

Research Article

## The Sticky Floor Phenomenon: A Bibliometric Analysis<sup>a</sup>

### Yapışkan Zemin Olgusu: Bibliyometrik Analiz

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#### ABSTRACT

The sticky floor represents the impediments working women face, where they cannot advance and thus remain stuck in their female-considered, low-wage, and low-middle-level positions for extended periods. While some sticky floor studies examine the wage inequality between genders, others investigate women's socially accepted roles. This study aims to conduct a bibliometric analysis and identify the thematic trends in sticky floor-related publications. It explains the sticky floor and examines the aspects these studies focus on while investigating this phenomenon. It also aims to understand the evolution of research regarding the issues working women face, specifically concerning the sticky floor. This study examined 207 Scopus and Web of Science-indexed publications via VOSviewer. The results revealed four clusters that define two main themes in which the sticky floor is researched. These results are crucial to understanding the sticky floor and its impact and identifying the gaps in the literature for future studies.

#### MAKALE BİLGİSİ

##### Anahtar Kelimeler:

Yapışkan Zemin, Toplumsal Cinsiyet, Kadın, Bibliyometrik Analiz.

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#### ÖZ

Yapışkan zemin, çalışan kadınların ilerleyemedikleri ve dolayısıyla uzun süre sıkışıp kaldıkları düşük ücretli ve kadınlara uygun görülen düşük-orta seviyeli pozisyonlarda karşılaştıkları engelleri temsil etmektedir. Bazı yapışkan zemin çalışmaları cinsiyetler arasındaki ücret eşitsizliğini incelerken, diğerleri kadınların sosyal olarak kabul gören rollerini araştırmaktadır. Bu çalışma, bibliyometrik analiz yürüterek yapışkan zeminle ilgili yayınlardaki tematik eğilimleri belirlemeyi amaçlamaktadır. Çalışma, yapışkan zemini açıklamakta ve bu olguyu araştıran yayınlarda odaklanılan hususları incelemektedir. Ayrıca, özellikle yapışkan zeminle ilgili olarak çalışan kadınların karşılaştığı sorunlara ilişkin araştırmaların gelişimini anlamayı amaçlamaktadır. Bu çalışmada Scopus ve Web of Science veri tabanlarında yer alan 207 yayın VOSviewer aracılığıyla incelenmiştir. Sonuçlar, yapışkan zeminin araştırıldığı 2 ana temayı tanımlayan dört küme ortaya çıkarmıştır. Bu sonuçlar, yapışkan zemini ve etkisini anlamak ve gelecekteki çalışmalar için literatürdeki boşlukları belirlemek açısından önem taşımaktadır.

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## 1. INTRODUCTION

Globally, women represent almost half of the population. The last few decades showed an increase in women attaining higher education, participating in the workforce, and taking a step in joining male-considered fields and professions. However, despite the enhancements in these areas, women still face many hurdles in their workplace, particularly in reaching senior managerial positions. Many working women are often employed in professions regarded as feminine, such as administrative and social roles, and found in the lower to middle-level positions of the organization. Together with the lack of women in senior managerial positions, they are also obliged to work in these lower positions for extended periods.

The hurdles faced by working women have been studied by many researchers and several metaphors have been defined accordingly (Barnes, Beall & Holman, 2021; Brown, 2010; Crosby, Williams & Biernat, 2004; Eagly & Carli, 2007; Ryan & Haslam, 2005; Smith, Caputi & Crittenden, 2012; Still, 1997). Nonetheless, most of the research is related to the glass ceiling concept, which investigates women's inability to reach leadership and senior managerial positions due to invisible obstacles (Jackson, 2001; Ryan & Haslam, 2006). Many studies confirm the underrepresentation of women on corporate boards and slow improvement in terms of new female director appointments (Terjesen, Aguilera & Lorenz, 2015; Grosvold, Rayton & Brammer, 2015; Labelle, Francoeur & Lakhal, 2015; Sun, Zhu & Ye, 2015). Despite the shortage at senior levels, some women have been able to succeed in occupying these positions. Nonetheless, it is still evident that men are found in the upper tiers of the organizational hierarchy, whereas equally qualified women are primarily concentrated in the lower and middle-level positions. In other words, women experience the issue of being stalled at the bottom levels of the hierarchy, which is referred to as the sticky floor. Despite its relation to the glass ceiling, this represents a rather different predicament that women face. Some researchers might even explain the sticky floor as a complementary concept to the glass ceiling (Baert, De Pauw & Deschacht, 2016; Carnes, Morrissey & Geller, 2008).

Together with being limited to the lower and middle-level positions, the sticky floor also represents women being stuck in these positions for long periods. Moreover, while men are promptly promoted in their organizations, women with equal education, experience, and skills face fewer and more gradual advancement and salary increase opportunities (Booth, Francesconi & Frank, 2003; Deschacht, De Pauw & Baert, 2017; Schnarr, 2012; Smith et al., 2012). Thus, women are stuck for years

to dead-end jobs at the lower tiers of the hierarchy. This also deprives organizations of the diverse leadership talent they need to thrive.

