

## Women's glass-ceiling beliefs and their perceived career progression: a tale of two countries

Komal Khalid & Saima Aftab

To cite this article: Komal Khalid & Saima Aftab (2023) Women's glass-ceiling beliefs and their perceived career progression: a tale of two countries, Economic Research-Ekonomiska Istraživanja, 36:3, 2188914, DOI: [10.1080/1331677X.2023.2188914](https://doi.org/10.1080/1331677X.2023.2188914)

To link to this article: <https://doi.org/10.1080/1331677X.2023.2188914>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 11 May 2023.



Submit your article to this journal [↗](#)



Article views: 310



View related articles [↗](#)



View Crossmark data [↗](#)

# Women's glass-ceiling beliefs and their perceived career progression: a tale of two countries

Komal Khalid<sup>a</sup> and Saima Aftab<sup>b</sup>

<sup>a</sup>Department of Human Resource Management, Faculty of Economics and Administration, King Abdulaziz University, Jeddah, Saudi Arabia; <sup>b</sup>Management Sciences, University of Wah, Wah Cantt, Pakistan

## ABSTRACT

This study investigated and compared the impact of women glass-ceiling beliefs (denial, resilience, acceptance, and resignation) on their perceived career progression with a moderating role of education in Pakistan and Saudi Arabia. This is a time-lagged study. Multi-group analysis and permutations in Smart PLS is used for comparative data analysis. Results show significant differences in the impacts of glass-ceiling beliefs on women's career progression in two different countries. Where education plays an important role in mitigating the negative effects of glass ceiling beliefs proving the same among the two samples of different countries. This study provides significant theoretical and practical implications for policymaking and organizational practices to give due consideration to women's glass-ceiling beliefs and their career progression through education.

## ARTICLE HISTORY

Received 8 March 2022

Accepted 22 February 2023

## KEYWORDS

Glass-ceiling beliefs; perceived career progression; education

## JEL CODES

C12; E24; J16; J82; O57

## 1. Introduction

Glass ceiling continues to be one of the most concerning phenomena in the workplace, which restricts women's potential. Demographic profiles in most organizations show that they face various forms of discrimination, including glass ceiling phenomenon, leading to unequal opportunities (Babic & Hansez, 2021; Seo et al., 2017).

Glass-ceiling is a strong invisible barrier that hinders women from career progression and attaining equality alongside men. These barriers result in under-representing women in organizations, specifically in the upper-tier (Babic & Hansez, 2021; Einarsdottir et al., 2018). Women glass ceiling beliefs (GCB) play vital role in their career advancements. GCB indicates women's viewpoints regarding glass ceiling (Balasubramanian & Lathabhavan, 2018). It is a well-documented fact that since 2006 women participation in the organizational workforce has tremendously increased, but their underrepresentation in leadership positions has raised many concerns (Forum, 2021). Women participation

**CONTACT** Saima Aftab  [saima.aftab@uow.edu.pk](mailto:saima.aftab@uow.edu.pk)

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

in organizations has become essential as a result of many internal and external environmental influence. (Alotaibi, 2020; Lathabhavan, 2020).

This study highlights women's career progression in higher education and healthcare sectors, which focus on serving community by enhancing their knowledge and health. Studies from World Economic Forum (2021) show that women's workforce participation in education and healthcare sectors is a global issue. Compared to men working in the same field, women have limited chances to progress in organizations. Most corporate sectors (e.g., military, construction or retail) require masculine leadership style, while higher education and healthcare sectors require more of a feminine style of leadership (Shinbrot et al., 2019; Wesarat & Mathew, 2017). Thus, it is important to discuss how glass ceiling beliefs and their education level can influence perceived career progression amongst women.

### **1.1. Working women across Pakistan and Saudi Arabia**

The national cultures of both countries must be considered for GCBs and PCP. Research suggests that because of the male dominance in both societies women prefer to join service sector organizations specifically, education and health sectors. Compared to the West, both Pakistan and Saudi Arabia are male-dominated societies implying a distinct division of roles between male and female members of the society (Hofstede, 2008). In 2021, Pakistan's population consisted of 55% women (World Economic Form, 2021). The national student body in higher education included 46.5% female students in 2021 (World Economic Forum, 2021). While the economic needs forced women to enter professional careers, the social taboos regarding gender roles did not improve much (Kossek et al., 2017). The social restrictions, professional role expectations, and the international regulations for gender discrimination in organizations have all made workforce management rather complex (Tabassum & Nayak, 2021). Pakistan has agreed to the International Labor Organization convention in 2001 regarding equal compensation law based on work values. The Ministry of Advancement of Women in Pakistan initiated actions and policies to promote working women and their access to livelihoods. Irrespective of the continuous political and legislative reforms women PCP is still hampered (Nations, 2009).

Pakistani society expects and accepts women to work in specific jobs. Currently, women are employed in low salaried and less skill-requiring jobs (Zhang & Zheng, 2019). Women in Pakistan occupy 20.9% of available jobs in the workforce, and gender wage gap is 23.7% (Gomis, 2019). Among the employed women, about 91% are in the health and educational sectors (Forum, 2021). According to Pakistan Bureau of Statistics<sup>1</sup> 2017—2018, 39% of employed females are working in health care and education sector. Although Pakistani women are expected to work and contribute to family finances, the long-held socially conservative beliefs influence their career path.

Since its establishment in 1932, Saudi Arabia has witnessed tremendous transformation due to its religious, cultural, social, educational, geopolitical, and economic factors (Quamar, 2021). Due to the segregated social structure of Saudi Arabia, women are limited to certain occupations, including education, banking, and medical (Ahmed, 2020; AlMunajjed, 2010). Despite all the progress and reforms for professional women, they are yet to acquire equal access to what men enjoy (Ahmed, 2020). Many educated Saudi

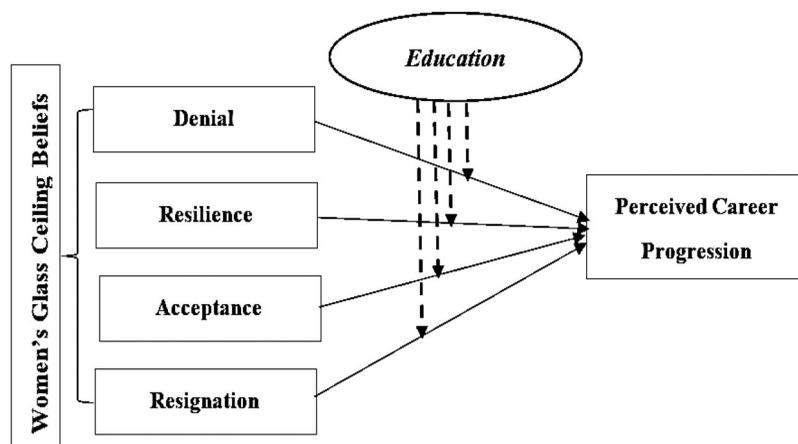
women encounter glass-ceiling barriers in various sectors (Albasri, 2019). The discrepancy between number of employed women in education sector and their unequal access to leadership positions reflects the state of professional women worldwide, while Saudi Arabia has no exception (Longman, 2018). Labour market statistics report of Saudi Arabia, Statistics (2022), the Kingdom's Saudi population in 2021 consisted of 42% women. The national student body in higher education included 47% female students in 2021 (Statistics, 2022). Women achieve higher academic degrees in significant numbers, yet they do not significantly lead to postgraduation (Albasri, 2019) occupying only 16.8% of available jobs (Gomis, 2019) out of which 96% are in the educational and health sectors. In their Vision 2030, Saudi Arabia is promoting women in joining the workforce from 22% to 30%. Despite the efforts and opportunities to work, women are still locked out from higher-level jobs, even in academia (Alotaibi, 2020).

