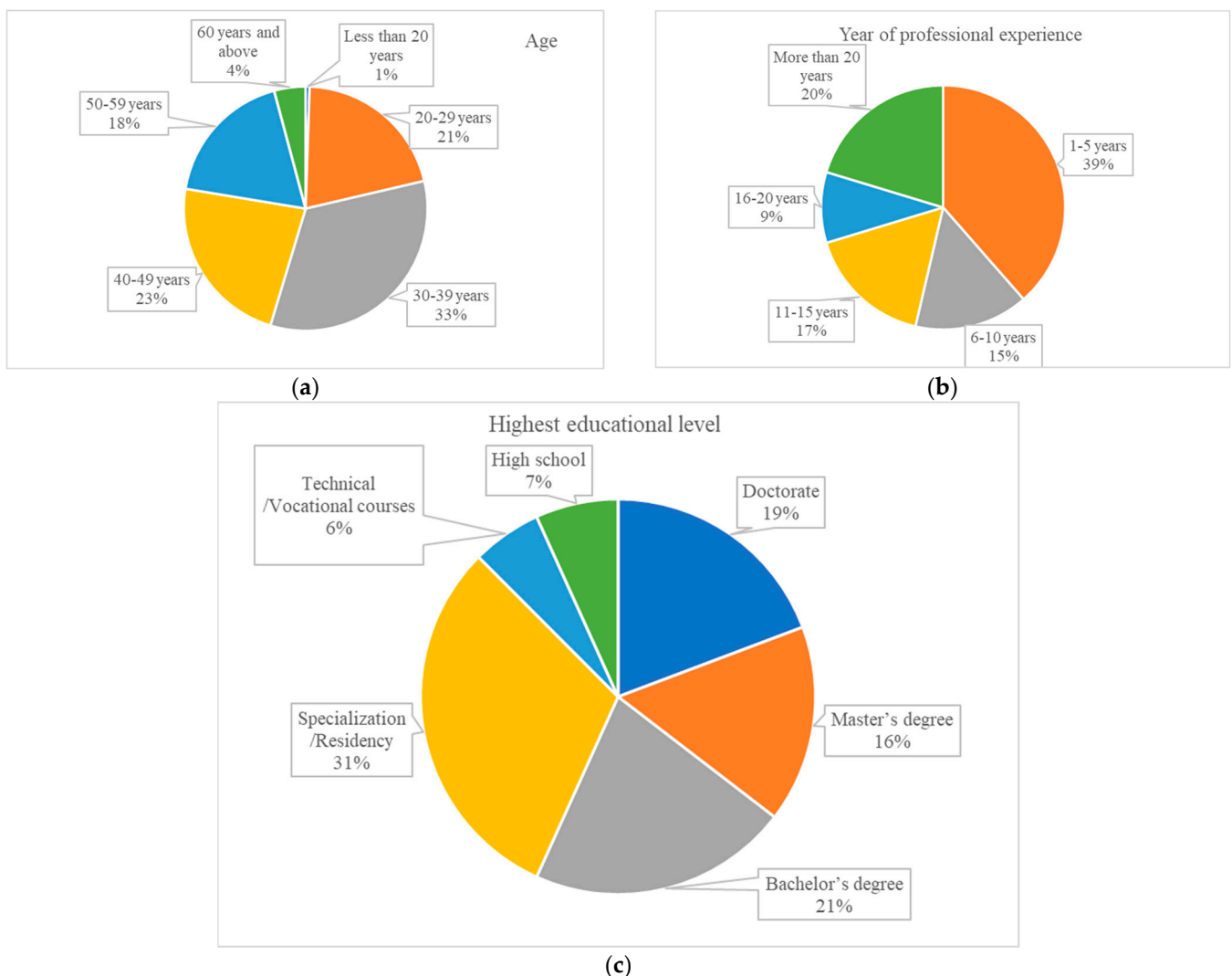


Figure 1. (a) Age of respondents; (b) length of respondents' professional experience; and (c) highest educational level of respondents.

Table 1. Background information of the respondents.

