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ORIGINAL ARTICLE

Understanding the Imposter Phenomenon Through a Gender Equality Lens: A Systematic Literature Review on Women Employees in the Workplace

Nazlı Yüceol[1]

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Abstract

This systematic literature review examines the imposter phenomenon among women employees through a feminist organizational perspective, reconceptualizing impostorism not as an individual confidence deficit but as an internalized manifestation of gendered organizational inequality. The imposter phenomenon, first introduced by Clance and Imes (1978), describes the internalized belief that one's achievements result from external factors such as luck rather than competence, leading to persistent self-doubt and distorted self-perception (Rampersad et al., 2025). While the evidence included in this review indicates that women more frequently report impostor feelings than men prior reviews have largely treated this difference as a psychological tendency, with limited attention to its structural, organizational, and cultural determinants (e.g., Bravata et al., 2020; Liu et al., 2022; Parkman, 2016). The review was conducted in accordance with PRISMA 2020 guidelines. Data were collected from the Web of Science and Scopus databases using the keywords "imposter phenomenon," "impostor syndrome," and their variants. Inclusion criteria were: research articles in English indexed in SSCI, SCI-Expanded, or ESCI; addressing Sustainable Development Goal 5 (Gender Equality); and available as open access. Studies involving only student samples, non-English or non–open-access papers, and unrelated reviews were excluded. A total of 26 articles met the criteria. Quality appraisal was conducted using criteria adapted from the JBI Checklist and the Newcastle–Ottawa Scale. Following thematic synthesis, four overarching themes were identified: (1) Antecedents individual, organizational, and sociocultural factors (e.g., perfectionism, bias, non-inclusive leadership) underlying impostorism; (2) Consequences psychological and career-related outcomes such as burnout, anxiety, and restricted advancement; (3) Coping Strategies and Interventions mentoring, peer support, and gender-sensitive leadership practices as protective mechanisms; and (4) Intersectional and Cultural Contexts the influence of cultural norms and intersecting identities on women's impostor experiences. The primary contribution

Extended author information available on the last page of the article

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of this review is threefold, it reconceptualizes impostorism as an institutionally produced experience shaped by gendered organizational structures rather than individual vulnerability; it maps the phenomenon's antecedents, consequences, coping mechanisms, and intersectional dimensions within a unified thematic framework; and it identifies systematic gaps in the reviewed studies including the near-exclusive concentration on healthcare settings, the underexamination of structural antecedents, and the dominance of Western, individualistic research contexts that constrain the field's generalizability and theoretical ambition. Future research should expand to diverse professional and geographical contexts using longitudinal, intersectional, and mixed-method designs.

Keywords Imposter phenomenon · Gender equality · Systematic literature review · Women employees · Feminist organizational theory

Introduction

Although the imposter phenomenon is defined as an individual's inability to internalize their own achievements and a persistent state of self-doubt regarding their competence (Clance & Imes, 1978), the fact that this experience emerges more frequently and persistently among women indicates that the phenomenon cannot be addressed solely within the boundaries of individual psychology. Gender inequality produces organizational and cultural contexts in which women's professional competencies are systematically questioned, their invisible labor is devalued, and their achievements are coded as exceptional or temporary. Within these contexts, women become more inclined to attribute their success to external factors rather than personal competence and to act under a constant fear of being exposed as inadequate (Clance & Imes, 1978; Clance et al., 1995). Moreover, its association with gender-based stigma consciousness (Cokley et al., 2018) and racial discrimination (Bernard et al., 2017; Peteet et al., 2015) indicates that the imposter phenomenon is not merely an individual psychological experience but rather a reflection of broader social and structural inequalities and should be examined within this framework. While existing research demonstrates that women experience the imposter phenomenon more frequently and more intensely than men, this difference is linked to gender norms, cultural expectations, and organizational power asymmetries. However, much of the literature continues to explain this experience through low self-efficacy, perfectionism, or individual cognitive tendencies (Hutchins & Rainbolt, 2018; Rohrmann et al., 2016; Villwock et al., 2016), and does not sufficiently discuss why the imposter phenomenon becomes a more persistent and structural problem particularly among women. This situation necessitates reconsidering the imposter phenomenon as a consequence of gender inequality.

Building on this premise, the present study aims to systematically examine how the imposter phenomenon manifests among women employees, how it is produced and sustained through gender roles, structural inequalities, and cultural expectations, and to reveal its thematic, methodological, and structural dimensions from a feminist organizational perspective.

The rationale for this review is grounded in converging gaps identified across the reviewed studies. Despite growing scholarly interest, research that examines how structural gender inequalities produce and sustain imposter feelings in professional contexts remains limited (Clance & Imes, 1978; Kolligian & Sternberg, 1991). Traditional gender expectations systematically hinder women's internalization of achievement, yet the evidence included in this review documents this pattern without interrogating its organizational and institutional sources. Evidence-based organizational interventions remain scarce (Parkman, 2016), and the phenomenon's structural determinants including sectoral culture, power distance, and intersecting identities have been largely overlooked (Bravata et al., 2020). A systematic review methodology enables comparative synthesis of these dimensions and positions the gender equality perspective not as a supplementary lens but as the analytical core of the inquiry (Moher et al., 2009).

While prior reviews have documented the prevalence and psychological correlates of impostorism (Bravata et al., 2020; Hutchins & Rainbolt, 2018), they have largely treated the phenomenon as an individual psychological tendency, stopping short of a structural, gender-theorized analysis of its organizational antecedents, sectoral distribution, and cultural embeddedness. The present review departs from this tradition by foregrounding organizational and institutional mechanisms rather than individual vulnerability.

The primary contribution of this review is therefore threefold: it reconceptualizes impostorism not as a personal confidence deficit but as an internalized manifestation of gendered organizational inequality, it maps the phenomenon's antecedents, consequences, coping mechanisms, and intersectional dimensions within a unified thematic framework (Fig. 2), and it identifies systematic gaps in the existing literature including the near-exclusive concentration on healthcare settings, the underexamination of structural antecedents, and the dominance of Western, individualistic research contexts that constrain the field's generalizability and theoretical ambition. In line with this aim, the study seeks to answer the following research questions:

RQ1: Through which thematic dimensions and variables has the imposter phenomenon among women employees in working life been examined?