Extant literature shows that GCB has been briefly studied and its relationship with PCP in relation to how education can have an impact on mitigating the negative effects of GCB on PCP has not been explored as of yet, let alone the comparative study. So, this study has three objectives. *First*, how do women who were part of the labor market feel regarding their careers? This study explores the relationship between women's glass-ceiling beliefs (GCB) and their perceived career progression (PCP) which is a set of pro-family/anti-career progression beliefs (Smith et al., 2012a) including perception of an individual's association with current position and anticipated future career progression compared to career progress expectation (Hoobler et al., 2014). Glass-ceiling beliefs may be classified as denial, resilience, acceptance, and resignation (Roman, 2017; Smith, 2012). Denial is refusing to acknowledge the presence of any hurdles; Resilience is acknowledging and confronting available resources; Acceptance is abiding by traditionally accepted roles and optimistically submitting to the glass ceiling, and Resignation is passive submission to the glass ceiling. *Second*, women's education may influence their perceptions regarding occupational segregation (Crawley, 2014) decision capacity and participation (Vaughan, 2016). This study, therefore, explores the moderating role of education on glass-ceiling beliefs and women's PCP. *Finally*, political, cultural and economic changes have significantly raised the number of women entering the workforce. There are, however, few opportunities for women to progress as they face inequality and progression barriers at all work levels (A. Sarwar & Imran, 2019). By examining GCB among women in two of the largest Islamic countries – Pakistan and Saudi Arabia, this study seeks to contribute to the theory and practice of human resource management (HRM) and human resource development (HRD). As shown in Figure 1, this study examines the impact of glass-ceiling beliefs on women's PCP with moderating role of education in Pakistan and Saudi Arabia. Four types of GCB are studied (denial, resilience, acceptance, and resignation) for three levels of education (Undergraduate and below, graduate, and Ph.D.).

## 2. Literature review

### 2.1. Perceived career progression (PCP)

Career progression is an upward movement of the employee in a hierarchical organizational ladder, working strategically, and concentrating on their personal goals of progression (Weerarathna & Hapurugala, 2019). Career progression is an important



**Figure 1.** Theoretical framework: relationship between glass-ceiling beliefs and perceived career progression moderated by level of education.

Source: the survey conducted in Pakistan and Saudi Arabia, for the purpose of this study.

determinant of skills returns such as recognition through financial gains, social status, and promotions (Ueno & Krause, 2018).

Women's PCP reaps both personal and organizational benefits. It can enhance their perception of social status and social worth (Velma, 2015). From the organizational perspective, PCP represents equality in terms of opportunities and access to power, which not only indicates women's organizational commitment, loyalty and performance but results in enhanced organizational performance as well (Mate et al., 2019).

## 2.2. Glass-ceiling beliefs

Different theories such as person-centered theory, preference theory, and social role theory have explained the glass ceiling within organizations (Hakim, 2006; Lathabhavan, 2020). According to person-centered theory, a person's traits, skills, and behavior plays a vital role in breaking women's glass ceiling (Balasubramanian & Lathabhavan, 2018). Preference theory is a multidisciplinary theory that describes women's work-life balance and preferences. Women's preferences within their lives significantly influence their career's subjective and objective outcomes (Hakim, 2006). Social role theory focuses on social stereotypes and roles that hinder women's career growth. The concepts of glass ceiling and accompanying beliefs are well established in gendered organizational systems where policies, procedures, and tasks are designed by men leading to gender discrimination in organizations (Enid Kiaye & Singh, 2013). Based on recent surveys conducted by the World Economic Forum (2021), women's participation has increased within the organizations, but there is an inequality in their career progression and income levels.

Numerous studies evidence the international existence of glass-ceiling in upper and middle organizational levels in academia, politics, medicine, engineering, professional services, manufacturing, and sports management (Beaudin, 2019; Mohammadkhani & Gholamzadeh, 2016). Women's traditionally approved gender roles impose more social burdens on women who seek career progression (Shinbrot et al., 2019). Domestic responsibilities are major influencing factor of women's career choices across the globe

(Casinowsky, 2013) making woman's career secondary, if not sacrificed (Ellemers, 2014). Even if women manage to start a profession, it is hard for them to progress through hierarchy, which results in frustration and fewer efforts on the job (Einarsdottir et al., 2018).

Glass-ceiling beliefs (GCB) among women are critical in determining approach and behavior in their career rather than glass-ceiling itself. Smith et al. (2012b), Roman (2017), and Lathabhavan (2020) explored four dimensions of women's GCB. Denial is a belief that both men and women are facing similar issues in their workplace with similar opportunities to reach higher career positions; such that there is no gender differentiation and they can perform quite well regardless of the glass ceiling. Resilience is a belief that both men and women face different conditions while struggling for higher career positions, and they can break the glass ceiling with the help of experience, education, and hard work. Acceptance is a belief that women accept commonly held gender roles or socially approved 'feminine' roles and prefer family-oriented goals over career progression. Resignation indicates that women will likely face severe negative effects and discriminatory attitudes while advancing in their careers, so they do not attempt to break glass ceiling (Balasubramanian & Lathabhavan, 2017).

### **2.3. Glass-ceiling beliefs and perceived career progression**

Social cognitive career theory presented by Lent et al. (2002) describes that employees' beliefs lead to their career expectations, resulting in choices of their goals and actions having objective and subjective career outcomes. Due to GCB, women have experienced various inequities in their workplaces and are severely underrepresented in higher and powerful managerial positions (Livingstone et al., 2016). These psychological opinions have a significant influence on how women deal with it in the organizations. Women need to embrace optimistic and optimistic GCB (i.e., resilience and denial) to facilitate their PCP (Roman, 2017; Smith et al., 2012a; Zhang & Zheng, 2019). Optimistic GCBs lead to positive career objective and subjective outcomes, while pessimistic GCBs (Acceptance and resignation) lead to negative career outcomes (Lathabhavan, 2020; Mohammadkhani & Gholamzadeh, 2016; Roman, 2017).

Women's glass ceiling beliefs negatively influence subjective CP by reducing their job satisfaction and psychological wellbeing plummeting their objective CP i.e., career advancement and job performance (Smith et al., 2012a; Wesarat & Mathew, 2017) however, reducing pessimistic GCB may results in positive PCP and associated satisfaction. Generally, women avoid tension by disregarding the existence of glass-ceiling beliefs. It is also possible that women are unaware of the obstacles that form glass ceiling. There will be no negative effect if there is no recognition or acknowledgment of glass ceilings.

Acceptance is a pessimistic (hopeless) belief about women achieving top-management positions. It identifies women who have little or no ambition for career progression and struggle to maintain a career for the sake of their livelihood. Acceptance will be negatively associated with career satisfaction and progression (Smith et al., 2012a). A woman's glass-ceiling belief can itself contribute to creating a glass-ceiling in top-level management. Accepting glass ceiling restricts and challenges women careers and commitment.

Resignation is another pessimistic belief that negatively relates to career satisfaction, career progression, and psychological and physical wellbeing (Roman, 2017; Smith et al.,

2012a). Women with resignation GCB, in general, remain dissatisfied and unhappy while working in an organization (S. Balasubramanian & Lathabhavan, 2017). In this four-factor conceptualization of glass-ceiling beliefs, resignation is the most pessimistic outlook towards PCP. In light of the current understanding of GCB, we hypothesize:

**Hypothesis 1:** *Women's GCB will correlate with PCP; Denial and Resilience will positively relate to PCP; Acceptance and Resignation will negatively relate to PCP.*

#### **2.4. Glass-ceiling beliefs in Saudi Arabia versus Pakistan**

Pakistan not only occupies the lowest position in South Asian region regarding workplace equality, it is constantly losing ground on the gender gap index, as evident from the downward trend in its rankings, from 112 in 2006 to 145 in 2022 (Forum, 2021). Gender gap index ranks Saudi Arabia at 128 out of 16 countries. Women participation in Saudi labor force is 23.4%, with 6.8% in the top management positions. Saudi Arabia had a positive increase in gender gap score for labor participation between 2021–2022. Despite the equal representation of both genders in higher education, Pakistan's situation is worse, where women have the smallest share of senior and managerial roles (4.5%) (Forum, 2021).