Background Information	Categories	Frequency	Percentage
Academic field	Agricultural Sciences	5	2.6
	Biological Sciences	17	8.9
	Health Sciences	13	6.8
	Exact and Earth Science	14	7.3
	Human Sciences	93	48.4
	Applied Social Sciences	28	14.6
	Engineering	4	2.1
	Linguistics, Literature, and Art	18	9.4
Current position	Undergraduate Student	25	13.0
	Graduate Student	24	12.5
	Assistant Professor	9	4.7
	Associate Professor	16	8.3
	Full Professor	26	13.5
	Retired	1	0.5
	Technical Administrative Staff	20	10.4
	Collaborator	10	5.2
	Technical Support Fellow	6	3.1
	Others	55	28.6
Currently studying?	Yes	144	75.0
	No	48	25.0

4.2. Barriers to the Transition from HE to Empowerment

The mean score and results from the Kruskal–Wallis H test is shown in Table 2, according to the overall rating and their years of professional experience, namely, 1–5 years, 6–10 years, 11–15 years, 16–20 years, and 20 years and above. Of the constructs in the family-related issues, “Time constraints due to domestic responsibilities often leads to double burden on females to prevent them from HE/professional career (FRI3)” had the highest mean values of 4.36, 4.32, 4.41, 4.25, 4.50, and 4.44. In the sociocultural values section, “Females often face a lack of access to education, health, and welfare (SCV3)” had the highest mean score in most of the groups, except for the respondents in the 16–20 years group. “Women often face gender differences in education, enrollment, and workplace settings (GDN1)” also had significant mean values across most of the respondents’ groups in this study. It is important to note that only one of the variables, i.e., SCV3, concerning the barriers facing women during the transition from HE to empowerment had a significant difference. This implies that the years of professional work experience do not have any difference to the perception of the respondents regarding the barriers.

Table 2. Barriers facing women during the transition from HE to empowerment.

Construct	Sub-Constructs	Code	Overall	G-M	1–5 Years	6–10 Years	11–15 Years	16–20 Years	20+ Years	K-W (Sig)
			Mean		Mean	Mean	Mean	Mean		
Family-related issues	I believe that females should not engage in HE because their role should focus on the family.	FRI1	1.24	13.20	1.31	1.14	1.31	1.28	1.10	0.225
	Educated parents advocate HE and professional careers for their daughters.	FRI2	3.55		3.76	3.45	3.66	2.89	3.44	0.062
	Time constraints due to domestic responsibilities often lead to a double burden on females, preventing them from pursuing HE or a professional career.	FRI3	4.36		4.32	4.41	4.25	4.50	4.44	0.915
	Parents often have different professional and life aspirations for their daughters and sons.	FRI4	4.05		3.92	4.34	4.00	4.11	4.08	0.306
Sociocultural values	A male-dominated power structure—whereby privilege is held and maintained by men in both society and social relationships—is the norm in my community.	SCV1	2.61	13.60	2.70	2.45	2.50	2.78	2.56	0.935

Table 2. Cont.