The sticky floor is still considered a new field of research, despite impacting a significant part of the current or upcoming workforce as women make up almost half of the global population. In this context, understanding this hurdle that women face could provide a starting step in overcoming this issue. This study aims to fill a gap in literature by providing a glimpse to this novel concept and understanding the factors or themes addressed by other researchers. Accordingly, this study attempts to examine academic research on sticky floor through implementing bibliometric analysis.

The study explores 207 studies in the Scopus and Web of Science databases to develop a thematic understanding of methodologies used in investigating this phenomenon. This investigation will shed light on an issue faced by working women globally, which can provide a clearer understanding of the phenomenon. Moreover, the study will reveal the main themes emphasized by research while exploring the sticky floor, which will provide an indication of the areas that still require more investigation to resolve this predicament. The study tries to highlight the trends in literature and identify key gaps in existing research. Consequently, it seeks to provide valuable insights that can shape future works aimed at addressing the sticky floor.

## 1. THEORETICAL FRAMEWORK

### 1.1. Sticky Floor

Many metaphors have been suggested and adopted by researchers to reflect the impediments that working women experience in their recruitment, advancement, and climbing the career ladder (Fernandez & Campero, 2017; Harlan & Berheide, 1994; Tal, 2015). Some metaphors emphasized the impact that family responsibilities and motherhood have on women's careers, such as the mommy track and maternal wall (Brown, 2010; Crosby et al., 2004; Smith et al., 2012; Williams, 2004). For example, in a study (Luceno, 2006), the maternal wall was defined as an invisible barrier that negatively impacts working mothers by preventing them from advancing in their careers, assigning them to less prestigious jobs, and compensating them with lower salaries.

Difficulties faced by women are defined in some other metaphors include the labyrinth, glass cliff, the glass walls, and the glass escalator (Eagly & Carli, 2007; Ryan & Haslam, 2005; Smith et al., 2012; Still, 1997). The labyrinth metaphor represents the

labyrinth career path in which women's advancement is challenging but achievable, and reaching the center requires effort and careful navigation, yet it is possible (Eagly & Carli, 2007). On the other hand, the glass escalator refers to the discrimination against women in female-dominated occupations, where males may benefit from gender privilege by receiving faster promotions than their female colleagues (Still, 1997 as cited in Ng & Wiesner, 2007). The glass cliff presents an impediment that women face when they are assigned to riskier positions and organizations facing difficulties, which results in higher levels of failure ultimately attributed to women (Diehl & Dzubinski, 2023; Ryan & Haslam, 2005; Yildiz & Vural, 2019). Furthermore, Miller, Kerr & Reid (1999) defined glass walls as "occupational segregation attributed to employment barriers that restrict the access of women to certain types of jobs (or agencies) or that trap them within certain types of jobs (or agencies)". Similarly, "pink collar jobs" refer to low-status occupations traditionally dominated by women (Barnes et al., 2021; Gupta, 2019). Another metaphor used by scholars is the queen bee, which depicts women as hindrance to other women. The queen bee phenomenon represents women pursuing success in their careers through adopting masculine-characteristics attributed to success, distancing themselves from other women in the organization, and accepting gender-related stereotypes (Derks, Laar & Ellemers, 2016; Smith et al., 2012).

The glass ceiling is considered one of the key metaphors for describing the barriers that women face as they strive to reach senior managerial and leadership positions. Ryan & Haslam (2006) defined the glass ceiling as a "common metaphor used to describe the largely invisible barrier that women face as they attempt to reach the upper echelons of management." Similarly, Jackson (2001) described the glass ceiling as an "invisible barrier that keeps women and minorities from rising above a certain level in corporations." The glass ceiling demonstrates women's advancement in their positions until they collide with the obstacles that hinder their further progress to the upper levels of the hierarchy. Consequently, the majority of leadership and senior managerial positions are held by men, whereas women are concentrated in the bottom and middle-level positions of organizations. According to the Grant Thornton Women in Business report (2024), only %33.5 of women reach senior management globally. Moreover, LinkedIn data shows that women's labor force participation is still below that of their male counterparts in almost every sector. Women, constituting 42% of the global labor force, occupy only 31.7% of managerial positions. Accordingly, the upper echelons remain virtually inaccessible to women. Globally, there is a 21.5%

gap between male and female employees from entry-level to the C-suite. While women account for almost half of entry-level positions, they represent only a quarter of C-suite positions. Moreover, the appointment of women to executive roles declined in 2023, falling from 37.5% to 36.9%, and continued to fall to 36.4% in early 2024. Those numbers indicate that the proportion of women appointed in executive positions diminished in the last year and has continued to decline from the recent past to the present.