Articles 25 and 26 in the constitution of Pakistan explicitly discourage any form of gender discrimination in employment-related decisions. Additionally, the Government of Pakistan has made certain provisions for safe and healthy working conditions for working women (F. Sarwar & Abbasi, 2013). The government of Pakistan has initiated Equal Employment Opportunity programs allocating shares for women in every domain of organizational activities. The Higher Education Commission (HEC) of Pakistan has also offered several scholarships and training programs for women employees to enhance their education and skills (Saleem et al., 2017). Despite all such efforts and claims, the participation of women in top-level management and professional positions in Pakistan is worse than in Saudi Arabia.

Saudi Arabia realized the need to bring women into their workplaces quite recently and started considering strategies to incorporate Saudi women into their workforce encouraging them to come forth and progress (Alnufaie, 2017). On the other hand, Pakistan has a common workplace environment for both genders, limiting career choices and career growth opportunities due to recession. This situation usually creates competition within the organizations, resulting in more difficulties and restrictions for women to acquire top positions despite experience and education (Ahmad & Naseer, 2015). Pakistani women have been working professionally since 1950s, but only 5% of women have reached the top (Forum, 2021). This explains how Pakistani women are stunted due to reasons (such as glass ceilings) despite available career progression opportunities, while Saudi women are offered career progression and incentives to come forth and flourish.

The motives behind entering a career and career progression might differ for women in two countries, given their different social and economic setups resulting in different levels of GCBs. Pakistani women mainly join workforce due to financial pressures and enter a competitive setup, whereas Saudi women are encouraged to join the workforce and enter a supportive environment. With this, we predict differences in PCP as well. We propose that Pakistani women, compared to Saudi women, will recognize glass-ceiling more but will be more ambitious to progress at the same time. Based on this, we propose:

**Hypothesis 2:** *The strength of the relationship between women's glass-ceiling beliefs of acceptance will be negatively related to perceived career progression in Pakistan and Saudi Arabia.*

**Hypothesis 3:** *The strength of the relationship between women's glass-ceiling beliefs of denial will be positively related to perceived career progression in Pakistan and Saudi Arabia.*

**Hypothesis 4:** *The strength of the relationship between women's glass-ceiling beliefs of resignation will negatively relate to perceived career progression in Pakistan and Saudi Arabia.*

**Hypothesis 5:** *The strength of the relationship between women's glass-ceiling resilience beliefs will be positively related to perceived career progression in Pakistan and Saudi Arabia.*

## 2.5. Moderating role of education

According to Ganiyu et al. (2018), glass ceiling barriers influence women career progression, which can be overcome by raising education levels and experience. Pakistan and Saudi Arabia are highly masculine societies, with women employees facing gender stereotypes and challenges in entering top-level positions (Yousaf & Schmiede, 2017). Several factors contribute to women PCP but professional graduate degrees provide a significant advantage (Livingstone et al., 2016). For women, education is the developmental path to career progression which enables women to compete in restricted job market and ultimately break the glass ceiling and progress (Abalkhail, 2017). In contrast, fulfilling prerequisites for any job, level of education enhances the chances and pace of progression (Ohemeng & Karikari, 2015; Saeed et al., 2013). Women must obtain higher educational credentials, experience, and the right attitude towards desirable career progression options (Jarmon, 2014). Although we expect higher education to have significant positive and negative effects on GCB—PCP relationships, we propose an exploratory hypothesis due to the absence of research. To observe the effect of education, we propose:

**Hypothesis 6:** *There is a significant difference in the strength of the moderating effect of education on the relationship between women's glass-ceiling beliefs of acceptance and perceived career progression in Pakistan and Saudi Arabia.*

**Hypothesis 7:** *There is a significant difference in the strength of the moderating effect of education on the relationship between women's glass-ceiling beliefs of denial and perceived career progression in Pakistan and Saudi Arabia.*

**Hypothesis 8:** *There is a significant difference in the strength of the moderating effect of education on the relationship between women's glass-ceiling beliefs of resignation and perceived career progression in Pakistan and Saudi Arabia.*

**Hypothesis 9:** *There is a significant difference in the strength of the moderating effect of education on the relationship between women's glass-ceiling beliefs of resilience and perceived career progression in Pakistan and Saudi Arabia.*

## 3. Methodology

Research hypotheses were tested with the help of two datasets obtained from the educational and healthcare sectors of Pakistan and Saudi Arabia. As noted above, women are employed mainly in these two sectors. This study has used non-parametric approach, that is, Partial Least Squares (PLS) to variance-based Structural Equation Modeling (SEM) (Hair et al., 2017) and Multi-Group Analysis (MGA) (Hair et al., 2018), by using Smart PLS 3 (Ringle et al., 2015).

### 3.1. Sample

The target population for this research included working women in organizations where both genders were employed so that the participants could respond given a real experience of the glass ceiling. Sample included higher education institutes approved by the Higher Education Commission (HEC) of Pakistan and Ministry of Higher Education of Saudi Arabia, the hospitals approved by Pakistan Medical and Dental Council (PMDC) and the Saudi Ministry of Health.

Data were collected from female employees working at the middle and first-line levels. Middle-level employees included administrators, associate professors, and professors from the education sector, whereas senior doctors, surgeons, and heads of departments from the healthcare sector. First-line employees included assistant professors, lecturers, research associates, and departmental secretaries from higher education institutions, and junior doctors, nurses, and administrative staff was included from the healthcare sector.

Reason for selecting education and health care sector is that in Pakistan 39% (Pakistan Bureau of statistics) and in Saudi 96% of employed females are working in health care and education sector (Gomis, 2019), which are the largest proportions as compared to women participation in other industrial sectors.

### 3.2. Data collection

A two-phased self-reported data collection mechanism was utilized, in which first phase included data collection regarding demographics and GCBs. Second phase included data collection for PCP. The questionnaires were distributed among middle- and first-line women employees of education and healthcare sectors in Pakistan and Saudi Arabia. Convenience sampling was used. Permissions from relevant departments were attained beforehand. Employees were briefed about the study and approval for their voluntary participation was acquired via emails. On the same day, participants received the survey (demographics and GCBs items) for first phase, and after one month survey for the second phase (PCP items) was shared. Five hundred survey questionnaires were distributed in each country, from which 243 (Response rate 46.8%) complete questionnaires were received from Saudi Arabia and 351 (Response rate 70%) from Pakistan. 12 surveys from Pakistan sample, and 103 surveys from Saudi Arabia sample having missing responses, were excluded. Despite reminders, 148 respondents from Pakistan and 163 surveys from Saudi Arabia did not complete either the first or second phase of the survey. The non-responses are presumably due to a lack of research orientation or perceived significance in the practical field, especially Saudi women. Demographic details of the respondents are shown in [Table 1](#).

### 3.3. Measures

For glass-ceiling beliefs, 38 item scale developed by Smith et al. (2012a) was used. Sample items include *Denial*: “Even women with many skills and qualifications fail to be recognized for promotion”; *Resilience*: “Women are strong enough to overcome discrimination”; *Acceptance*: “Motherhood is more important to most women than

**Table 1.** Profile of respondents.

Characteristics	Frequency		Percentage (%)	
	Pakistan	Saudi Arabia	Pakistan	Saudi Arabia
Age				
20–29 years	175	83	49.9	34.2
30–39 years	62	103	17.7	42.4
40–49 years	104	45	29.6	18.5
50–59 years	10	12	2.8	4.9
Level of education				
Undergraduate	70	114	19.9	46.9
Graduate	133	24	37.9	9.9
PhD	148	105	42.2	43.2
Marital status				
Single	172	96	49.01	39.5
Married	179	147	50.99	60.5
Sector				
Education	184	136	52.4	56
Healthcare	167	107	47.6	44
Tenure				
> 1 year	80	42	22.8	17.3
1–4 years	117	94	33.3	38.7
5–9 years	115	48	32.8	19.7
>10 years	39	59	11.1	24.3

Note: Pakistan (n = 351), Saudi Arabia (n = 243).

Source: the survey conducted in Pakistan and Saudi Arabia, for the purpose of this study.

their career development”; *Resignation*: “Women believe that they have to make too many compromises to gain highly paid positions”.