Construct	Sub-Constructs	Code	Overall	G-M	1–5	6–10	11–15	16–20	20+	K-W (Sig)
			Mean		Years	Years	Years	Years	Years	
	Conservative cultural norms and political factors hinder the academic and professional journey of females.	SCV2	2.89		2.93	2.69	2.66	2.94	3.13	0.610
	Females often face a lack of access to education, health, and welfare.	SCV3	4.13		4.03	4.48	4.13	3.67	4.26	0.028
	Early/child/forced marriages lead to a lack of education for females.	SCV4	3.97		3.96	4.10	3.84	3.94	4.00	0.878
Gendered norms	Women often face gender differences in education, enrollment, and workplace settings.	GDN1	4.25	15.65	4.19	4.31	4.28	3.78	4.51	0.308
	In my community, social, and professional workplace circle, female education is considered a low priority because it doesn't economically uplift the family.	GDN2	3.69		3.61	3.79	3.66	3.33	3.95	0.391
	There are fewer or less diverse job options available for women.	GDN3	3.58		3.72	3.62	3.34	3.44	3.56	0.604
	In my community/social/professional workplace circle, there is a gendered perception of leadership.	GDN4	4.13		4.04	4.34	4.06	3.89	4.28	0.428
Economic factors	Poverty (financial barriers to affording education) is what restricts the advancement of education for women.	ECF1	2.91	13.51	2.96	3.21	2.88	2.72	2.69	0.555
	In my community/social/professional workplace circle, policies regarding women's education and professional career growth are selectively enforced.	ECF2	3.91		4.00	4.03	3.88	3.67	3.79	0.736
	There is unequal pay among men and women.	ECF3	3.44		3.59	3.69	3.50	2.78	3.21	0.065
	There is a general lack of job security for women.	ECF4	3.25		3.32	3.38	3.13	3.11	3.18	0.898
Freedom and mobility	Regular armed conflicts are what hinder women's mobility.	FAM1	3.77	16.38	3.93	3.93	3.63	3.67	3.49	0.174
	Cultural and religious restrictions hinder women's mobility.	FAM2	4.20		4.08	4.41	4.38	3.89	4.26	0.087
	There is an insufficient supply of educational institutes within accessible distance for women.	FAM3	3.95		3.97	4.28	4.09	3.67	3.69	0.153
	Work-life conflict (women are expected to construct a balance between family and profession, which leads to a double burden of household, work, and childbearing/rearing).	FAM4	4.46		4.46	4.52	4.41	4.44	4.49	0.992
Violence and harassment	In my community/social/professional workplace circle, there is often domestic violence against women.	VAH1	3.29	14.18	3.28	3.45	3.03	3.00	3.51	0.357
	In my community/social/professional workplace circle, there is often sexual harassment/abuse against women.	VAH2	3.21		3.45	3.10	3.00	2.78	3.23	0.168
	There is a lack of implementation of sexual harassment policies in education or professional workplace settings.	VAH3	3.94		3.96	4.31	4.06	3.56	3.69	0.066
	Women often face humiliation in the workplace from intimidating supervisors.	VAH4	3.74		3.86	3.79	3.78	3.33	3.62	0.512

K-W (Sig) = significant difference revealed through the Kruskal–Wallis H test; and G-M = geometric mean, which indicates the central tendency of a finite set of positive real numbers by using the product of their values (as opposed to the arithmetic mean/overall mean, which uses their sum).

Table 3 shows the post hoc analysis and the application of the Bonferroni adjustment to control for type 1 errors conducted on “females who often face a lack of access to education, health, and welfare” (SCV3), where the Kruskal–Wallis H test indicated significant differences in Table 3. The analysis reveals that a significant difference in ‘SCV3’ occurred between respondents with years of work experience between 16–20 years and 6–10 years with a *p*-value of 0.029.

Table 3. Post hoc analysis of barriers on SCV3.

Sample 1–Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
16–20 years–1–5 years	15.453	13.577	1.138	0.255	1.000
16–20 years–11–15 years	18.313	15.221	1.203	0.229	1.000
16–20 years–More than 20 years	−23.455	14.721	−1.593	0.111	1.000
16–20 years–6–10 years	46.198	15.502	2.980	0.003	0.029
1–5 year–11–15 years	−2.860	10.930	−0.262	0.794	1.000
1–5 year–More than 20 years	−8.002	10.223	−0.783	0.434	1.000
1–5 year–6–10 years	−30.746	11.318	−2.716	0.007	0.066
11–15 years–More than 20 years	−5.143	12.322	−0.417	0.676	1.000
11–15 years–6–10 years	27.886	13.245	2.105	0.035	0.353
More than 20 years–6–10 years	22.743	12.668	1.795	0.073	0.726

Note: ^a: adjusted significance level.

Table 4 shows the mean scores of the respondents based on their highest educational level across the six constructs of barriers facing women during the transition from HE to empowerment in Brazil. Based on the opinions of the respondents, “time constraints due to domestic responsibilities often leads to double burden on females to prevent them from HE/professional career (FRI3)” had the highest mean score in family-related issues across the highest educational levels, namely, a doctorate (M = 4.65), master’s (M = 4.32), bachelor’s (M = 4.19), specialization/residency (M = 4.29), technical/vocational courses (M = 4.64), and high school (M = 4.46). In sociocultural values, “females often face a lack of access to education, health, and welfare (SCV3)” scored highest in the doctorate, master’s, bachelor’s, specialization/residency, and technical/vocational courses with mean scores of 4.46, 4.39, 3.85, 4.02, and 4.55, respectively. The mean values of the items describing gendered norms (GND1-4), economic factors (ECF1-4), freedom and mobility (FAM1-4), and violence and harassment (VAH1-4) are presented in Table 4.