In effect, women unable to reach senior managerial positions might be obliged to remain in the same positions for a long time without advancing. This phenomenon has been referred to as the sticky floor. First coined by Berheide (1992), the sticky floor depicts jobs characterized by low wage, prestige, power and mobility, and often held by women. The sticky floor, considered one of the major impediments, represents women lacking the possibility to develop, advance, and thus remain stuck to their female-considered, low wage, and bottom to middle-level positions. Despite the similarity, the sticky floor is a complementary concept of the glass ceiling (Baert et al., 2016; Carnes et al., 2008). While the glass ceiling is concerned with women seeking to reach leadership and senior managerial positions, the sticky floor concentrates on women in junior to middle-level positions (Carli & Eagly, 2016; Cotter, Hermsen, Ovadia & Vanneman, 2001; Fernandez & Campero, 2017). With their inability to advance in their careers, the sticky floor emphasizes women being stranded in the same low-level positions for extended periods (Booth et al., 2003; Deschacht et al., 2017; Schnarr, 2012; Shambaugh, 2008; Smith et al., 2012; Zeng, 2011). In other words, while equally qualified male counterparts are being promoted, women remain in bottom-level positions characterized by low-wage, low-mobility, and lack of prospects.

Furthermore, women experiencing the sticky floor are usually trapped in fields considered to be less complex and female-appropriate, such as administrative, service, teaching, and nursing. Fernandez & Campero (2017) demonstrated that the number of female candidates for administrative and human resources was approximately fourfold higher than male candidates.

The sticky floor also illustrates a situation in which women are met with different promotion practices and offered limited advancement opportunities than men. Yap & Konrad (2009) showed that a higher proportion of male employees received one or more promotions during 1996-2000. A different study administered in Australia demonstrated that females are 7.9% less likely to be promoted (Johnston & Lee,

2012). Moreover, studies found that women holding particularly lower-level positions experience less and slower promotion possibilities (Harlan & Berheide, 1994; Johnson, Long & Faught, 2014). Zeng (2011) demonstrated that women had lower opportunities to be promoted from lower to middle-level positions. A longitudinal study in Finland revealed that women had smaller progression steps than men in the metal industry (Pekkarinen & Vartiainen, 2006). Because of these limited, gradual advancements and promotions, women are trapped in the same positions for long periods. In summary, most women hold positions referred to as 'dead-end jobs', characterized by their low power, status, and progress opportunities.

Some studies suggested the lack of education and work experience as main factors reinforcing women's employment in low-wage, bottom and middle-level positions (Carnes et al., 2008; Xiu & Gunderson, 2014). The limited number of women in upper-level positions and their concentration in the bottom tiers have been attributed to women's choices and lack of commitment as well. Women have been criticized for their frequent preference of family over career, which may reflect some reluctance and unwillingness to climb the career ladder. Some studies even suggested that women sabotage their advancement opportunities (Frankel, 2014; Smith et al., 2012). Attempting to balance their various responsibilities, the long hours and required efforts of top-level managerial positions may deter women from aspiring to reach such positions (Smith, Smith & Verne, 2013; Still, 1997; Yap & Konrad, 2009; Zeng, 2011).

An organizational culture promoting male superiority instead of gender diversity may also reinforce the development and persistence of the sticky floor. It has been suggested that the encounter of discrimination and stereotyping behaviors in the workplace and employment-related practices may inhibit women from reaching top-level managerial positions (O'Neil, Hopkins & Bilimoria, 2008; Yap & Konrad, 2009). Some researchers even attributed the concentration of women in bottom-level positions to the presence of gender-related stereotypes (Eccles, 1987; Murraya & Zhang-Zhang, 2018). Furthermore, owning multiple marginalized identities in terms of race, class, disability in addition to gender or sexual orientation makes it harder to climb the career ladder (Hollis, 2018; Gottardello, 2023; Vianna, Moreira & Castro, 2024).

Researchers adopted different perspectives in explaining the sticky floor concept. Some perspectives examine the existence of the sticky floor in specific locations or cultures, whereas other perspectives are concerned with determining the factors that enable its emergence. In this context, this

study will explore a set of studies examining the sticky floor to establish a thematic understanding of the perspectives in which this phenomenon has been researched.

## 2. RESEARCH METHOD

The methodology used in this study consists of two processes. First, database screening has been implemented to define the studies that will be included in this study based on a set of inclusion and exclusion criteria. Second, a bibliometric analysis was used to identify the thematic trends in the selected studies.