Four item scale for women’s subjective PCP was adapted (S. A. Balasubramanian & Lathabhavan, 2017; Smith et al., 2012a). Sample PCP items include: “Men and women get promotions and increments on an equality basis”. A 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5) was used for all the scales. Education was measured with nominal scale as described in Table 1.

### 3.4. Data analysis

To assess and compare Pakistani and Saudi sample results this study has used non-parametric approach, that is, partial least squares (PLS) to variance-based structural equation modeling (SEM) by using SmartPLS 3 (Ringle et al., 2015). Two non-parametric techniques, multi-group analysis (MGA) (Henseler et al., 2009) and permutation tests were used. Before conducting MGA, measurement invariance was evaluated using MICOM, a newly developed approach for PLS-SEM (Henseler et al., 2015).

### 3.5. Assessment of measurement model and invariance measurement across two samples

The analyses of Pakistani and Saudi samples suggested that measurement models confirmed the minimum criteria of individual item reliability, internal consistency reliability, convergent validity, and discriminant validity, as shown in Tables 2 and 3.

#### 3.5.1. Individual item reliability

In both samples, individual item reliability was assessed by analyzing standardized factor loading of each item on its respective construct. Items with factors loadings

**Table 2.** Measurement model.

Construct	Factor loadings		Composite reliability		Cronbach's alpha		AVE	
	Pakistan	Saudi	Pakistan	Saudi	Pakistan	Saudi	Pakistan	Saudi
Denial			0.840	0.869	0.621	0.703	0.725	0.769
Denial4	0.835	0.905						
Denial7	0.867	0.848						
Resilience			0.891	0.917	0.888	0.910	0.500	0.527
Resil2	0.766	0.703						
Resil3	0.672	0.680						
Resil4	0.802	0.719						
Resil5	0.707	0.706						
Resil6	0.812	0.780						
Resil7	0.592	0.764						
Resil8	0.518	0.790						
Resil9	0.552	0.695						
Resil10	0.671	0.771						
Resil11	0.574	0.631						
Acceptance			0.842	0.852	0.626	0.660	0.727	0.743
Accept1	0.873	0.820						
Accept2	0.832	0.902						
Resignation			0.678	0.700	0.817	0.639	0.539	0.500
Resig2	0.621	0.623						
Resig4	0.717	0.599						
Resig5	0.564	0.839						
Resig6	0.852	0.854						
Resig8	0.871	0.820						
Resig9	0.739	0.508						
Career progression			0.876	0.854	0.813	0.767	0.640	0.604
CP1	0.830	0.879						
CP2	0.797	0.818						
CP3	0.792	0.499						
CP4	0.780	0.853						

Note: AVE = average variance extracted.

Source: the survey conducted in Pakistan and Saudi Arabia, for the purpose of this study.

$\geq .7$  were retained and items with factor loadings of less than 0.40, deemed problematic, were removed (Hair et al., 2018; Chin, 2010). Table 2 reports factor loadings for all the constructs in the structural model for both samples.

### 3.5.2. Internal consistency reliability

Internal consistency reliability is measured through construct reliability and convergent validity. Construct reliability is measured via joint reliability (composite reliability and Cronbach's alpha). For each sample, Table 2 reports values of composite reliability and Cronbach's alpha, which exceed .6, suggesting that all constructs in both samples are reliable ( $\geq .7$ ) (Hair et al., 2018). Results confirm construct reliability in both samples. Second, convergent validity was measured via average variance extracted (AVE). Results in Table 3 confirm the convergent validity in both samples as AVE values of all the constructs were  $> .5$  (Fornell & Larcker, 1981; Hair et al., 2017).

### 3.5.3. Discriminant validity

Discriminant validity is assessed with the help of Fornell-Lacker criterion (Fornell & Larcker, 1981) and heterotrait-monotrait (HTMT). Table 3 shows that all the diagonal values are higher than their correlations (diagonal values) with all other constructs (Fornell & Larcker, 1981). Additionally, all HTMT values are less than 0.9, suggesting acceptable discriminant validity for the two samples.

**Table 3.** Mean, standard deviations, correlations and discriminant validity results.

	Mean	S.D	1	2	3	4	5	6
Denial	3.390/2.511	0.619/0.721	<i>0.851/0.877</i>	0.297/0.234	0.596/0.224	0.050/-0.413	0.279/0.658	0.469/0.298
Resilience	3.901/3.995	0.738/0.811	0.264/0.233	<i>0.674/0.726</i>	0.578/0.753	0.792/0.236	0.275/0.314	0.189/0.117
Acceptance	3.344/3.187	0.883/0.628	0.324/0.149	0.413/0.570	<i>0.853/0.862</i>	0.578/0.753	0.315/0.269	0.196/0.163
Resignation	3.584/2.685	0.787/0.670	0.050/-0.413	0.138/-0.109	0.138/-0.109	<i>0.674/0.726</i>	0.216/0.461	0.223/0.332
Career progression	2.847/3.265	1.006/1.012	0.204/0.504	0.340/0.317	0.181/0.176	-0.300/-0.393	<i>0.800/0.777</i>	0.286/0.27
Education	N.A/N.A	N.A/N.A	0.365/-0.252	0.209/-0.151	0.051/-0.145	-0.009/0.327	0.259/-0.246	1.000/1.000

Note: Pakistan/Saudi; significance levels:  $p < 0.10^*$ ;  $p < 0.05^{**}$ ;  $p < 0.05^{***}$ ; S.D = standard deviation.

Diagonal and italicized elements are the square roots of the AVE (average variance extracted).

Below the diagonal elements are the correlations between the construct values.

Above the diagonal elements are the HTMT values.

Source: the survey conducted in Pakistan and Saudi Arabia, for the purpose of this study.

### 3.5.4. Correlation analysis

Results are shown in Table 3. Responses for all the scales were above the neutral response options, as shown in Table 3, indicating directed responses. Denial (.204/.504), resilience (.340/.317), and acceptance (.181/.176) positively correlated with PCP for both Pakistan and Saudi Arabia. Whereas resignation (-.300/-.393) negatively correlates with PCP. The level of intensity of the relationship in both selected contexts provides partial acceptance of  $H_1$ .

### 3.5.5. Invariance measurement across two samples

For comparison among two samples measurement invariance of composites (MICOM) technique by using PLS-SEM is used, suggesting a three-step approach to analyze; (1) configural invariance assessment, (2) establishment of compositional invariance assessment; and, (3) assessment of equality of composite mean values and variances (Hair et al., 2017; Henseler et al., 2016; Sarstedt et al., 2011). Results show that partial measurement invariance of the two samples was established (Table 4) sufficient to compare and interpret the MGA's group-specific differences of PLS-SEM results (Henseler et al., 2016). If the model using MICOM passes only the configural and compositional invariance, it indicates that only partial measurement invariance for the two samples is established, whereas passing all three steps suggests that full measurement invariance for both samples is established (Henseler et al., 2016). Since this study focuses on cross-country comparisons, the data were not pooled. Instead, country-specific effects were analyzed.

### 3.6. Assessment of the structural model and multi-group analysis

Table 5 reports the results of the structural model assessment and MGA comparing the difference between two samples by using two non-parametric techniques: Henseler's bootstrap-based MGA (Henseler et al., 2009) and the permutation test (Chin & Dibbern, 2010). These two approaches assess differences between the path coefficients of two samples and are considered the most conservative approach for PLS-SEM (Matthews et al., 2018; Sarstedt et al., 2011). Henseler's MGA directly compares group-specific bootstrap estimates from each bootstrap sample. According to this method, a  $p$  value of  $<0.05$  or  $>0.95$  indicates significant differences at the 5% level between specific path coefficients across two groups (Henseler et al., 2009; Sarstedt et al., 2011). In the permutation test, the differences are only at the 5% significance level if the  $p$  value is  $<.05$ . Table 5 also reports the results using 5000 bootstrap re-samples and 5000 permutations. Results show that resignation has a negative effect on PCP for both Pakistani ( $\beta = -.356^{***}$ ,  $p < .001$ ) and Saudi ( $\beta = -.187^{**}$ ,  $p < .01$ ) women. Next, the effect of resilience has a positive effect on PCP for both Pakistani ( $\beta = .407^{***}$ ,  $p < .001$ ) and Saudi ( $\beta = .237^{***}$ ,  $p < .001$ ) women. Acceptance has a positive effect on PCP among Pakistani women ( $\beta = .168^{**}$ ,  $p < .01$ ) only, and denial has a positive effect on PCP among Saudi women ( $\beta = .347^{***}$ ,  $p < .001$ ) only. As hypothesized ( $H_3$  and  $H_5$ ), resilience is positively related to PCP, and in both samples' resignation is negatively related to PCP. Also, denial was positively related to PCP as hypothesized in  $H_2$  but only for the Saudi sample. Opposite to our hypothesis  $H_4$ , acceptance was positively related to PCP but only for the Pakistani sample.