Table 4. Barriers facing women during the transition from HE to empowerment.

Code	PhD	Master	Bachelor	Spec	Tec/Voc	High-Sch	K-W (Sig)
	Mean	Mean	Mean	Mean	Mean	Mean	
FRI1	1.19	1.06	1.29	1.24	1.55	1.31	0.262
FRI2	3.46	3.42	3.66	3.49	3.64	3.69	0.803
FRI3	4.65	4.32	4.19	4.29	4.64	4.46	0.073
FRI4	4.27	4.06	3.85	4.00	4.18	4.31	0.252
SCV1	2.41	2.42	2.66	2.66	3.00	2.92	0.575
SCV2	3.00	3.00	2.83	2.78	3.09	2.77	0.944
SCV3	4.46	4.39	3.85	4.02	4.55	3.77	0.012
SCV4	4.38	4.06	3.80	3.80	4.00	3.85	0.082
GDN1	4.65	4.32	4.10	4.05	4.36	4.15	0.066
GDN2	3.92	4.00	3.53	3.51	3.55	3.69	0.264
GDN3	3.65	3.77	3.63	3.34	3.91	3.23	0.601
GDN4	4.57	4.42	3.86	4.02	4.09	3.69	0.001
ECF1	2.81	3.32	2.93	2.56	3.00	3.08	0.315
ECF2	4.05	3.81	3.85	3.88	4.18	3.92	0.833
ECF3	3.32	3.97	3.46	3.00	3.91	3.38	0.032
ECF4	3.27	3.42	3.20	3.05	3.64	3.31	0.705
FAM1	3.89	3.90	3.54	3.80	4.00	3.77	0.633
FAM2	4.49	4.35	3.92	4.27	4.27	4.00	0.030
FAM3	4.14	4.16	3.80	3.80	4.18	3.92	0.565
FAM4	4.84	4.52	4.34	4.39	4.27	4.23	0.009
VAH1	3.41	3.39	3.31	3.02	3.36	3.38	0.737
VAH2	3.41	3.35	3.27	2.85	3.18	3.23	0.443
VAH3	4.19	4.10	3.85	4.05	3.91	2.92	0.004
VAH4	3.97	3.71	3.73	3.49	3.91	3.85	0.546

The significant differences in the respondents' opinions across the highest educational level based on the Kruskal–Wallis H test are shown in Table 4. Six of the twenty-five constructs of the barriers facing women during the transition from HE to empowerment are statistically different in this study (see Table 4). They include “females often face a lack of access to education, health, and welfare (SCV3)”, “In my community/social/professional workplace circle, there is a gendered perception of leadership (GND4)”, “There is unequal pay among men and women (ECF3)”, “Cultural and religious restrictions are what hinders women’s mobility (FAM2)”, “Work-life conflict (women are expected to construct a balance between family and profession, which leads to a double burden of household, work, and childbearing/rearing) (FAM4)”, and “There is a lack of implementation of sexual harassment policies in education or professional workplace settings (VAH3)” with significant differences of 0.012, 0.001, 0.032, 0.030, 0.009, and 0.004, respectively. It is interesting to note that none of the constructs of family-related issues had significant differences across the respondents' opinions according to their educational level.

4.3. Post Hoc Analysis

A post hoc analysis was conducted (see Table 5) to determine the actual group of respondents responsible for the significant differences indicated in the Kruskal–Wallis H test. An abridged version of Table 5 is provided in this article to show the relationships with significant differences. This approach is similar to the method adopted in the past studies by Oladinrin et al. [70]. The results of the analysis show that significant differences occurred between respondents with bachelor's and doctoral degrees in four of the six barriers. The barriers included “Females often face a lack of access to education, health, and welfare (SCV3)”, “In my community/social/professional workplace circle, there is a gendered perception of leadership (GND4)”, “Cultural and religious restrictions are what hinder women’s mobility (FAM2)”, and “Work-life conflict (women are expected to construct a balance between family and profession, which leads to a double burden of household, work, and childbearing/rearing) (FAM4)”, with adjusted significant differences of 0.033, 0.002, 0.023, and 0.018, respectively. The opinions of the respondents who possessed high school certificates significantly differed from those of others in the specialization/residency ($p = 0.008$), master's degree ($p = 0.008$), and doctorate ($p = 0.002$) groups on “There is a lack of implementation of sexual harassment policies in education or professional workplace settings (VAH3)”.