RQ2: In which sectors are these studies concentrated?

RQ3: Which research methods have been adopted?

RQ4: In which countries have the studies been conducted?

Conceptual Background

The Imposter Phenomenon

The imposter concept was first defined based on the experiences of 150 highly successful women from different professional fields who had difficulty attributing their achievements to their own abilities. Clance and Imes (1978) observed that although these women appeared confident and professionally successful from the outside, they internally experienced feelings of inadequacy and tended to attribute their success to luck or external factors. This phenomenon is conceptualized not as a clinical disorder

but as a cultural and psychosocial construct; therefore, the term Imposter Phenomenon is used in this study instead of imposter syndrome (Joseph et al., 2023). Although it was initially thought to be exclusive to women, subsequent research has shown that the phenomenon can be experienced by both women and men in different cultural contexts (Gottlieb et al., 2020). Nevertheless, gender norms related to success, cultural expectations, and organizational structures contribute to the higher prevalence of the phenomenon among women (Şen & Küçükkaragöz, 2022). Individuals experiencing the imposter phenomenon tend to downplay their own competence despite objective evidence, dismiss praise, attribute success to chance, and live with a persistent fear that their "true self" will one day be exposed (Lane, 2015; Rampersad et al., 2025). However, a key issue that is frequently overlooked in the literature is the tendency to evaluate the imposter phenomenon as a result of individual cognitive tendencies. Feminist theoretical approaches argue that such individual-centered studies render invisible the institutionalized gender inequalities embedded in organizational structures that shape women's experiences. In this context, gender does not function as a difference variable, but rather as a structural power asymmetry that determines how competence is defined in organizations, who is considered legitimate, and who is able to internalize success (Acker, 1990; Ridgeway, 2011).

Over time, the imposter phenomenon has been examined in various contexts. Early research addressed the phenomenon from a psychodynamic perspective, while later studies approached it from different perspectives within fields such as organizational psychology, education, and gender studies. Clance (1985) defined the phenomenon as a cognitive–emotional pattern consisting of components such as the "imposter cycle," "perfectionism," "fear of failure," "denial of competence", "need to be special," and "fear of success." These elements lead individuals not only to deny their own competence but also to engage in excessive performance in order to conceal feelings of inadequacy. Family background and social messages have also been identified as influential in the development of the phenomenon (Clance et al., 1995). However, from a feminist perspective, women employees' tendency toward overperformance emerges not as an individual compensation mechanism but as a consequence of the necessity to conform to androcentric organizational norms. Within standards of success, leadership, and professionalism defined by masculine codes, women are compelled to constantly prove their competence, which unfortunately renders the imposter phenomenon not an exceptional but a systematic experience (Acker, 2006; Kanter, 1977).

It is widely acknowledged that both internal and external factors play a role in the origins of the imposter phenomenon (Gadsby & Hohwy, 2023; Lane, 2015). Internal factors include low self-efficacy, perfectionism, high self-criticism, and fear that success cannot be sustained (El-Ashry, 2024). These characteristics prevent individuals from consistently internalizing their achievements and lead them to focus on their mistakes rather than their successes. The trait-based approach suggests that such internal tendencies are rooted in personality structures (Clance & Imes, 1978; Langford & Clance, 1993). In contrast, structural and contextual approaches demonstrate that self-doubt does not emerge spontaneously from the individual's inner world but is produced by gender norms. In organizational contexts where women are encouraged to be modest, flawless, and compliant, and where making mistakes threatens their

legitimacy, self-doubt becomes a rational adaptation response for women employees. From this perspective, gender norms function as one of the primary mechanisms producing self-doubt (Kay & Shipman, 2014; Ridgeway, 2011). External factors, on the other hand, stem from social, cultural, and organizational contexts. Competitive environments, continuous evaluation processes, high performance expectations, and gender-based roles intensify the phenomenon (El-Ashry et al., 2024). The contextual approach argues that these tendencies may vary depending on situational contexts (Ross & Nisbett, 2011). When these two approaches are considered together, the imposter phenomenon emerges as a multilayered structure nourished by both individual cognitive tendencies and external social structures. However, when the gendered dimension of this multilayered structure is not sufficiently taken into account, the imposter phenomenon is incorrectly framed as an individual doubt.

The "Imposter Phenomenon" in the Context of Gender

Gender refers to the socially constructed set of norms, values, and expectations associated with femininity and masculinity. This social structure directly shapes individuals' participation in social life, access to opportunities, and career development prospects. Among the United Nations Sustainable Development Goals (SDGs), "Gender Equality" (Goal 5) aims to empower women and girls, ensure equal participation in decision-making processes, and expand access to economic opportunities. Progress toward gender equality not only supports women's empowerment but also accelerates economic and social development (Filho et al., 2023).

This study addresses the imposter phenomenon not as an individual cognitive distortion or a psychological condition, but as an experience produced by gender inequality at the organizational level; therefore, its analytical framework is built upon Acker's gendered organizations approach. According to Acker (1990, 2006), organizations are not gender-neutral or impartial structures. On the contrary, through job definitions, competency criteria, career opportunities, evaluation systems, and everyday interaction practices, they are structured around norms of masculinity. This structure positions the ideal worker as a male subject who is continuously available and free from emotional burdens. In this context, the imposter phenomenon emerges as a consequence of women and other marginalized groups being persistently positioned as "misaligned," "incomplete," or "temporary" subjects within these normative organizational structures. Feminist theories conceptualize gender not merely as an identity category but as a system of power relations embedded within organizational and institutional arrangements (Acker, 1990, 2006). The literature consistently demonstrates that the imposter phenomenon is more prevalent among women than men (Bravata et al., 2020; Clance & Imes, 1978; Liu et al., 2022; Parkman, 2016; Villwock et al., 2016). This difference is explained not by biological factors, but by social, cultural, and organizational dynamics rooted in gendered organizational structures. Gender norms shape women's perceptions of self-efficacy and their ways of internalizing success (Koenig, 2018). While women are often encouraged to be modest and compliant, men are supported in displaying confidence and claiming ownership of their achievements (Ridgeway, 2011). These distinct social patterns lead women to attribute success to luck or contextual advantages rather than individual

competence, making gender norms a structural mechanism that produces self-doubt (Kay & Shipman, 2014).