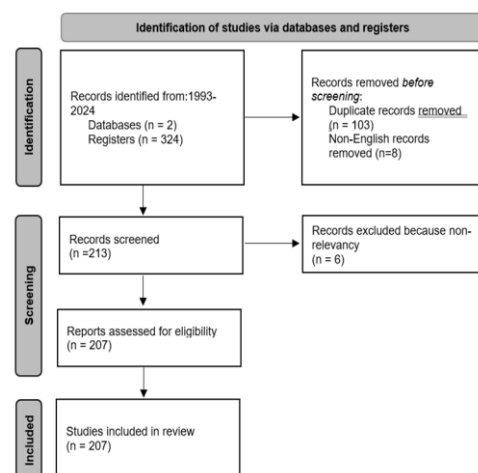
### 3.1. Screening Studies

Academic research papers indexed in the Scopus and Web of Science databases screened to be included in the analysis according to determined criteria. In an attempt to define the inclusion and exclusion criteria, a structured protocol Preferred Reporting Items for Systematic Reviews and MetaAnalyses (PRISMA) was utilized (Figure 1).

#### 3.1.1. Inclusion and exclusion criteria

Based on the conducted PRISMA, the following inclusion and exclusion criteria were established to avoid bias in the selection of academic literature.

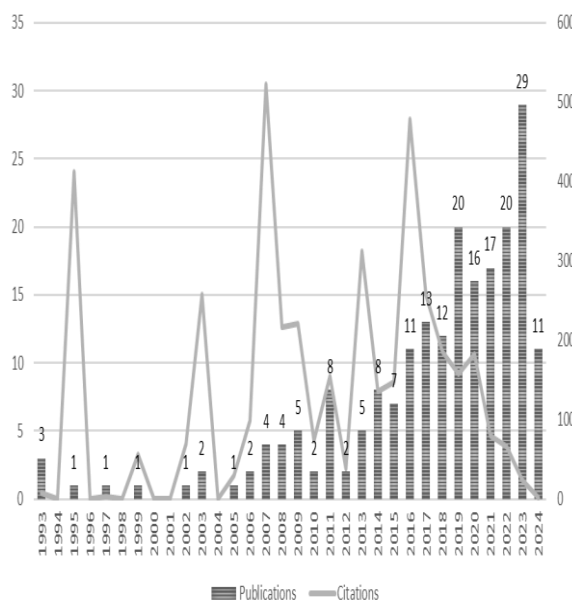
- Inclusion criteria for research papers:
  - Indexed in Scopus and Web of Science
  - Publication type with thematic category related to social sciences
  - Inclusion of the topic of study
- Exclusion criteria for research papers:
  - Duplicate papers with identical authorship and research content
  - Lack of relevancy to the field of study
  - Written in a language other than English



**Figure 1:** PRISMA Flowchart (Galletta, Mazzù, Naciti & Paltrinieri, 2024)

### 3.1.2. Identification of the time period

A time window was chosen to provide an overview of published research from 1993 to 2024. The extraction of research papers was conducted in May 2024. Figure 2 demonstrates the number of publications and citations related to the sticky floor during the defined time frame. Accordingly, interest in the topic has increased relatively in the last 10 years.



**Figure 2:** Sticky Floor-related Publications per Year with Citation Numbers (Scopus and Web of Science)

### 3.1.3. Literature selection

At the early stage of the literature selection, 324 publications met the initial criteria. These publications contained the concept "Sticky Floor" and were obtained from the Scopus and Web of Science databases. Those databases merged with the Zotero software. Subsequently, 117 research papers were excluded due to duplication, lack of relevancy, and language criteria. In conclusion, 207 research papers were considered for the bibliometric analysis and qualitative synthesis of thematic clusters analyzed in the subsequent process.

## 3.2. Bibliometric Analysis

A bibliometric analysis was conducted, which is used to reveal trends and themes in the academic literature and map the results in the form of clusters (Donthu, Kumar, Mukherjee, Pandey & Lim, 2021; Xue, Wang & Yang, 2018). In this context, a bibliometric analysis was conducted on the chosen research papers utilizing a VOSviewer tool.

VOSviewer enables the construction of intricate networks representing various aspects of scientific literature. Networks can encompass scientific publications, journals, researchers, organizations, countries, keywords, and terms. The connections within networks can be established through co-authorship, co-occurrence, citation, bibliographic coupling, co-citation links. This allows for the visualization and analysis of the relationships within the academic landscape. In a network visualization, each item is visually represented by a label and a circle, as a higher weight results in a larger label and circle for the item. Proximity of the items indicates the strength of relationship. Visual representation provides a clear indication of the relative importance of each item within the network.

## 3. FINDINGS

### 3.1. Bibliometric Mapping

The analysis was conducted using the VOSviewer software to create a thematic visualization of relationships within databases. The co-occurrence analysis of keywords with the merged dataset consisting of both the Web of Science and Scopus datasets. Moreover, the study analyzed publications and citations by country. Accordingly, the analysis of the Web of Science database showed that sticky floor-related studies were mostly published in the USA, Italy and Canada. Whereas the Scopus database demonstrated that these studies were mostly published in the USA, Italy, and India (Table 1).