Table 6 also shows the mean scores, standard deviations, and Mann–Whitney U test across the barriers faced by women during the transition from HE to empowerment in Brazil based on their current study status. Seven of the twenty-five constructs of barriers facing women during the transition from HE to empowerment are statistically different in this study (see Table 6). They include “Time constraints due to domestic responsibilities often leads to the double burden on females to prevent them from HE/professional career (FRI3)”, “Females often face a lack of access to education, health, and welfare (SCV3)”, “Women often face gender differences in education, enrollment, and workplace settings (GND1)”, “In my community/social/professional workplace circle, female education is considered as a low priority as it doesn't uplift the family economically (GND2)”, “In my community/social/professional workplace circle, there is a gendered perception of leadership (GND4)”, “Cultural and religious restrictions are what hinders women’s mobility (FAM2)”, and “Work-life conflict (women are expected to construct a balance between family and profession, which leads to a double burden of household, work, and childbearing/rearing) (FAM4)”, with significant differences of 0.001, 0.020, 0.012, 0.030, 0.007, 0.028, and 0.031, respectively. It is interesting to note that none of the constructs of economic factors (ECF1–4) and violence and harassment (VAH1–4) had significant differences across the respondents' opinions according to their educational level.

Table 5. Post hoc analysis of the barriers with a significant difference.

Sample 1–Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
<i>Females often face a lack of access to education, health, and welfare (SCV3)</i>					
Bachelor's Degree–Doctoral degree	33.213	10.834	3.066	0.002	0.033
<i>In my community/social/professional workplace circle, there is a gendered perception of leadership (GDN4)</i>					
High School–Doctoral degree	55.214	16.700	3.306	0.001	0.014
Bachelor's Degree–Doctoral degree	41.227	10.862	3.795	0.000	0.002
<i>There is unequal pay among men and women (ECF3)</i>					
Specialization/Residency–Master's degree	40.812	12.829	3.181	0.001	0.022
<i>Cultural and religious restrictions are what hinder women's mobility (FAM2)</i>					
Bachelor's Degree–Doctoral degree	34.217	10.792	3.171	0.002	0.023
<i>Work-life conflict (women are expected to construct a balance between family and profession, which leads to a double burden of household, work, and childbearing/rearing) (FAM4)</i>					
Bachelor's Degree–Doctoral degree	33.022	10.199	3.238	0.001	0.018
<i>There is a lack of implementation of sexual harassment policies in education or professional workplace settings (VAH3)</i>					
High School–Specialization/Residency	57.921	16.758	3.456	0.001	0.008
High School–Master's degree	60.385	17.397	3.471	0.001	0.008
High School–Doctoral degree	64.601	16.975	3.806	0.000	0.002

Note: ^a: adjusted significance level.

Table 6. Barriers facing women during the transition from HE to empowerment.

Code	Currently Studying		Not Currently Studying		M-W (Sig)
	Mean	SD	Mean	SD	
FRI1	1.24	0.75	1.25	0.73	0.803
FRI2	3.56	0.98	3.52	1.27	0.690
FRI3	4.26	0.97	4.69	0.72	0.001
FRI4	4.03	0.88	4.10	1.02	0.356
SCV1	2.65	1.56	2.48	1.68	0.418
SCV2	2.89	1.39	2.90	1.43	0.923
SCV3	4.03	1.02	4.42	0.74	0.020
SCV4	3.89	1.11	4.21	0.99	0.064
GDN1	4.17	0.98	4.50	0.90	0.012
GDN2	3.60	1.21	3.96	1.34	0.030
GDN3	3.58	1.13	3.60	1.22	0.793
GDN4	4.01	1.03	4.46	0.77	0.007
ECF1	2.94	1.37	2.79	1.38	0.491
ECF2	3.88	1.01	4.02	0.84	0.569
ECF3	3.53	1.15	3.15	1.30	0.068
ECF4	3.26	1.17	3.23	1.28	0.972
FAM1	3.70	1.12	3.96	0.94	0.204
FAM2	4.13	0.88	4.42	0.79	0.028
FAM3	3.91	1.04	4.08	1.05	0.249
FAM4	4.40	0.80	4.67	0.56	0.031
VAH1	3.30	1.21	3.25	1.21	0.788
VAH2	3.19	1.23	3.27	1.30	0.665
VAH3	3.90	0.97	4.06	0.91	0.307
VAH4	3.72	1.07	3.79	1.30	0.333