Building on Acker's framework, three complementary theoretical perspectives are incorporated to explain the organizational mechanisms through which the imposter phenomenon is produced and sustained among women. First, Kanter's (1977) tokenism approach provides an important framework for explaining why women experience more intense imposter vulnerability in organizational contexts where they are underrepresented. Kanter attributed many of the negative work experiences of women in male-dominated workplaces to their token status, whereby women face structural pressures such as heightened visibility, excessive performance scrutiny, and the generalization of errors, and are compelled to continuously prove their competence. These conditions intensify self-doubt and contribute to the persistence of the imposter phenomenon (Kanter, 1977). Second, Butler's (1990) conceptualization of the performative nature of gender illuminates how organizational norms generate a continuous competence performance burden for women. Butler argues that gender is not a fixed identity but a process continuously produced through repeated discursive and bodily practices. Because competence, leadership, and authority have historically been associated with masculine norms, women are burdened not only with doing the job but also with continuously performing competence in a visible manner. This generates an intense self-monitoring mechanism that makes it difficult to internalize success, producing the imposter phenomenon as a structural state of insecurity rather than individual self-doubt (Butler, 1990; Clance & Imes, 1978). Women in leadership positions further face double-bind situations contradictory expectations to be both authoritative and compliant which compound this self-monitoring dynamic (Catalyst, 2007). Third, Crenshaw's (1989) intersectionality framework extends Acker's analysis by demonstrating that when the gendered structure of organizations intersects with race, ethnicity, class, and other axes of inequality, imposter vulnerability not only intensifies but also takes qualitatively different forms. Crenshaw argues that experiences of inequality cannot be analyzed through singular identity categories, as these intersect to produce specific forms of oppression.

Together, these four theoretical perspectives Acker's gendered organizations as the primary analytical framework, complemented by Kanter's tokenism, Butler's gender performativity, and Crenshaw's intersectionality provide a multi-layered understanding of the imposter phenomenon as an institutionally produced experience. This theoretical architecture enables the analysis of the phenomenon at the level of organizational structure (Acker), the mechanisms of underrepresentation and visibility (Kanter), the performative demands of gendered competence (Butler), and the differentiated experiences shaped by intersecting inequalities (Crenshaw).

Methodology

Method and Procedure

This study was conducted using the systematic literature review method. A systematic literature review is a structured approach that aims to evaluate the exist-

ing body of knowledge on a specific research topic in a comprehensive, transparent, and reproducible manner (Kitchenham et al., 2007). The review process was carried out in accordance with the PRISMA 2020 (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol, an internationally recognized standard that ensures transparent reporting of all stages of the research process in systematic reviews (Moher et al., 2009).

Search Strategy

The literature search was conducted in the Web of Science and Scopus databases between May and July 2025. The following search string was applied across both databases: *("imposter" OR "impostor" OR "imposter phenomenon" OR "impostor phenomenon" OR "imposter syndrome" OR "impostor syndrome") AND ("women employees").*

To ensure interdisciplinary coverage and avoid disciplinary bias, the search was not restricted to a single subject category. Multiple subject areas including Business, Social Sciences, and Psychology were included. In Web of Science, the SDG 5 (Gender Equality) filter was applied through the platform's integrated SDG classification system, which assigns SDG labels to indexed publications based on algorithmic content analysis. Additional filters applied in both databases included: document type (research articles only), language (English), and access type (open access). The open-access restriction was adopted to ensure the reproducibility and full auditability of the review corpus across different institutional contexts, in line with transparency principles in systematic review methodology.

Screening and Selection Process

The search and selection process was carried out in three stages identification, screening, and inclusion as illustrated in the PRISMA 2020 flow diagram (Fig. 1). All stages of the screening process, including title and abstract screening and full-text eligibility assessment, were conducted by a single reviewer. Although the absence of double-coding represents a methodological limitation, consistency was ensured through the systematic application of predefined inclusion and exclusion criteria throughout all screening stages. This limitation is acknowledged in the limitations section of the study

Full-text eligibility was determined on the basis of the following criterion: studies were included only if they specifically addressed women employees in working life. Studies conducted solely on student populations were excluded, as they do not reflect the organizational and professional dynamics that constitute the analytical focus of this review.

Duplicate records were identified and removed using Zotero reference management software prior to screening.

Studies were included if their sample consisted of individuals actively engaged in working life in a professional, occupational, or supervised professional-practice capacity. Studies conducted exclusively on undergraduate or graduate student populations without any occupational role were excluded. Individuals in supervised pro-