In both databases, clustering was also conducted using bibliographic coupling method, which demonstrates two publications that cite a third common study. As seen in Figures below, these indicate the link strengths between the different studies exploring the sticky floor concept. The most

Web of Science			Scopus		
Country	Publication	Citation	Country	Publication	Citation
USA	34	2477	USA	25	702
Italy	18	110	Italy	19	116
Canada	12	224	India	15	179
Spain	11	1541	UK	13	799
England	10	337	Australia	10	759
Germany	10	165	Canada	6	130
PRC	10	279	France	6	111
India	10	123	Germany	5	144
Australia	8	227	Spain	5	51

Accordingly, the first cluster, in red, presents keywords such as “wage gap”, “gender wage gap”, “decomposition”, “employment”. In the second cluster, in green, keywords such as “gender”, “sticky floors”, “discrimination”, “glass ceilings” have emerged. The third cluster in blue, includes “pay gap”, “glass ceiling”, “sticky floor”, “gender pay gap”, “labor-market” keywords. The main keywords in the fourth cluster were “women”, “female”, “leadership”, “human”. According to these clusters, the concept of sticky floor was mostly studied alongside the glass ceiling concept in the literature.

### 3.2. Bibliographic Review

#### 3.2.1. Red cluster

The most common keywords in the red cluster, which consisted of 19 keywords, were identified as the “wage gap,” “gender wage gap,” “decomposition,” “employment.”

The sticky floor was used by Laabs (1993) to explain how some jobs prevent women and some men from leaving their positions. These jobs were characterized by low wage and promotion opportunities, such as administrative-support jobs for women and service-maintenance jobs for men (as cited in Still, 1997). On the other hand, Booth et al. (2003) defined the sticky floor as a state where women were promoted as frequently as men, but with lower wage increases. This situation was attributed to either worse market alternatives or more negative firm reactions to external offers for women.

Despite its various definitions, the sticky floor is mostly discussed by comparing men’s and women’s wages within the segments of the income distribution. In their study, Ferri, García-Pereiro & Pace (2023) inspected the wage disparity using a decomposition method that allows researchers to examine the upper and lower segments of the wage distribution and discovered the presence of both sticky floor and glass ceiling effects. It could be argued that studies considering characteristics other than wage, such as education, field, and tenure, as their control variables, give more meaningful explanations to the obstacles that women face in the workplace.

Kee (2006) revealed that the glass ceiling is more common in the private sector, the sticky floor is more evident in the public sector in Australia. This is attributed to the fact that an upper limit has been set for the wages paid in public institutions. Therefore, the wage gap between men and women in the higher wage segment in the public sector does not widen as much as it does in the private sector. In another research conducted in Estonia, Unt, Rokicka, Täht & Roosalu (2021) also found that the gender gap in income distribution increases at the low-income levels in the public sector. According to decomposition analysis by Ge, Li & Zhang (2011), the wage gap in the higher wage group is affected by productivity-related characteristics and occupational segregation. However, those effects in the lower wage group, which demonstrate the sticky floor, were too weak. These findings showed the importance of considering different contexts such as the public-private sector when an evaluation for discrimination is made according to wage differences.

It was also observed that the keyword “education” emerged in this cluster. Chi & Li (2008) discovered that the sticky floor is linked to a particularly low-paid group of female production workers who have relatively low education levels. Conversely, Kim & Park (2023) explored whether people defined as the most educated segment in Korea, experienced sticky floor or glass ceiling. It was concluded that even among the most educated segment, women are exposed to wage discrimination and particularly face a sticky floor situation. It has been argued that traditional gender roles lead to a negative situation for highly educated women, especially in terms of childcare responsibilities at the beginning of an academic career.

#### 3.2.2. Green cluster

The most common keywords in the green cluster, which contained 17 keywords, were “gender,” “sticky floors,” “discrimination,” and “glass ceilings.” The most noticeable difference is the appearance of the “family” keyword in the foreground.

Arulampalam et al. (2007) showed that in countries like Denmark and Netherlands, which have higher levels of work-family balance policies, the gender income gap is lower at the bottom of the income distribution and higher at the top income level. Moreover, the study demonstrated that in countries without such policies, women tend to leave their jobs early in their careers then return to lower levels jobs characterized by shorter hours and lower wages. In the study, it was found that among 11 European countries, the sticky floor was seen only in Italy and Spain and the glass ceiling was more evident in nine other countries. Nevertheless, these policies can be considered a double-edged sword, as women in the upper-income group who take long-term leaves and step away from their jobs may trigger a glass ceiling. In a study investigating top-level executives in Denmark, Smith, Smith and Verne (2011) found a compensation gap for genders. Authors attributed this unexplained compensation gap to the negative boomerang effect of family-friendly schemes and possible career interruptions towards managerial positions. Zamberlan & Barbieri (2023) found a wage gap for potential mothers, arguing it may be caused by compositional differences of characteristics rather than discrimination.