5. Discussion

Based on this study's findings, women face notable challenges in their transition from education to empowerment in Brazil, which range from family-related to economic

factors and sociocultural norms. This is confirmed by some past studies in developing countries [29,30,72].

The family-related issue in this study comprises four fundamental constructs that explore the possible barriers facing women during the transition from HE to empowerment. The construct with the highest mean values in most of the groups is “time constraints due to domestic responsibilities, which often lead to a double burden on females to prevent them from HE/professional careers” (FRI3). This result corroborates previous findings that the domestic responsibilities of married women often hinder them from pursuing their career goals at the same pace as men in over 70 nations [34,73]. Interestingly, there is a significant difference of 0.001 between respondents currently studying and those who are not currently studying with respect to this construct (see Table 6). Perhaps the respondents who are currently studying have support from family members or are financially capable of engaging domestic helpers to allow them to concentrate on their education or career pursuits [74]. The findings also corroborate other constructs, i.e., “the work-life conflicts” (FAM4), which had the highest rating in the ‘freedom and mobility’ group of barriers facing women’s transition from HE to empowerment [6]. It is important to note that the lowest score of a construct in the family-related issues was “I believe that females should not engage in HE because their role should focus on the family” (FRI1), which is approximately 1.00 in most of the groups, except for the technical/vocational courses. The ‘strong disagreement’ level with this construct depicts literacy and the value of education for females in Brazil, which is laudable. The pursuit of academic qualifications in higher education institutions is also evident in the background information of this study, in which 87% of the respondents possessed a HE degree (see Figure 1c).

The sociocultural values and gendered norms revealed variables that depict stereotypical and culture-induced perceptions about females, which align with the results of past studies [37,39]. Interestingly, “women often face gender differences in education, enrollment, and workplace settings” (GDN1) had the highest mean value in most of the categories of the respondents in this study, which is also similar to the findings in “females often face a lack of access to education, health, and welfare” (SCV3). There is a significant difference in the SCV3 among the groups of respondents based on their educational level. The post hoc analysis revealed a significant difference in the SCV3 between the bachelor’s and doctoral degree holders (see Table 5). In addition, a significant difference is also indicated between the respondents currently studying and those who are not currently studying (refer to Table 6). Despite Brazil’s progressive educational policies, some women still encounter barriers to accessing education. This is partly due to lingering cultural norms that uphold male dominance, especially in certain regions and communities. Although the country has made strides in improving educational opportunities for women, these challenges persist, particularly in rural and traditional areas where archaic gender roles may still influence societal expectations and access to education [3]. These cultural constraints often limit women’s educational advancement and reinforce systemic gender inequalities in Brazilian society.

The four constructs of economic-related barriers in this study are well ranked above the average of the chosen Likert scale. However, there is a disparity in the opinions of the respondents in the specialization/residency group and the master’s degree holders about “there is unequal pay among men and women” (ECF3). Perhaps professions with specialization/residency are unique educational attainments, which are considered worthy of getting a designated wage, regardless of gender. Generally, women face economic hardship in the empowerment trail in developing countries because they often depend on their husbands as the breadwinners [72]. It is interesting to note that poverty (as a financial barrier to affording education for women) has the lowest rating in this study. The findings do not align with other studies where economic hardship and poverty were denoted as major barriers that hindered women from obtaining formal education [9]. The situation often necessitates special scholarships to support girls’ education in countries such as Djibouti and Sierra Leone, among others [75]. The educational policy in Brazil

that mandates schooling till the secondary school level may also contribute to the low rating of poverty (as a financial barrier to affording education for women) in this study [3]. Of the four constructs in economic-related barriers, “there is selective enforcement of policies in the context of women’s education and professional career growth” (ECF2) had the highest mean value across the respondents’ years of work experience (Table 2). This implies that financial provision may not hinder women from acquiring education, leading to empowerment [51,76]; the enforcement of salient policies relating to professional career progress may exist within the job but may not be openly discussed.