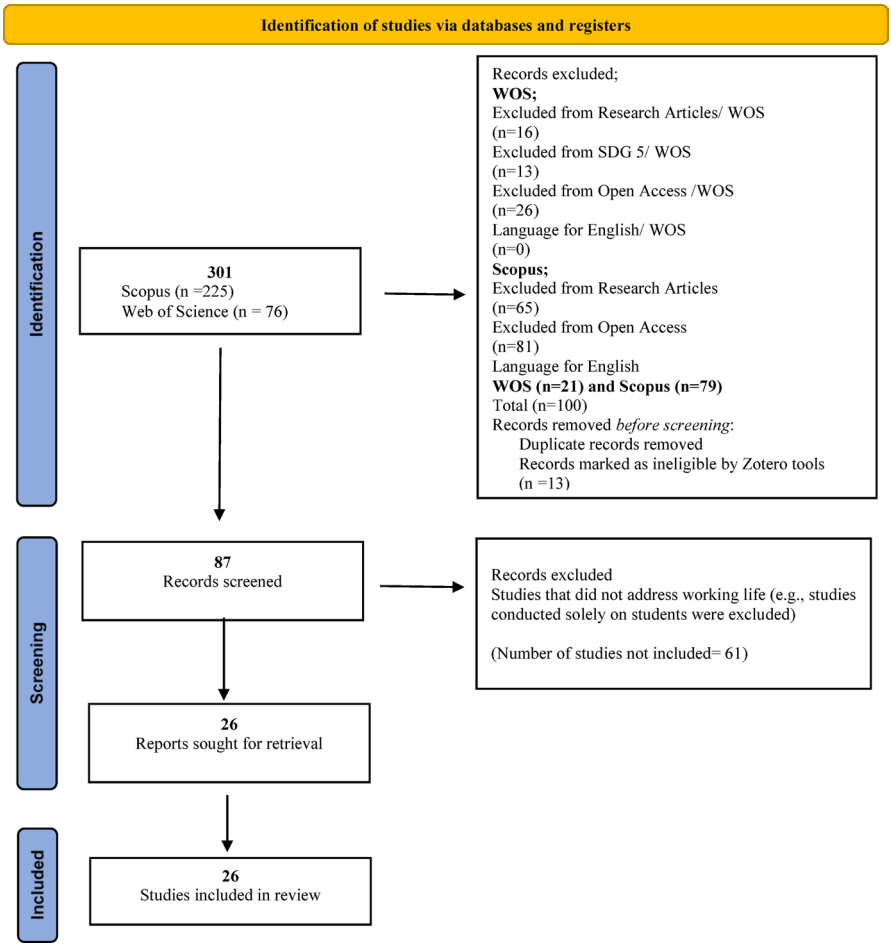


Fig. 1 PRISMA procedure

fessional roles such as resident physicians, postdoctoral researchers, and professional trainees actively practicing within organizational settings were considered part of the working population for the purposes of this review.

Quality Assessment

The methodological quality of the included studies was assessed following the completion of the study selection process and prior to data synthesis. Given that the reviewed literature comprises studies employing both survey-based quantitative designs and interview-based qualitative approaches, a dual-instrument framework was adopted. Criteria adapted from the Joanna Briggs Institute (JBI) Checklist for Analytical Cross-Sectional Studies were applied to evaluate sample representativeness and measurement validity, as these dimensions are particularly relevant for the cross-sectional survey designs that constitute the majority of the sample. The New-

castle–Ottawa Scale was used to assess the clarity of control variables and methodological reporting transparency, providing a structured framework for evaluating comparability across studies with varying designs. The two instruments were applied in a complementary rather than redundant manner: the JBI criteria addressed internal measurement quality, while the Newcastle–Ottawa Scale addressed reporting and comparability standards.

Each study was evaluated across four criteria: (1) sample representativeness, (2) validity and reliability of measurement instruments, (3) clarity and adequacy of control variables, and (4) transparency of methodological reporting. For each criterion, studies were rated as strong, moderate, limited, or comprehensive based on standardized descriptors applied consistently across all included studies. A study was classified as low methodological risk when it received strong or moderate ratings across all four criteria with no critical limitations identified; moderate risk when limitations were present in one or two criteria, particularly in control variable specification or sample scope; and high risk when multiple criteria were rated as limited or when measurement validity was substantially compromised. Quality appraisal was conducted by a single reviewer using this standardized framework; the absence of double-coding is acknowledged as a limitation.

Of the 26 included studies, 16 were classified as low methodological risk and 10 as moderate methodological risk. No studies were classified as high risk, indicating an overall acceptable level of methodological quality across the reviewed literature. The moderate-risk studies shared a common profile: most were characterized by limited control variable specification and moderate sample representativeness, frequently due to convenience sampling within single-institution or single-specialty contexts. For instance, Gaetano et al. (2025) and Alrasheed et al. (2024) were classified as moderate risk primarily due to small sample sizes that constrained multivariate modelling, while Samur et al. (2024) received a moderate rating owing to its simulation-based indirect measurement approach rather than a validated imposter scale. Qualitative studies with small purposive samples including Chodoff et al. (2023), Mulholland et al. (2023), and Kanatova (2023) were similarly classified as moderate risk due to limited representativeness, though this reflects the inherent scope of qualitative inquiry rather than methodological inadequacy.

This risk profile directly informed the interpretive approach adopted in the synthesis. Findings from moderate-risk studies were incorporated into the thematic analysis but interpreted with appropriate caution, particularly where prevalence estimates or gender difference findings were reported without adequate control for confounding variables. For example, gender difference findings from studies with limited control variables such as Zeb et al. (2023) and Hernandez and Lopez (2023) were treated as indicative rather than definitive, and were triangulated with findings from methodologically stronger studies such as Shanafelt et al. (2022), LaPalme et al. (2022), and Gisselbaek et al. (2025) before broader claims were drawn. Similarly, qualitative findings from studies with moderate representativeness were used to illuminate contextual and processual mechanisms rather than to support generalizable conclusions. A comprehensive summary of the risk assessment for all 26 included studies, including criterion-level ratings and risk classifications, is presented in Appendix 2.

Findings

The findings were analyzed using a descriptive synthesis approach. This approach facilitates the comprehensive comparison of qualitative and quantitative research findings, thereby enabling the identification of patterns and trends in systematic literature reviews (García-Peñalvo, 2021). Accordingly, the studies were compared in terms of research design, data collection methods, measurement instruments, country, sample characteristics, and key findings. The results were interpreted based on the experiences reported by women employees regarding the imposter phenomenon in working life. In addition to the descriptive synthesis, a thematic analysis was conducted to identify recurring conceptual patterns across the reviewed studies. In line with the approach proposed by Ozeren (2014), the findings derived from the selected articles were examined in terms of their focal points, objectives, and the reported relationships among variables. Studies addressing similar conceptual issues were clustered under broader analytic categories through an inductive process. The thematic analysis was conducted in three interpretive stages:

(1) initial open coding of the key findings and variables reported in each study (e.g., antecedents, psychological outcomes, coping mechanisms, and contextual factors);
(2) axial grouping of codes based on conceptual similarity and theoretical coherence; and
(3) synthesis under four overarching themes reflecting the core dimensions of the literatüre antecedents of the imposter phenomenon, its outcomes for women employees, coping strategies and interventions, and intersectional/cultural contexts.