**Table 4.** Measurement invariance of composites (MICOM) results.

Constructs	Configural invariance (same algorithms for both groups)		Compositional invariance (Correlation = 1)		Partial measurement invariance established		Equal mean value		Equal variance		Full measurement invariance established	
	Yes	C = 1	Confidence interval (CIs)	Differences	Confidence interval (CIs)	Differences	Confidence interval (CIs)	Differences	Confidence interval (CIs)	Differences	Confidence interval (CIs)	Equal
Denial	Yes	0.993	[0.989, 1.000]	-0.056	[-0.168, 0.162]	Yes	-0.280	[-0.171, 0.186]	Yes	-0.280	[-0.171, 0.186]	No
Resilience	Yes	0.924	[0.975, 1.000]	-0.286	[-0.165, 0.165]	Yes	-0.284	[-0.309, 0.325]	No	-0.284	[-0.309, 0.325]	Yes
Acceptance	Yes	0.995	[0.964, 1.000]	-0.293	[-0.164, 0.165]	Yes	-0.392	[-0.218, 0.237]	No	-0.392	[-0.218, 0.237]	No
Resignation	Yes	0.884	[0.958, 1.000]	1.058	[-0.168, 0.160]	Yes	0.244	[-0.205, 0.219]	No	0.244	[-0.205, 0.219]	No
Career progression	Yes	0.995	[0.994, 1.000]	-0.464	[-0.166, 0.159]	Yes	0.038	[-0.191, 0.209]	No	0.038	[-0.191, 0.209]	Yes
Education	Yes	0.995	[0.964, 1.000]	0.254	[-0.168, 0.167]	Yes	-0.571	[-0.122, 0.128]	No	-0.571	[-0.122, 0.128]	No

Note: In Henseler's MGA method, the  $p < 0.05$  or  $p > 0.95$  indicates at the 5% level significant differences between specific path coefficients across two samples. Source: the survey conducted in Pakistan and Saudi Arabia, for the purpose of this study.

**Table 5.** MGA-PLS structural model results.

Hypothesis	Relationships	Path coefficient Pakistan	Path coefficient Saudi	CIs (bias corrected) Pakistan	CIs (bias corrected) Saudi	Path coefficient differences	$\rho$ Value Henseler's MGA	$\rho$ Value permutation test	Supported
<i>Direct effects</i>									
H2	Denial → Career progression	0.036 <sup>ns</sup>	0.347***	[-0.053, 0.127]	[0.274, 0.483]	-0.338	1.000***	0.000***	YES/YES
H3	Resilience → Career progression	0.407***	0.237***	[0.323, 0.507]	[0.124, 0.336]	0.170	0.029*	0.052*	YES/YES
H4	Acceptance → Career progression	0.168**	-0.045 <sup>ns</sup>	[0.071, 0.265]	[-0.161, 0.053]	0.214	0.008**	0.019**	YES/YES
H5	Resignation → Career progression	-0.356***	-0.187**	[-0.446, -0.254]	[-0.270, -0.063]	-0.169	0.960*	0.103*	YES/YES
<i>Moderating effects</i>									
H6	Denial × Education → Career progression	-0.236***	0.096 <sup>ns</sup>	[-0.337, -0.134]	[-0.005, 0.208]	-0.333	0.999***	0.000***	YES/YES
H7	Resilience × Education → Career progression	0.194***	-0.103 <sup>ns</sup>	[0.111, 0.297]	[-0.224, 0.015]	0.297	0.000***	0.001***	YES/YES
H8	Acceptance × Education → Career progression	-0.098 <sup>ns</sup>	0.018 <sup>ns</sup>	[-0.233, 0.026]	[-0.099, 0.151]	-0.116	0.855	0.307	NO/NO
H9	Resignation × Education → Career progression	-0.090**	-0.023 <sup>ns</sup>	[-0.171, -0.028]	[-0.137, 0.093]	-0.067	0.785	0.408	NO/NO

Note: \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$ ; ns = not significant.

Source: the survey conducted in Pakistan and Saudi Arabia, for the purpose of this study.

This study also assessed the moderating effect of education on the relationship between women's GCB and their PCP. Results in Table 5 show that among Pakistani women, education negatively moderates the relationship between denial & PCP ( $\beta = -.236^{***}$ ,  $p < .001$ ) as well as resignation & PCP ( $\beta = -.090^{**}$ ,  $p < .01$ ). In addition, education positively moderates the relationship between Resilience & PCP ( $\beta = .194^{***}$ ,  $p < .001$ ). There were no significant findings for the moderating effect of education in the Saudi sample. The results support Hypothesis 6, 7, and 9 for Pakistani sample. As hypothesized, higher education level negatively affected both denial and resignation to PCP relationships and positively affected Resilience to PCP relationships.

The results of MGA and permutation reveal significant differences between Pakistan and Saudi samples concerning the effect of GCB on PCP ( $H_2$ ,  $H_3$ ,  $H_4$ ,  $H_5$ ) and moderating effect of education on the link between GCB and PCP ( $H_6$ ,  $H_7$ ,  $H_8$ ,  $H_9$ ). Both Henseler's MGA and permutation test confirm the significance/non-significance of the differences in the results.

#### 4. Discussion

This study considered education as a moderating factor for enhancing PCP despite women's GCB. When women acquire higher level education, expectations for PCP are increased. Highly educated women are more likely to be sensitive to PCP opportunities and hindrances. Results indicated significant differences between Pakistan and Saudi Arabia concerning the direct effect of GCBs (in terms of denial, resilience, acceptance, and resignation) on women's PCP ( $H_2$ ,  $H_3$ ,  $H_4$ , and  $H_5$ ). The significant difference within both selected contexts is because of three reasons i.e., (i) cultural differences; (ii) difference in timeline of women participation in labor force in Pakistan since 1950s, whereas in Saudi Arabia, it started in the early 2000s (Rostom, 2017; Saleem et al., 2017) and; (iii) Saudi Arabian vision 2030 (Ahmed, 2020; Alotaibi, 2020). The results confirmed significant difference in the moderating strength of education on the direct relationship of GCB-denial and PCP ( $H_6$ ), the relationship between GCB-resilience and PCP ( $H_7$ ), and on the relationship between GCB-resignation and PCP ( $H_9$ ) in both Pakistan and Saudi Arabia. Ironically, higher education implies awareness of glass-ceiling, especially women strive and expect progress in their careers (Johns, 2013). Therefore, higher education also means more chances of GCB. The two samples' opposing results for the education-denial relationship can be explained regarding the women's working situation in the two countries (Forum, 2021; Khalid et al., 2017). Also, in Saudi Arabia, the government is offering free education and scholarships encouraging women's participation in labor force through Vision 2030 (Marden, 2018). Comparatively, Pakistani women have been achieving education and are a part of workplace facing glass ceiling issues, whereas Saudi women have recently started going for education and are being welcomed at work without an evident glass ceiling. So, Saudi women still have to experience and observe the impact of education on their career progression, thus showing the insignificant impact of education on the GCBs-PCP relationship among Saudi women.