In a qualitative study conducted among working women who had children, Kooskora & Lõssov (2022) found that the participants mostly complained about the work-family balance. The researchers concluded that women might consciously choose jobs in middle-level positions because of their family responsibilities, the accepted social roles of women,

and some participants' lack of ambition and inability to leave their comfort zones. Furthermore, Valiukaite (2023) highlighted that in Irish society where women's family roles are prioritized, women are more involved in sectors that offer flexibility and compatibility with family life. These sectors often have lower wages compared to more competitive jobs, which might contribute to the income gap between genders. Studies also show that there are other demographical factors that strengthen the difficulties in the workplace for women. It was shown that among visible minority men, visible minority women, and white women groups, visible minority women faced the most significant promotion disadvantage (Yap & Konrad, 2009). A study in Brazil analyzed differences between men and women of different races according to wage distribution and found that while white women can have more wages at the top of the distribution, black women are placed in worse occupations than men at all levels despite their higher education level (Vianna et al., 2024).

### 3.2.3. Blue cluster

The most common keywords in the blue cluster, which consisted of 17 keywords, include "pay gap," "glass ceiling," "sticky floor," "gender pay gap," and "labor-market."

The bibliometric analysis revealed the presence of studies examining the gender wage gap in the context of the labor markets of regions such as Europe, China, and the USA. Studies investigate the struggles that women face in their working lives by focusing on the wage distribution. Carrillo, Gandelman & Robano (2014) found that both the glass ceiling and sticky floor are seen in terms of wages and that the income difference by gender is larger in the labor market of Latin American countries with lower gross domestic product (GDP). Accordingly, the glass ceiling, where the income difference is greater in the upper wage segment, is seen in countries with higher GDP, whereas the sticky floor is seen in countries with lower GDP. This might be attributed to the qualified female labor force in less developed countries being perceived as scarce and valuable. Similarly, Xiu & Gunderson (2014) defined the sticky floor as the gender wage gap observed at low-income levels where women are stuck in low-paid jobs and revealed that it is more common than the glass ceiling in China. These findings coincide with the findings of the high sticky floor seen in studies conducted in other Asian countries (Fang & Sakellariou, 2015; Khanna, 2012; Tandrayen-Ragoobur & Pydayya, 2015). One reason is that women working at low-income levels lack the opportunity to hire help for childcare, which women at high-income levels have.

Ciminelli, Schwellnus & Stadler (2021) attributed the wage gap between genders in OECD countries to women accepting low-paid jobs in exchange for more flexible working conditions, the impact of maternity leave on women's ability to develop their business networks and skills, women being less inclined to engage in wage bargaining than men, and discrimination. Furthermore, the gender wage gap for young workers, especially in Turkey, is close to zero due to people in this age group having an income at the minimum level, regardless of their gender. Although the wage differences between in Turkey, Greece, and Italy are close to the average of 25 countries, most women in these countries never joined to the labor market.

Biagetti & Scicchitano (2011) analyzed the wage distribution among managerial workers in Italy, revealing a glass ceiling and a sticky floor. They observed that women earn less across the entire wage distribution, even after accounting for various personal, human capital, and labor market characteristics. This gap is attributed to the differing rewards that men and women receive for their characteristics, with the relative impact of this difference steadily increasing at higher quantiles. Christofides et al. (2013) investigated the wage differences across 26 European countries and found a glass ceiling state where women and minorities may encounter barriers to career advancement. Additionally, the significant wage gap at the lower wage level indicated the presence of a sticky floor state where certain groups may face challenges in climbing the economic ladder. In their study, Moreno-Mencia, Fernández-Sainz & Rodríguez-Poo (2020) revealed that public sector employees in Spain generally receive higher wages than those in the private sector, with this disparity being more pronounced for women. Moreover, the gender wage gap between the public and private sectors decreased as one ascended the wage distribution. In other words, a higher portion of the gender wage gap is found among workers at the lower levels of the wage distribution in both sectors.

### 3.2.4. Yellow cluster

The most common keywords in the yellow cluster consisting of 15 keywords were "women," "female," "leadership," and "human."

Zeng (2011) demonstrated that females and minorities are less likely to be managers or supervisors in comparison to white males. Johnson et al. (2014) similarly revealed that female academicians held a lower percentage of first-level management positions. Yap & Konrad (2009) found that female workers face a lower possibility of promotion in comparison to their male colleagues. A

study in Belgium also showed that women are less likely to be hired at higher levels (Baert et al., 2016). Accordingly, females received 33% fewer invitations for interviews and 19% fewer positive reactions when applying for upper-level positions. This illustrates the insufficient representation of women in top managerial positions and an over-representation in the lower echelons of organizations.