This interpretive process complemented the descriptive synthesis and enabled the development of a more critical and structured understanding of how existing research conceptualizes and examines impostorism in working life. A table summarizing the methodological and contextual characteristics of the 26 included studies is presented in Appendix 2. The findings of this systematic literature review, derived from a systematic, comparative, and critical synthesis of the 26 included studies, revealed four main themes.

Theme 1: Antecedents of the Imposter Phenomenon Among Women Employees

Across the reviewed literature, the antecedents of the imposter phenomenon have predominantly been classified under individual, organizational, and sociocultural determinants. The findings consistently demonstrate that women's imposter experiences arise from the interaction between personal cognitive tendencies (such as perfectionism and self-doubt), gendered organizational structures, and culturally reinforced social expectations.

Individual antecedents; Many studies have identified personality-related and psychological factors as primary antecedents (Chakraverty, 2020). For example, Lane (2015) and Türkel et al. (2025) showed that maladaptive perfectionism, excessive

self-criticism, and high performance expectations intensify imposter feelings among women working in medical professions. Similarly, El-Ashry et al. (2024) and Batur et al. (2024) emphasized that low academic self-efficacy is strongly associated with heightened imposter perceptions. These studies converge on the view that high-achieving women tend to attribute their success to external causes such as luck or external support rather than competence, thereby sustaining self-doubt.

At the organizational level; antecedents have been associated with hierarchical work structures, role ambiguity, and non-inclusive leadership practices. Chodoff et al. (2023) and Samur et al. (2024) revealed that rigid professional hierarchies and intensive supervision in medical residency programs increase women's feelings of inadequacy and their need for external validation. Similarly, LaDonna et al. (2025), by empirically supporting the "Uninvited Guest Paradox," argued that imposter experiences among women physicians are reinforced not by individual cognitive bias but by institutionalized gender discrimination and harassment. These findings indicate that structural power asymmetries and exclusionary cultures function as external triggers of impostorism.

At the sociocultural level; Clance and Imes (1978), Ridgeway (2011), and Kanatova (2023) emphasized that traditional gender roles and status construction processes strengthen women's internalization of self-doubt. The concept of "gendered socialization," discussed by Deaux (1976) and Hirschfield (1982), has been empirically confirmed in more recent cross-cultural studies, demonstrating that women are encouraged to be modest and compliant, which leads them to downplay their achievements. Şen and Küçükkaragöz (2022) and Feigofsky (2022) further noted that perfectionistic expectations and fear of failure create a persistent identity conflict for professional women and function as long-term antecedents of imposter feelings.

Taken together, these findings reveal that imposter experiences are structurally and culturally embedded. They emerge at the intersection of internal perfectionistic tendencies, organizational inequalities, and gendered cultural norms. While individual personality characteristics such as low self-efficacy may render women more susceptible to imposter thoughts, the persistence of the phenomenon is largely sustained by institutional climates and social narratives that devalue women's professional legitimacy. This thematic synthesis suggests that future research should move beyond exclusively psychological explanations and more explicitly focus on causal mechanisms that integrate organizational and societal antecedents.

Theme 2: Consequences of the Imposter Phenomenon for Women Employees

The reviewed studies consistently demonstrate that the imposter phenomenon produces a wide range of negative outcomes for women employees, spanning psychological, professional, and organizational domains.

Across the 26 reviewed articles, the phenomenon was found to be strongly associated with burnout, emotional exhaustion, anxiety, depression, reduced job satisfaction, and avoidance of leadership or advancement opportunities. These outcomes indicate that impostorism undermines both individual well-being and organizational *performance.*

Psychological consequences; Psychological distress constitutes the most frequently reported category of outcomes. Quantitative studies conducted by Villwock et al. (2016), Hernandez and Lopez (2023), and Gisselbaek et al. (2025) demonstrated that higher impostor scores among women are associated with increased burnout, emotional exhaustion, and depressive symptoms. Similarly, Liu et al. (2022) identified impostorism as an independent risk factor for both anxiety and burnout among resident physicians, while Gaetano et al. (2025) linked it to suicidal ideation among female orthopedic residents.

These studies converge on the idea that persistent self-doubt and fear of exposure create a cycle of chronic stress and reduced psychological resilience. Qualitative findings (e.g., Chodoff et al., 2023; Samur et al., 2024) provide detailed accounts of how constant external evaluation and hierarchical surveillance in medical training environments intensify internalized feelings of inadequacy and fuel worthlessness and self-criticism. Overall, impostorism among women emerges as a threat to identity stability that sustains negative self-perceptions despite objective competence (Clance & Imes, 1978; Rampersad et al., 2025).

Professional and career-related consequences; Impostor feelings also generate profound effects at the career level. Numerous studies (e.g., Bravata et al., 2020; Iwai et al., 2023; Shanafelt et al., 2022) have shown that women with higher impostor tendencies are less likely to pursue promotions, leadership roles, or new opportunities. This pattern aligns with what Parkman (2016) describes as "self-limiting career behaviors." Feigofsky (2022) and Hernanz et al. (2020) documented that impostor feelings diminish professional confidence and hinder decisive career choices, while Clark et al. (2022) and Clark et al. (2014) found that women exhibiting impostor symptoms reported lower job satisfaction and compassion satisfaction, alongside higher compassion fatigue. In addition, Gopal et al. (2023) observed that inadequate organizational support and mentoring mechanisms exacerbate impostor feelings and further constrain professional development.

Taken together, these findings indicate that the imposter phenomenon constitutes a barrier to leadership development, particularly for women working in male-dominated or hierarchical contexts (Joseph et al., 2023; Ridgeway, 2011). The persistent need to "prove" competence depletes cognitive and emotional resources and often results in overwork, perfectionistic compensatory behaviors, and impaired work–life balance.