In the violence and harassment classification of the barriers facing women’s transition from HE to empowerment, the majority of the barriers were rated average according to the chosen Likert scale. Of the five constructs, “there is a lack of implementation of sexual harassment policies in education or professional workplace settings” (VAH3) had the highest mean score across many groups in this study. This connotes the presence of “humiliation in the workplace for women” (VAH4), which also received a considerably high mean score among the respondents. The findings corroborate the presence of sexual harassment in Brazil between bosses and female workers, which is likely to be linked to the country’s slave-owning past [77]. Past studies also confirmed sexual harassment in renowned universities in Brazil [78], in which victims are often afraid to report the case [59]. This study further buttresses the reality and presence of violence and harassment in the academic environment, considering the background information of the respondents, ranging from undergraduate students to full professors (see Table 1).

6. Recommendations

Family-related barriers faced by women transitioning from HE to empowerment primarily revolve around time constraints due to domestic responsibilities, such as household chores, caregiving, and child-rearing. These duties often limit the amount of time and energy that women can dedicate to pursuing professional careers or further education. Married women, in particular, may find it challenging to balance these competing demands, with the situation being even more pronounced for those with young children. Such responsibilities can create a ‘double burden’ for women, forcing them to navigate both professional and domestic spheres, often at the expense of career progression or academic growth. This unequal distribution of domestic labor hinders their full participation in the workforce and further limits opportunities for leadership or advancement in their fields. The conflict between caregiving roles and career aspirations can stall their empowerment journey, making it more difficult to achieve gender parity in professional and academic environments. Therefore, to reduce the burden of domestic duties on women, domestic helpers should be employed [74]. Retired parents could also help their children take care of their grandchildren to lessen the burden. On the other hand, encouraging women to pursue educational qualifications, including postgraduate degrees, could significantly reduce the pressure of balancing education, family, and career. By attaining higher levels of education earlier or strategically planning academic milestones, women may experience less difficulty managing the competing demands of domestic responsibilities and career aspirations. Additionally, fostering supportive policies, such as flexible learning schedules, childcare facilities, or work–life balance initiatives, could further alleviate the strain on women trying to combine family life with academic and professional advancement. This approach not only enhances women’s career prospects but also empowers them to secure better positions in the workforce, contributing to their financial independence and long-term socio-economic empowerment. Moreover, educational attainment serves as a pathway to leadership roles, helping women break through systemic barriers to gender equality in professional settings.

This study’s findings highlight that gender-related structural issues and deeply ingrained sociocultural values are significant barriers to women’s transition from higher education (HE) to empowerment in Brazil. Economic factors, such as unequal pay between men and women, and the selective enforcement of policies regarding women’s

education and professional advancement, further exacerbate these challenges. This study recommends implementing equal opportunities in the workplace for both genders and conducting awareness campaigns to challenge the cultural norms that perpetuate gendered expectations [9,10]. Addressing gender disparity in the workplace requires a firm commitment to equitable wages, as fair compensation can motivate women and enhance their contributions to the workforce. To this end, labor unions and recruitment bodies should advocate for pay equity, ensuring that women receive wages equivalent to those of their male counterparts for similar roles and responsibilities. This would not only foster fairness but also promote gender equality in Brazil's labor market.

Based on this study's findings regarding the constraints on women's freedom and mobility in Brazil, particularly in regions affected by regular armed conflict, it is recommended that the government and law enforcement agencies enhance security measures to ensure citizens' safe mobility. This is essential for enabling women to navigate public spaces freely and pursue opportunities in both education and employment. The use of digital technologies could also play a crucial role by enabling the real-time tracking of mobility issues and any challenges faced in educational or workplace environments, thereby ensuring accountability and immediate intervention when necessary [79].