Controversially, reaching leadership roles may be caused by discrimination against women. As Ryan & Haslam (2005) argued, women being appointed to undesirable leadership positions in a company about to decline might face “glass cliff”. Ryan et al. (2016) showed that men often favor women for leadership positions only in crisis times, whereas women favor other women in both normal and crisis periods (as cited in Dahlvig, Dickinson Kulick & Greenhalgh, 2024). In cases where firms experienced significant losses, a higher likelihood of appointing women was observed than firms experiencing smaller losses or gains (Mulcahy & Linehan, 2014).

Research also suggests the labyrinth metaphor implying that women encounter obstacles that may require time to overcome throughout their careers. Thus, while men climb the career ladder, women must navigate their labyrinth career path (Samuelson, Levine, Barth, Wessel & Grand, 2019). The labyrinth metaphor also suggests the possibility of navigating these challenges successfully and reaching top leadership positions. Unlike the glass ceiling, the labyrinth implies that these barriers are not insurmountable and that women can attain high-level leadership roles.

#### 4. CONCLUSION AND DISCUSSION

This study aimed to provide a better understanding of the sticky floor, a newly emerging concept that explains the predicaments that women face in the workplace. The study consisted of a bibliometric mapping of the Scopus and Web of Science-indexed research papers that address the sticky floor. Accordingly, 207 research papers were analyzed to reveal two thematic trends in studies related to this concept.

##### 5.1. Research Methodologies and Theories

The four clusters that emerged indicate that the sticky floor exploration has different perspectives, which could be summarized by two major categories. The first perspective examines the existence of the sticky floor by investigating the wage gaps among males and females in organizations, sectors, and countries. This perspective identifies the sticky floor and glass ceiling with wage-based indicators and

provides robust outcomes that show the existing differences between genders in occupational positions. Booth et al. (2003) explained that the sticky floor indicates a situation where women are promoted as often as men but receive lower wage gains consequent upon promotion.

It is largely seen that the studies that explained sticky floor with wage gap results, authors use the quantile regression decomposition methods to find statistical differences. The decomposition method by itself helps to understand if there are wage differences between men and women professionals. However, to find whether these differences indicate a sticky floor or glass ceiling, the positions at which this wage gap occurs must be clarified. Authors mainly set this positional difference by using the wage variable and the quantile regression method to analyze wage differences in different wage levels. Biagetti & Scicchitano (2011) note that although counterfactual decomposition with quantile regression is widely used in research on the gender wage gap -particularly about the sticky floor and glass ceiling effects- there are relatively few studies examining different occupational positions.

Xiu & Gunderson (2014, p. 307) described the sticky floor as “a large pay gap at the bottom of the distribution where women are stuck in low-wage jobs.” In the study where they tested different factors related to the wage, they stressed the importance of educational level to explain the gender wage differences in China. These studies tend to focus on factors that affect income levels, such as education, rather than addressing characteristics specific to women that are shaped by social roles in society. For instance, they overlook the reasons that might lie behind the educational disparities and other studies do the same by overlooking the family responsibilities of women.

Smith et al. (2011) found that the wage gap between male and female workers widens at lower positions, causing a higher degree of sticky floor. However, what causes these differences has been inspected in the studies categorized as the second perspective. The study of the same authors is an example of this perspective, as they aimed to find the cause of the promotion differences by focusing on child-related decisions such as maternity leave and age at the birth of the first child (Smith et al., 2013).

The second perspective focuses on reasons to keep women from promotion and career advancement, highlighting the forces that prevent women from stepping up within organizational hierarchies. This perspective focuses on the limitation of opportunities for women, gender discrimination and discusses also possible factors such as socially accepted roles of

women, family policies or women's inclination toward flexible jobs for keeping a work-family balance. Said, Majbouri & Barsoum (2022) in their study conducted in the MENA region, highlights that cultural values significantly contribute to the justification of women's lower wages, utilizing patriarchal ideologies that designate men as the primary breadwinners while perceiving women's work as less essential to the household's economic viability. As the authors indicate, culture is one of the factors that should not be overestimated in such gender studies. Few studies that used cross-country comparison methods attempted to understand the role of culture and state policies on the sticky floor, and they share a better understanding than commonly used single-country inspections that have limited political or institutional variation (Arulampalam, 2007; Christofides, 2013; Zamberlan & Barbieri, 2023). Unveiled differences in wage and promotion between men tried to be explained with leadership, stereotyping, role congruity, and socialization theories which also related to cultural differences (Dahlvig & Longman, 2020; Kohaut & Möller, 2023; Bansal & Axelton, 2024). The theory of promotion signaling is one of the explanations suggested by a limited number of research (Milgrom & Oster, 1987; Cassidy, DeVaro & Kauhanen, 2016).