Organizational-Level Consequences; At the organizational level, impostorism is associated with lower commitment, reduced productivity, and increased turnover intentions. Studies conducted in clinical and academic contexts (Clark et al., 2022; Gisselbaek et al., 2025; Shanafelt et al., 2022) have emphasized that organizations lacking inclusive leadership or recognition systems inadvertently reinforce impostor tendencies among women. The absence of psychological safety and role models diminishes feelings of belonging and contributes to higher attrition rates among women professionals (Mulholland et al., 2023).

These patterns demonstrate that the imposter phenomenon is a systemic outcome of gendered organizational cultures that frequently devalue women's contributions.

Synthesis and Implications; Across psychological, professional, and organizational levels, the reviewed literature reveals that the imposter phenomenon erodes women's self-efficacy and organizational commitment, producing cumulative effects on well-being and career progression. The findings point to a clear paradox: although women affected by impostorism often demonstrate high performance, internalized self-doubt prevents them from perceiving their achievements as legitimate and constrains their advancement potential.

Theme 3: Coping Strategies and Interventions

Although the imposter phenomenon has been widely documented as a source of psychological distress and career stagnation, a more limited yet growing segment of the reviewed literature addresses how women cope with imposter feelings and which organizational or systemic interventions may be effective. The findings cluster around three interrelated domains: individual-level coping mechanisms, organizational interventions, and institutional strategies aimed at addressing gender inequality.

Individual-Level Coping Mechanisms Many studies emphasize that self-awareness, emotion regulation, and peer support play an important role in women's management of imposter feelings. For example, Lee et al. (2021) found that reflective practice and self-compassion reduce anxiety and self-doubt by reframing perfectionistic tendencies as opportunities for professional development. Similarly, Mulholland et al. (2023) reported that informal peer networks and communities of practice provide safe spaces for women academics to share experiences and reconstruct professional identities. Lane (2015) and Parkman (2016) documented that mentoring, constructive feedback, and recognition of achievements enhance women's resilience and help break cycles of overwork and self-criticism. In addition, Badawy and Shaban (2025) and Türkel et al. (2025) demonstrated that self-reflection and cognitive reframing recognizing competence through internal rather than external validation significantly reduce the intensity of imposter feelings.

Taken together, these findings indicate that fostering self-compassion, self-efficacy, and reciprocal support networks constitutes effective individual coping strategies. However, most studies caution that these strategies have limited sustainability unless they are supported by broader organizational changes.

Organizational-Level Interventions At the organizational level, interventions that promote psychological safety, inclusive leadership, and a mentoring culture play a central role in reducing imposter experiences among women. For instance, Gopal et al. (2023) found that supportive supervisory relationships and constructive feedback loops reduce imposter perceptions among women working in clinical settings. LaDonna et al. (2025) emphasized that organizations that frame impostorism not as an individual weakness but as a consequence of structural barriers and gender bias create safe environments in which women can express vulnerability and seek guidance. Consistent with these findings, Clark et al. (2022) and Gisselbaek et al. (2025) noted that workplaces characterized by empathy, recognition, and balanced workloads are associated with lower imposter tendencies. Similarly, Parkman (2016)

and Para et al. (2024) proposed holistic frameworks that integrate mentoring, role modeling, and recognition systems.

These findings demonstrate that organizational culture plays a decisive role in either reinforcing or alleviating imposter experiences. When institutions adopt transparent evaluation systems, provide access to women mentors, and recognize diverse definitions of competence, women's professional confidence and sense of belonging increase significantly.

Institutional and Policy-Level Strategies Beyond organizational initiatives, some studies within the reviewed sample link the reduction of impostorism to broader gender equality frameworks and institutional policy reforms. Filho et al. (2023) and Lorello and Schrewe (2024) emphasized that aligning institutional practices with Sustainable Development Goal 5 (Gender Equality) strengthens the structural integration of equality principles into promotion and leadership systems.

The implementation of gender-sensitive evaluation criteria and transparent promotion mechanisms is considered critical for preventing imposter-triggering conditions such as invisibility, bias, and exclusion. In addition, Badawy and Shaban (2025) and Kanatova (2023) noted that formal mentoring opportunities and supportive professional networks reduce isolation and strengthen collective resilience among women professionals.

Synthesis and Implications In summary, the reviewed studies demonstrate that addressing the imposter phenomenon among women employees requires a multilevel approach that integrates personal, organizational, and institutional dimensions. While individual-level coping mechanisms such as self-reflection and peer support are valuable, their long-term effectiveness depends on the presence of inclusive organizational cultures and gender-sensitive institutional frameworks. The synthesis indicates that conceptualizing impostorism not as an individual pathology but as a systemic organizational issue represents the most promising pathway toward sustainable gender equality and women's professional empowerment.

Theme 4: Intersectional and Cultural Contexts

The fourth theme emerging from the reviewed studies addresses the intersectional and cultural dimensions of the imposter phenomenon, demonstrating how women's experiences vary across national, professional, and sociocultural contexts. Although the core psychological patterns of impostorism appear universal, the intensity, modes of expression, and perceived legitimacy of these feelings are shaped by cultural expectations, gender role norms, and intersecting identities such as age, profession, and ethnicity.

Cross-cultural and Social Contexts Many studies emphasize that cultural values and socialization processes play a decisive role in how women internalize imposter feelings. For example, Kanatova (2023) and Rice et al. (2023) reported that in collectivist societies where modesty and humility are socially valued, women tend to downplay their achievements and attribute success to external factors, thereby reinforcing imposter tendencies. In contrast, studies conducted in more individual-

istic contexts (Carvajal et al., 2023; Gilbert, 2023) show that competitiveness and performance orientation increase fear of failure and exposure, particularly among women in leadership or academic positions. Zoia et al. (2024) observed that in Southern European cultures, women professionals experience dual pressure to conform to traditional gender expectations while simultaneously meeting modern performance demands, resulting in heightened cognitive dissonance and chronic self-doubt. Similarly, Batur et al. (2024) demonstrated that in the Turkish context, the persistence of gendered power distance and patriarchal norms renders women especially those in roles historically associated with male authority, such as medicine or management more vulnerable to imposter feelings.