Results show that there was higher PCP for women with higher education despite denial. That is, when women have higher education and do not acknowledge glass-ceiling, they continue to expect moving up in their careers without hurdles. Pakistan is a

masculine society having gender-stereotyped perceptions (Hussain et al., 2015), women face strong competition in acquiring jobs and even more for higher-level positions (Yousaf, 2018). Women, mainly working at lower management may have specific understanding and expectation of CP and, therefore, tend to report higher PCP with denial and low education level.

The situation is relatively different in Saudi Arabia, where government has specifically reserved positions for women, so there is no competition between two genders. That is why Saudi women have low GCBs. In contrast, Pakistan's economy is less stable than that of Saudi Arabia, and Pakistani women seek more career progression (CP) and monetary rewards. Our results validated the study of Ellemers (2014) and confirmed the presence of a higher gender gap in Pakistan compared to Saudi Arabia and, consequently, the presence of more glass-ceiling effects in Pakistan (Forum, 2021). According to World Economic Form (2021) the gender gap in Saudi Arabia has narrowed down in the last ten years by 8% and has progressed past Pakistan (Forum, 2021).

Resilient women in Pakistan believe that they can overcome glass-ceiling through enhancing their education level and gaining higher PCP. When women feel qualified enough and have the experience to reach the top, they become more resilient (Roman, 2017). The results also signify the importance of higher education as a source of confidence in breaking glass-ceiling, and women must obtain higher educational credentials for having desirable CP. The results for both countries are consistent with that of Ohemeng and Karikari (2015).

Resignation is the most pessimistic belief and indicates gender imbalance in organizations. Because of the economic crisis, women are part of the workforce, and they continue their association with the organization, but their CP pace decreases due to either glass-ceiling or GCB. Saudi women with more resignation and high education had low PCP compared to women with denial and high education. This may be due to a lack of effort, family, social priorities and perceptions, or lack of motivation towards their CP. While, women reporting resignation belief with higher education level did not significantly influence PCP.

The results did not confirm the significant difference in the moderating effect of education. This could be for the reason that women, according to preference theory, give more importance to their family life and have little to no interest in their career progression; as a result, because of their acceptance belief, their PCP is not influenced by education. According to social role theory (Lathabhavan, 2020), women with resignation beliefs perceive these social stereotypes would create barriers in their CP. As a result, it would negatively influence PCP, but if these women's education level is improved, the negative impact of resignation belief on PCP will reduce.

#### **4.1. Theoretical implications**

Current study is a novel addition to the extant literature available on GCB. It explores the relationship of women glass ceiling beliefs on perception of career progression among women of Pakistan and Saudi Arabia working in Education and Health care sectors. The suggested mechanisms are not studied earlier as this study suggests how women education can help mitigate the detrimental effects of GCBs on PCP. More specifically the analysis of

impact of GCB and its four dimensions (Denial, Resilience, Acceptance and Resignation) presents a comparative review of how different dimensions of GCB effect PCP among women of two countries with different contextual issues. Moreover, education and health sectors are considered as the most critical and strategically contributing sectors of an economy. Excessive women participation in these sectors of two male dominant countries provides valuable insights into how women participation and emphasis on elevating the education levels may contribute subjectively and objectively in broader strategic contexts.

#### **4.2. Practical implications**

In a developing country like Pakistan, with limited job opportunities specifically for women, organizations can either plan or bring structural changes to help women with hopeless beliefs (acceptance and resignation) that can affect their PCP and the actual CP. These plans could include more opportunities for education and CP, mentoring, and interaction with different role models within and outside the organization (Jarmon, 2014). A conscious effort from managers who can shape the direction of employees' position and reward can help ensure that no discrimination or biases stand in the way of PCP. Organizations can use women role models to help the employee reach her highest potential (Eagly, 2007). This could help mitigate GCB and avail an optimistic GCB in handling actual glass ceiling issues. Women should be supported in enhancing their self-confidence and reducing or eliminating barriers in their CP (Jarmon, 2014; Smith et al., 2012a). Women should receive organizational support for raising their trust and confidence. To eliminate or reduce glass-ceiling it is important that policies and practices of the organizations give due consideration to PCP. Training can help break through the glass ceiling or help women's careers with an optimistic GCB towards improved PCP (Johns, 2013). For this, governments and organizations have to improve women's education and provide them with more training opportunities.

Human resource managers must understand and adapt approaches that facilitate employee development, such as equality for all at the workplace and high-performance work practices to ensure productivity and commitment from the employees (Trussa et al., 2013). Management needs to recognize that women opting for CP are not different from their male colleagues and provide equal CP opportunities. Specifically, organizations like Pakistan and Saudi Arabia, where women are at the same education level as men, should be careful in gender biases and taboos. During the organization's staffing and performance management activities, management should be cautious not to be influenced by their own GCB and be aware of GCBs of their potential employees. Women with more denial and resilience beliefs should be encouraged with more opportunities for career progression. In contrast, women's morale and motivation with acceptance and resignation beliefs should be raised with mentoring, coaching, career development workshops, and role modeling. When human resource development practitioners (mentor, coach, trainer, immediate manager) communicate their experiences, they can add to trust, respect, and motivation towards enhanced PCP.

In countries like Pakistan and Saudi Arabia, with high masculinity, power distance and uncertainty avoidance cultures, analysis of GCB will facilitate working women in gaining more awareness regarding potential causes of their PCP in organizations. It will

also be an effective strategy to help women identify their PCP goals. Knowledge of these factors will encourage women to take initiatives for their PCP, like acquiring high level education or training opportunities (Scholarios & Taylor, 2011). Organizations could consider providing training programs to analyze women's GCB and incorporate it in recruitment testing and periodical performance reviews. Moreover, Calinaud et al. (2021) state that women blame their gender and social taboos for their career stagnation but despite predominant structural barriers, their career stagnation is results of their self-presumed inferior capabilities. According to World Economic Forum's GGI report (2021), Bangladesh has moved fifteen ranks up in South Asia, whereas in the Middle East, United Arab Emirates has moved forty-eight ranks up in the GGI. In contrast, Pakistan and Saudi Arabia have increased to only two and one, respectively. This shows that several efforts are needed to be taken at the governmental level to improve both countries' ranking and enhance women's participation in the labor market.

#### **4.3. Limitations and future research directions**

The study is limited by its cross-sectional design. A longitudinal study could also be done to measure the stability of GCB and establish whether they are psychological states or traits. Second, this study included data from two developing countries, whereas future studies can compare developing and developed countries to explore GCBs. Also, a comparative analysis could be done at various managerial levels. Third, the data from both countries are self-reported, other triangulation methods of data collection can be used, such as personal interviews or group administered interviews for a more in-depth study. Fourth, this study was a quantitative study, and different qualitative approaches could be used to study the GCB-PCP relationship.

#### **4.4. Concluding remarks**

Present study explored the effects of glass ceiling beliefs (denial, resilience, acceptance, and resignation) on women perceived career progression in Pakistan and Saudi Arabia. It tested the moderating impact of education on relationship between women's GCB and PCP. The study revealed significant differences between women glass-ceiling beliefs and perceived career progression in Pakistan and Saudi Arabia. The study also confirmed the significant differences in the strength of the moderating effect of education on the relationship between women's glass-ceiling beliefs of denial and perceived career progression and women's glass-ceiling beliefs of resilience and perceived career progression in Pakistan and Saudi Arabia. At the same time, the results could not confirm the significant difference in the strength of the moderating effect of education on the relationship between women's glass-ceiling beliefs of acceptance and perceived career progression and women's glass-ceiling beliefs of resignation and perceived career progression in both Pakistan and Saudi Arabia.