Baert et al. (2016, p. 714) identified the sticky floor as a "pattern in which women are, compared to men, less likely to start to climb the job ladder." Similarly, Berry & Franks (2010, p. 1) stated that the sticky floor represents "the forces that keep women stuck at the bottom of the economic pyramid." This illustrates that women experiencing the sticky floor are trapped in low-wage and bottom to middle-level positions and even inhibited from the already limited advancement opportunities (Kiser, 2015; N. Smith et al., 2013; P. Smith et al., 2012; Zeng, 2011). In other words, despite their ability to compete with other men, women's qualifications are disregarded, and their aptitude to succeed in managerial jobs is doubted (Johnson et al., 2014; Still, 1997). These factors not only limit women's opportunities to advance beyond low and mid-level positions but also diminish their qualifications and leadership potential. This viewpoint, commonly linked to challenges in leadership, highlights how women's contributions are often undervalued, reinforcing the sticky floor phenomenon.

## 5.2. Practical Implications

Despite the increase in their obtaining higher degrees, joining the workforce, and taking on male-dominated professions, women still face various obstacles in the workplace. Women remaining in the lower level of the organizational hierarchy for long

periods, might indicate the presence of highly qualified skills and talents that organizations are not taking notice of. In other words, organizations are disregarding the opportunity to leverage from women who are equally qualified to their male colleagues.

The two categories that emerged in this study reveal the dominance of one theme over the other. The majority of studies exploring the sticky floor emphasize the wage gap between genders in different regions, sectors or occupations. Even though examining and understanding the wage gap between genders is crucial, the main causes behind this phenomenon still require more investigation. Accordingly, this study reveals the gap that is still found in the sticky floor literature. In this context, more studies that address the issue of the sticky floor and understanding the causes behind it are required. This will enable decision makers to develop the correct practices and policies that will enable them to provide women with similar opportunities as they do for men. Gaining a better insight into the sticky floor phenomenon might provide decision makers with practical solutions to an issue that might already exist in their organizations. This study revealed that one of the recurrent keywords in the analysis is related to family responsibilities. Understanding the impact of family responsibilities on women's careers might encourage organizations to adopt practices that enhance women's ability to engage in work-related activities and reduce the adverse impacts of the sticky floor. Moreover, a more comprehensive study of the sticky floor might shed a light on the magnitude of this phenomenon that women experience. Thus, it will urge policy and decision makers to enforce strategies supporting working women.

## 5.3. Future Studies

Despite the gradual increase in interest in the sticky floor, it is still lagging behind other more established topics, such as the glass ceiling. A larger number of women are joining the workforce in positions characterized by lower levels, wages, connections, and power. In other words, women are forced to work in positions and jobs without any prospects. This ultimately, will lead women to remain in their low-middle-level positions for extended periods, cause the sticky floor. Conducting this and similar studies will provide researchers with clearer insights into the limited research concerning this topic, and an understanding of the areas that still require more examination. In this context, researchers might conduct qualitative and quantitative studies to specify the factors that reinforce the emergence of the sticky floor. Furthermore, studies can investigate the similarity of these driving factors to other

obstacles that women face in the workplace. For instance, possible factors that might lead to the emergence of the sticky floor such as socially accepted gender roles, internalized stereotypes, discrimination or priorities of women can be analyzed using mixed methods. Despite linking the sticky floor to women working in low-to-middle level positions, it might also be assumed that this phenomenon impact other minority groups. Similar to the situation that working women experience, the workforce today illustrates an increase in diverse groups that are underrepresented, marginalized, and underprivileged in the workplace. Accordingly, researchers might consider the existence of the sticky floor among these minority groups. Also, as studies taking into consideration the minorities bring out that the racial factors lead different outcomes for women of different identities, studies on intersectionality in various societies would shed light on the issue of discrimination sources.

Finally, whereas quantitative analysis about wage, promotion, demotion and exit rates are important in detecting the differences mathematically, more qualitative research can be helpful in understanding how and why these differences are developed. Closing the gap in the literature will enable researchers to provide more practical and applicable solutions for an issue that could be the base for the low percentage of women in leadership, managerial, and decision-making positions.

#### 5.4. Limitations

Despite its contributions to literature and practice, this study has some limitations. First, the study is based on Scopus and Web of Science-indexed research papers, excluding other studies that could provide more insight and contribution to developing different clusters. Moreover, limiting the examined studies to English-based studies might impact the created clusters. Future studies might review the inclusion and exclusion criteria to ensure a broader examination of research studies. Moreover, other metaphors might be included in the bibliometric analysis for a more comprehensive systematic literature review of the obstacles working women experience.

This study also reveals that sticky floor research focuses on economic literature. Aiming to elaborate on this phenomenon better, further research emphasizing different areas, such as organization studies and organizational behavior, is needed. Furthermore, research is primarily done on the macro level, whereas the micro and meso-level analysis remain underdeveloped in the sticky floor literature. Thus, more research at the meso (institutional-

organizational) and micro (individual) levels is needed.

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