Professional and Sectoral Differences The literature also reveals that imposter experiences vary markedly across professional fields. Studies in healthcare and academia (Clark et al., 2022; LaDonna et al., 2025; Villwock et al., 2016) consistently show that high-risk environments characterized by continuous evaluation, hierarchical surveillance, and perfectionism provide fertile ground for impostorism. In contrast, findings from business and creative sectors (Para et al., 2024; Parkman, 2016) suggest that flexible organizational climates and access to mentoring can mitigate the intensity of imposter feelings; however, gender bias in leadership pathways persists.

These differences indicate that professional cultures mediate how imposter feelings are expressed and managed. While highly structured professions tend to amplify imposter anxiety, collaborative and innovation-oriented fields may buffer its effects.

Intersectional and Compound Identities Although only a limited number of studies explicitly adopt an intersectional perspective, those that do clearly demonstrate the combined effects of gender, race, and professional identity. For instance, Rice et al. (2023) and Carvajal et al. (2023) found that women from ethnic minority backgrounds face both racial bias and gendered expectations, which intensify imposter experiences. Similarly, Gilbert (2023) noted that women pursuing transnational careers internalize marginalization not only as discrimination but also as perceived personal inadequacy. These findings indicate that impostorism should be understood not only as gendered, but as a structurally intersectional phenomenon embedded within broader systems of inequality.

Synthesis and Implications In conclusion, the reviewed literature demonstrates that culture and context fundamentally shape how impostorism manifests among women. The interaction of gender norms, professional cultures, and intersectional identities determines both the triggers and expressions of imposter feelings. The phenomenon's sociocultural expression is context-specific and is strongly mediated by collective values, social hierarchies, and institutional inclusivity. The Gendered Imposter Phenomenon Mechanism synthesizing all themes is visualized in Fig. 2.

Discussion

The discussion of the findings is guided by the theoretical architecture established in the introduction. Acker's (1990, 2006) gendered organizations approach serves as the primary analytical lens, framing the imposter phenomenon not as an individ-

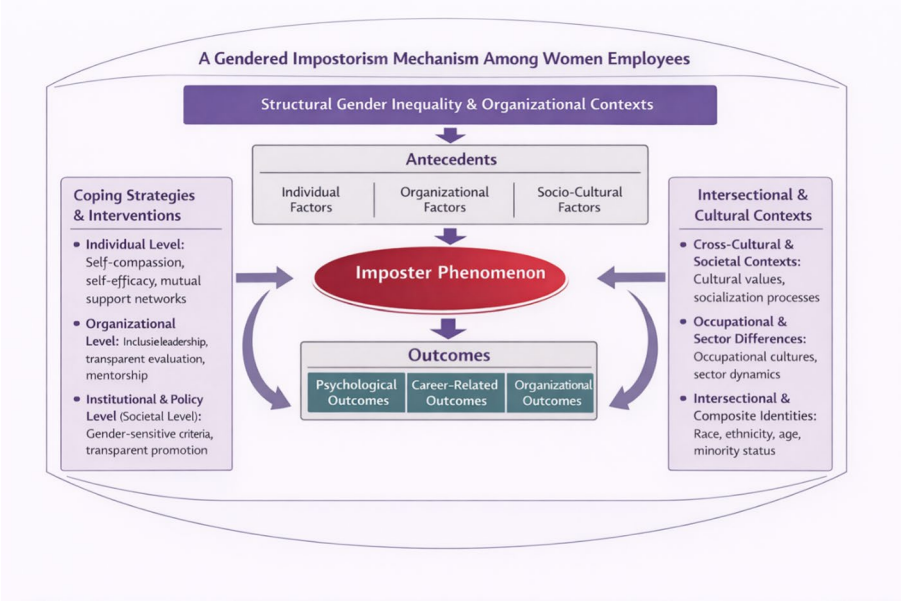


Fig. 2 Gendered ımpostorism mechanism among women employees

ual psychological condition but as an institutionally produced experience shaped by masculine organizational norms. Three complementary frameworks operationalize this primary lens at different analytical levels: Kanter's (1977) tokenism approach illuminates the mechanisms of underrepresentation and heightened visibility; Butler's (1990) gender performativity framework reveals the continuous competence performance burden imposed on women by gendered organizational norms; and Crenshaw's (1989) intersectionality framework accounts for the qualitatively differentiated imposter experiences produced by overlapping structural inequalities. The findings are interpreted within this multi-layered theoretical framework.

This study synthesizes 26 empirical studies on the imposter phenomenon among women employees through a systematic and thematic approach. The discussion is organized around three interpretive layers: (1) what the included studies directly report, (2) the broader patterns emerging across studies, and (3) theoretical interpretations informed by feminist organizational theory. This layered approach aims to distinguish evidence-based synthesis from analytical inference and thereby strengthen the argumentative integrity of the review.

Sectoral Concentration

The reviewed studies are predominantly concentrated in medical and healthcare settings, with comparatively few investigations in technology, manufacturing, public administration, or creative industries. This distribution is directly observable in the

sample: of the 26 included studies, the majority examined nurses, physicians, or academic medical professionals. The cross-study pattern that emerges from this concentration is not merely bibliographic it signals a systematic evidence gap. Findings about imposter dynamics in healthcare cannot be straightforwardly generalized to male-dominated or structurally different sectors, where evaluation regimes, error tolerance, and norms of professional legitimacy differ substantially (Salari et al., 2025). A theoretically grounded interpretation of this pattern draws on feminist labor scholarship: healthcare has historically been feminized, and its association with emotional labor and flawlessness-as-moral-duty Acker, 2006) may render impostorism more visible and thus more frequently studied in this context, while analogous mechanisms in other sectors remain understudied. This is an inference the current data support directionally but cannot confirm causally and it points to a structural limitation in the field's knowledge base rather than a settled conclusion.