This study also identified violence and harassment in educational and professional settings as a significant barrier. To address this, it is critical to establish secure and confidential mechanisms for reporting incidents of violence and harassment. These channels should ensure that complaints are swiftly handled by the relevant authorities. Public awareness campaigns, using social media, printed materials, and educational seminars, should inform women of their right to report such violations [77]. Furthermore, employers found guilty of perpetrating violence or harassment against women should face legal consequences as per the frameworks that protect workers' rights. By holding offenders accountable, workplaces and educational institutions can become safer environments where women can fully engage in their professional and academic pursuits, contributing to the economic development of Brazil [80].

6.1. Theoretical Contribution

This study contributes theoretically to the literature on female education. Drawing on the survey participants' ratings and the comparison of various groups of respondents, the findings enrich the theoretical framework of female education and the impending barriers to transition from education to empowerment. The findings of this study can be useful for academic institutions, law enforcement agents, parents and guardians, and NGOs to mitigate the issues surrounding family-related issues, sociocultural values, gendered norms, economic factors, freedom and mobility, and violence and harassment in Brazil.

6.2. Managerial Implications

The findings of this study on the barriers facing women's transition from HE to empowerment have some managerial implications. This study will contribute to the body of knowledge by providing education stakeholders with information on issues surrounding the translation of the knowledge acquired in academic institutions to substantial resources for the betterment of society. Addressing the barriers contributing to the harassment of women in work and academic environments will also boost female confidence, focus, and productivity in the delivery of their professional duties. The knowledge of the barriers that affect women's empowerment in Brazil could also assist the management arm of establishments and social influencers in launching campaigns for the equal treatment of women in all organizations. The campaign could enlighten recruitment organizations to avoid stereotypical mindsets against women [9]. In addition, the results of this study may also be useful in assisting the government to take definite action and in policy enforcement to address the barriers facing women's transition from HE to empowerment in Brazil, thereby promoting a better country image to the entire globe.

7. Conclusions and Future Studies

The current global economic landscape necessitates the careful and strategic utilization of all human resources within a country. As nations face challenges such as unemployment, underemployment, and skills shortages, it becomes increasingly important to harness the potential of every individual, particularly marginalized groups like women and minorities. Research indicates that leveraging diverse human resources can lead to enhanced economic growth, innovation, and resilience [13,17]. Moreover, effectively utilizing human resources contributes to social equity and reduces poverty levels, making it a key element in achieving sustainable development goals [2]. In this context, policies aimed at promoting inclusivity and equal opportunities in the labor market are vital for maximizing human capital.

However, some developing countries structurally malign women by not giving them a Western education, while others provide education but frustrate the translation of the knowledge acquired. Therefore, this study investigated the barriers facing women's transition from HE to empowerment using a survey of women in several higher education institutions in Brazil. Several statistical analyses, namely the mean score, standard deviation, Kruskal–Wallis H test, and Mann–Whitney U test, were conducted on the data retrieved from various groups of respondents in this study. The results of the analyses revealed that education among women is not uncommon in Brazil compared to some other developing countries. However, the transition of academic experience and expertise to empowerment is faced with challenges ranging from family-related issues, sociocultural values, gendered norms, and economic factors to violence and harassment.

Based on the findings of this study, several recommendations were posited, namely, employing domestic helpers to reduce the family-related challenges hindering women from pursuing professional careers and further education and an awareness campaign to encourage addressing cultural mindsets on gendered norms, among others. The theoretical contributions and managerial implications of this study are highlighted in this study. Although this study achieved the intended objectives, future studies need to address some other fundamental issues surrounding women's transition from HE to empowerment in Brazil. For example, there is a need to investigate the determinants and causes of violence and harassment in the workplace and academic institutions. The relationships between the barriers and outcomes, such as economic and societal impacts, can be evaluated in future studies using a multiple regression analysis, structural equation modelling, and so on. In addition, there is a need to use an intersectional lens, such as ethnicity, economic status, etc, for the barriers, as gender-based discrimination interacts with other forms of oppression to create varied experiences for different groups of women. Other barriers that might not have been considered in this study can be explored through qualitative research methods such as focus groups and interviews.

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