#### **Note**

1. [https://www.pbs.gov.pk/sites/default/files//Labour%20Force/publications/lfs2017\\_18/TABLE-17\\_perc\\_R.pdf](https://www.pbs.gov.pk/sites/default/files//Labour%20Force/publications/lfs2017_18/TABLE-17_perc_R.pdf)

## References

- Abalkhail, J. M. (2017). Women and leadership: Challenges and opportunities in Saudi higher education. *Career Development International*, 22(2), 165–183. <https://doi.org/10.1108/CDI-03-2016-0029>
- Ahmad, M., & Naseer, H. (2015). Gender bias at workplace: Through sticky floor and glass ceiling: A comparative study of private and public organizations of Islamabad. *International Journal of Management and Business Research*, 5(3), 249–260.
- Ahmed, W. (2020). Women empowerment in Saudi Arabia: An analysis from education policy perspective. *The Middle East International Journal for Social Sciences*, 2(3), 93–98.
- Albasri, W. (2019). *Saudi women in universities' leadership positions: A study of the "glass ceiling" phenomenon*. [Ph.D. thesis]. ProQuest Dissertations Publishing.
- AlMunajjed, M. (2010). *Women's employment in Saudi Arabia: A major challenge*. Booz & Company.
- Alnufaie, H. (2017, March 27). *Saudi women urged to spearhead development*. Saudi Gazette. <http://saudigazette.com.sa/article/175610/Saudi-women-urged-to-spearhead-development>
- Alotaibi, F. T. (2020). Saudi women and leadership: Empowering women as leaders in higher education institutions. *Open Journal of Leadership*, 9, 156–177. <https://doi.org/10.4236/ojl.2020.93010>
- Babic, A., & Hansez, I. (2021). The glass ceiling for women managers: Antecedents and consequences for work-family interface and well-being at work. *Frontiers in Psychology*, 12, 618250. <https://doi.org/10.3389/fpsyg.2021.618250>
- Balasubramanian, S., & Lathabhavan, R. (2017). Women's glass ceiling beliefs predict work engagement and burnout. *Journal of Management Development*, 36(9), 1125–1136. <https://doi.org/10.1108/JMD-12-2016-0282>
- Balasubramanian, S. A., & Lathabhavan, R. (2018). Linking women's glass ceiling beliefs and employee satisfaction: The mediation of engagement. *International Journal of Human Resources Development and Management*, 18(1/2), 72–90. <https://doi.org/10.1504/IJHRDM.2018.092288>
- Beaudin, L. (2019). Examining the relationship between academic performance and workplace position: Does the glass ceiling exist among graduates from the same university?. *Applied Economics Letters*, 26(4), 286–289. <https://doi.org/10.1080/13504851.2018.1467546>
- Calinaud, V., Kokkrankal, J., & Gebbels, M. (2021). Career advancement for women in the British hospitality industry: The enabling factors. *Work, Employment and Society*, 35(4), 677–695. <https://doi.org/10.1177/0950017020967208>
- Casinowsky, G. B. (2013). Working life on the move, domestic life at standstill? Work-related travel and responsibility for home and family. *Gender, Work and Organization*, 20(3), 311–326. <https://doi.org/10.1111/j.1468-0432.2011.00579.x>
- Chin, W. W. (2010). *How to write up and report PLS analyses*. Springer.
- Chin, W. W., & Dibbern, J. (2010). An introduction to a permutation based procedure for multi-group PLS analysis: Results of tests of differences on simulated data and a cross cultural analysis of the sourcing of information system services between Germany and the USA. In V. Esposito Vinzi, W. W. Chin, J. Henseler, & H. Wang (Eds.), *Handbook of partial least squares: Concepts, methods and applications* (pp. 171–193). Springer Berlin Heidelberg.
- Crawley, D. (2014). Gender and perceptions of occupational prestige: Changes over 20 years. *SAGE Open*, 4(1), 1–11. <https://doi.org/10.1177/2158244013518923>
- Eagly, A. H. (2007). Female leadership advantage and disadvantage: Resolving the contradictions. *Psychology of Women Quarterly*, 31(1), 1–12. <https://doi.org/10.1111/j.1471-6402.2007.00326.x>
- Einarsdottir, U. D., Christiansen, T. H., & Kristjansdottir, E. S. (2018). "It's a man who runs the show": How women middle-managers experience their professional position, opportunities, and barriers. *SAGE Open*, 8(1), 2158244017753989. <https://doi.org/10.1177/2158244017753989>
- Ellemers, N. (2014). Women at work: How organizational features impact career development. *Policy Insights from the Behavioral and Brain Sciences*, 1(1), 46–54. <https://doi.org/10.1177/2372732214549327>

- Enid Kiaye, R., & Singh, M. A. (2013). The glass ceiling: A perspective of women working in Durban. *Gender in Management: An International Journal*, 28(1), 28–42. <https://doi.org/10.1108/17542411311301556>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.2307/3151312>
- Ganiyu, R. A., Oluwafemi, A., Ademola, A. A., & Olatunji, O. I. (2018). The glass ceiling conundrum: Illusory belief or barriers that impede women's career advancement in the workplace. *Journal of Evolutionary Studies in Business*, 3(1), 137–166. <https://doi.org/10.1344/jesb2018.1.j040>
- Gomis, R. (2019). *The Global Labour Income Share and Distribution*. <https://www.ilo.org/ilostat-files/Documents/Labour%20income%20share%20and%20distribution.pdf>
- Hair, J., Babin, B., Anderson, R., & Black, W. (2018). *Multivariate data analysis, a global perspective* (8th ed.). Cengage Learning.
- Hair, J., J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107–123. <https://doi.org/10.1504/IJMDA.2017.10008574>
- Hakim, C. (2006). Women, careers, and work-life preferences. *British Journal of Guidance and Counseling*, 34(3), 279–294. <https://doi.org/10.1080/03069880600769118>
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems*, 116(1), 2–20. <https://doi.org/10.1108/IMDS-09-2015-0382>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). Testing measurement invariance of composites using partial least squares. *International Marketing Review*, 33(3), 405–413. <https://doi.org/10.1108/IMR-09-2014-0304>
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In R. R. Sinkovics & P. N. Ghauri (Eds.), *Advances in International Marketing* (pp. 277–320). Emerald.
- Hofstede, G. (2008). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Shanghai Foreign Language Education Press.
- Hoobler, J. M., Lemmon, G., & Wayne, S. J. (2014). Women's managerial aspirations: An organizational development perspective. *Journal of Management*, 40(3), 703–730. <https://doi.org/10.1177/0149206311426911>
- Hussain, M., Naz, A., Khan, W., Daraz, U., & Khan, Q. (2015). Gender stereotyping in family: An institutionalized and normative mechanism in Pakhtun society of Pakistan. *SAGE Open*, 5(3), 1–15. <https://doi.org/10.1177/2158244015595258>
- Jarmon, L. J. (2014). *Cracking the glass ceiling: A phenomenological study of women administrators in higher education* [Doctor of Philosophy]. Iowa State University.
- Johns, M. L. (2013). Breaking the glass ceiling: Structural, cultural, and organizational barriers preventing women from achieving senior and executive positions. *Perspectives in Health Information Management*, 10(1), 1–10.
- Khalid, K., Magbool, S., & Ayub, N. (2017). Women's glass ceiling beliefs and career satisfaction in view of occupational self-efficacy. *The International Journal of Humanities & Social Studies*, 5(5), 55–63.
- Kossek, E. E., Su, R., & Wu, L. (2017). “Opting out” or “pushed out”? Integrating perspectives on women's career equality for gender inclusion and interventions. *Journal of Management*, 43(1), 228–254. <https://doi.org/10.1177/0149206316671582>
- Lathabhavan, R. (2020). Psychological aspects of women's career growth constraints and outcomes: A longitudinal study from India. *Australian Journal of Career Development*, 29(3), 173–184. <https://doi.org/10.1177/1038416220935862>
- Lent, R. W., Brown, S. D., & Hackett, G. (2002). Social cognitive career theory. In D. Brown (Ed.), *Career Choice and Development* (pp. 255–311). Jossey-Bass.
- Livingstone, D. W., Pollock, K., & Raykov, M. (2016). Family binds and glass ceilings: Women managers' promotion limits in a 'knowledge economy'. *Critical Sociology*, 42(1), 145–166. <https://doi.org/10.1177/0896920514532663>

- Longman, K. A. (2018). Perspectives on women's higher education leadership from around the world. *Administrative Sciences*, 35(8), 1–6. <https://doi.org/10.3390/admsci8030035>
- Marden, S. (2018). *Female labour force participation in Saudi Arabia: Saudi women and their role in the labour market under Vision 2030* [Bachelor's Thesis]. Lund University.
- Mate, S. E., McDonald, M., & Do, T. (2019). The Barriers and enablers to career and leadership development: An exploration of women's stories in two work cultures. *International Journal of Organizational Analysis*, 27(4), 857–874. <https://doi.org/10.1108/IJOA-07-2018-1475>
- Matthews, L., Hair, J., J. F., & Matthews, R. (2018). PLS-SEM: The holy grail for advanced analysis. *The Marketing Management Journal*, 28(1), 1–13.
- Mohammadkhani, F., & Gholamzadeh, D. (2016). The influence of leadership styles on the women's glass ceiling beliefs. *Journal of Advanced Management Science*, 4(4), 276–282. <https://doi.org/10.12720/joams.4.4.276-282>
- Nations, U. (2009). *Efforts to empower women, initiatives to promote sustainable economic growth mutually reinforcing*.
- Ohemeng, F. L., & Karikari, A. A. (2015). Breaking through the glass ceiling: Strategies to enhance the advancement of women in Ghana's public service. *Journal of Asian and African Studies*, 50(3), 359–379. <https://doi.org/10.1177/0021909614530381>
- Quamar, M. M. (2021). *Education system in Saudi Arabia. Of change and reforms*. Plgrave Macmillan. ISBN: 978-981-15-9172-3.
- Ringle, C. M., Wende, S., & Becker, J. M. (2015). *SmartPLS 3*. Boenningstedt.
- Roman, M. (2017). *Relationships between women's glass ceiling beliefs, career advancement satisfaction, and quit intention* [Doctor of Philosophy]. Walden University.
- Rostom, R. (2017, November 16). We are Passionate about Saudi Women Being Engaged in our Digital Transformation Plan. Saudi Gazette. <http://saudigazette.com.sa/article/522028/BUSINESS/We-are-passionate-about-Saudi-women-being-engaged-in-our-digital-transformation-plan-Rania>.
- Saeed, R., Lodhi, R. N., Abbas, F. I., Shfaqe, U., Dustgeer, F., & Ahmed, M. (2013). The organizational role in career development of employees. *Management and Administrative Sciences Review*, 2(6), 664–669.
- Saleem, S., Rafiq, A., & Yusaf, S. (2017). Investigating the glass ceiling phenomenon: An empirical study of glass ceiling's effects on selection-promotion and female effectiveness. *South Asian Journal of Business Studies*, 6(3), 297–313. <https://doi.org/10.1108/SAJBS-04-2016-0028>
- Sarstedt, M., Henseler, J., & Ringle, C. M. (2011). Multigroup analysis in partial least squares (PLS) path modeling: Alternative methods and empirical results. *Advances in International Marketing*, 22, 195–218. [https://doi.org/10.1108/S1474-7979\(2011\)0000022012](https://doi.org/10.1108/S1474-7979(2011)0000022012)
- Sarwar, A., & Imran, M. K. (2019). Exploring women's multi-level career prospects in Pakistan: Barriers, interventions, and outcomes. *Frontiers in Psychology*, 10, 1–19. <https://doi.org/10.3389/fpsyg.2019.01376>
- Sarwar, F., & Abbasi, A. S. (2013). An in-depth analysis of women's labor force participation in Pakistan. *Middle-East Journal of Scientific Research*, 15(5), 208–215. <https://doi.org/10.5829/idosi.mejsr.2013.15.2.2367>
- Scholarios, D., & Taylor, P. (2011). Beneath the glass ceiling: Explaining gendered role segmentation in call centres. *Human Relations*, 64(10), 1291–1319. <https://doi.org/10.1177/0018726711416265>
- Seo, G., Huang, W., & Han, S. C. (2017). Conceptual Review of underrepresentation of women in senior leadership positions from a perspective of gendered social status in the workplace: Implication for HRD research and practice. *Human Resource Development Review*, 16(1), 35–59. <https://doi.org/10.1177/1534484317690063>
- Shinbrot, X. A., Wilkins, K., Gretzel, U., & Bowser, G. (2019). Unlocking women's sustainability leadership potential: Perceptions of contributions and challenges for women in sustainable development. *World Development*, 119, 120–132. <https://doi.org/10.1016/j.worlddev.2019.03.009>
- Smith, P. (2012). *Connections between women's glass ceiling beliefs, explanatory style, self-efficacy, career levels and subjective success* [Doctor of Philosophy]. University of Wollongong.

- Smith, P., Caputi, P., & Crittenden, N. (2012a). How a women's beliefs about glass ceiling related to career success. *Career Development International*, 17(5), 458–474. <https://doi.org/10.1108/13620431211269702>
- Smith, P., Crittenden, N., & Caputi, P. (2012b). Measuring women's beliefs about glass ceilings: Development of the career pathways survey. *Gender in Management: An International Journal*, 27(2), 68–80. <https://doi.org/10.1108/17542411211214130>
- Statistics, G. A. f. (2022). *Labour market statistics*. Kingdom of Saudi Arabia.
- Tabassum, N., & Nayak, B. S. (2021). Gender stereotypes and their impact on women's career progressions from a managerial perspective. *IIM Kozhikode Society & Management Review*, 10(2), 192–208. <https://doi.org/10.1177/2277975220975513>
- Trussa, C., Shantz, A., Soane, E., Alfes, K., & Delbridge, R. (2013). Employee engagement, organisational performance and individual well-being: Exploring the evidence, developing the theory. *The International Journal of Human Resource Management*, 24(14), 2657–2669. <https://doi.org/10.1080/09585192.2013.798921>
- Ueno, K., & Krause, A. (2018). Overeducation, perceived career progress, and work satisfaction in young adulthood. *Research in Social Stratification and Mobility*, 55, 51–62. <https://doi.org/10.1016/j.rssm.2018.03.003>
- Vaughan, R. P. (2016). *Gender equality and education in the sustainable development goals*.
- Velma, B. J. (2015). *Gender and representative bureaucracy: The career progression of women managers in male dominated occupations in state government* [Doctor of Philosophy]. Virginia Commonwealth University.
- Weerarathna, R. S., & Hapurugala, S. (2019). The effect of gender on career progression: A conceptual model. *International Journal of Business and Management*, 14(7), 23–27. <https://doi.org/10.5539/ijbm.v14n7p23>
- Wesarat, P., & Mathew, J. (2017). Theoretical framework of glass ceiling: A case of India's women academic leaders. *Paradigm*, 21(1), 21–30. <https://doi.org/10.1177/0971890717700533>
- World Economic Forum. (2021). Global Gender Gap Report. [https://www.weforum.org/reports/global-gender-gap-report-2021/?DAG=3&gclid=CjwKCAjwq-WgBhBMEiwAzKSH6Hs0Kae1qqZXyvgSc\\_cUIIRFyv2ilc6AeMFWUxQV5PjWZsFxlO\\_ahoC6C0QAvD\\_BwE](https://www.weforum.org/reports/global-gender-gap-report-2021/?DAG=3&gclid=CjwKCAjwq-WgBhBMEiwAzKSH6Hs0Kae1qqZXyvgSc_cUIIRFyv2ilc6AeMFWUxQV5PjWZsFxlO_ahoC6C0QAvD_BwE)
- Yousaf, R. (2018). *Underrepresentation of women: Academic excellence and positions of power in universities* [Doctoral dissertation]. Darmstadt University of Technology.
- Yousaf, R., & Schmiede, R. (2017). Barriers to women's representation in academic excellence and positions of power. *Asian Journal of German and European Studies*, 2(2), 1–13. <https://doi.org/10.1186/s40856-017-0013-6>
- Zhang, X., & Zheng, Y. (2019). Gender differences in self-view and desired salaries: A study on online recruitment website users in China. *PloS One*, 14(1), e0210072–e0210072. <https://doi.org/10.1371/journal.pone.0210072>