Variable Focus

Across the reviewed studies, outcome variables particularly burnout, anxiety, self-esteem, job satisfaction, and perfectionism are far more frequently examined than antecedents. This is an empirically observable pattern in the literature: the thematic coding process revealed that antecedent-focused variables such as gender bias in evaluation, non-inclusive leadership, and role ambiguity appeared in only a limited subset of studies (e.g., LaDonna et al., 2025; Chodoff et al., 2023; Gopal et al., 2023; Anderson, 2024). The pattern that emerges is an asymmetry between the documentation of imposter consequences and the investigation of what produces imposter experiences in the first place. This asymmetry has theoretical implications: when research consistently maps outcomes without examining structural preconditions, the cumulative literature risks framing impostorism as a stable individual trait rather than a response to specific organizational conditions. Feminist organizational scholars argue that this framing shift from structural to individual is not neutral but obscures organizational responsibility (Acker, 1990; Ridgeway, 2011). This interpretive claim goes beyond what individual studies in the sample directly assert; it represents the reviewer's theoretical reading of an aggregate pattern.

Gender Perspective

The reviewed studies consistently report higher imposter scores among women compared to men, and some of the studies examined in this review specifically identify gendered organizational mechanisms as contributing factors (Zaed et al., 2022). For instance, LaDonna et al. (2025) empirically supported the argument that imposter experiences among women physicians are reinforced by institutionalized gender discrimination rather than individual cognitive bias alone. Şen and Küçükkaragöz (2022) and Feigofsky (2022) similarly documented how perfectionistic expectations and fear of failure create identity conflicts that function as long-term antecedents. The pattern across these findings is that gender differences in imposter experiences

are not simply a matter of individual psychological variation but are associated with specific organizational conditions hierarchical structures, androcentric evaluation criteria, and the absence of inclusive leadership. Theoretically, feminist scholarship has long argued that such conditions position women as exceptional actors in environments designed around male norms (Heilman, 2012; Kanter, 1977), and the current synthesis is consistent with this claim. However, it is important to note that most studies in the sample measure imposter levels and their correlates rather than directly testing structural mechanisms the structural interpretation, while well-supported theoretically and directionally consistent with the data, represents an analytical inference beyond the studies' own stated conclusions.

Intersectionality

A subset of the reviewed studies explicitly examines how race, ethnicity, and minority status interact with gender to shape imposter experiences. Rice et al. (2023) and Carvajal et al. (2023) found that women from ethnic minority backgrounds face compounded disadvantages racial bias and gendered expectations simultaneously that intensify imposter vulnerability. Gilbert (2023) extended this by showing that women pursuing transnational careers internalize structural marginalization as personal inadequacy. The pattern across these studies aligns with Crenshaw's (1989) intersectionality framework: imposter experiences cannot be explained through a singular narrative of womanhood, and overlapping identity positions amplify both visibility pressure and exclusion risk (Collins, 2000). These findings are among the more directly supported interpretive claims in this review, as the included studies themselves invoke intersectional frameworks and report findings at that level of analysis.

The Imposter Phenomenon as a Disciplinary Mechanism

Some of the qualitative studies examined in this review document the ongoing self-monitoring that characterizes women's professional experiences in hierarchical environments. Chodoff et al. (2023) and Samur et al. (2024) describe how continuous external evaluation and hierarchical surveillance in medical training lead women to internalize standards of inadequacy and engage in persistent self-criticism. The broader pattern that these accounts suggest is that imposter feelings do not merely reflect anxiety about a single event but constitute a sustained mode of self-regulation under conditions of scrutiny. This pattern invites a theoretical reading: when considered alongside Butler's (1990) concept of performativity, the data suggest that women are not simply evaluated on competence but are expected to continuously perform it under gendered conditions. This interpretive layer the imposter phenomenon as a disciplinary mechanism of self-surveillance is a theoretically productive inference from the data, though one that the included studies do not uniformly articulate in these terms. Importantly, this dynamic has career-level consequences that most of the studies examined in this review directly document: avoidance of promotion oppor-

tunities, reduced leadership aspiration, and accumulated burnout (Feigofsky, 2022; Hernanz et al., 2020; Ling et al., 2020).

Methodological Reflections

The methodological profile of the reviewed literature is predominantly quantitative and cross-sectional. This is an observable feature of the sample, not an interpretive claim. The pattern this creates is a literature that can document associations between imposter scores and burnout, for example but that is structurally limited in its ability to trace how imposter experiences develop over time, how organizational cultures produce them, or how women's strategies change in response to shifting conditions. Longitudinal designs would capture temporal dynamics; qualitative and ethnographic approaches would access the processual and relational dimensions of impostorism; multilevel designs would allow testing of whether organizational-level variables moderate individual imposter experiences. The theoretical implication is that the current methodological consensus produces a cross-sectional picture of a dynamic phenomenon a limitation that future research designs should explicitly address (Hutchins et al., 2018).

Geographic Concentration

The geographic distribution of included studies is heavily skewed toward the United States, with a secondary cluster in Western European and high-income contexts. This is a direct, observable characteristic of the sample. The cross-study pattern it generates is a literature whose baseline assumptions about organizational culture, professional identity, and gender dynamics reflect Western, individualistic, achievement-oriented contexts (Bravata et al., 2020; Hutchins & Rainbolt, 2018). The comparatively few studies from non-Western contexts including Batur et al. (2024) from Türkiye and Kanatova (2023) examining collectivist settings suggest that the triggers, expressions, and intensities of imposter experiences differ across cultural environments. In collectivist or high-power-distance settings, for instance, modesty norms and patriarchal hierarchies may produce impostorism through different mechanisms than competitive individualism does. The theoretical inference here, drawing on cross-cultural organizational scholarship (Hofstede, 2001; Ridgeway, 2011), is that treating U.S. derived findings as universally generalizable risks misattributing culturally specific dynamics to a universal psychological tendency. This is a directionally supported interpretation not a finding the included studies collectively test and it points to a critical agenda for geographically diversified future research (Zoia et al., 2024).

Conclusion

This systematic review of 26 studies on the imposter phenomenon among women employees demonstrates that the phenomenon is not merely an individual psychological condition but one embedded within broader structural, organizational, and

cultural systems. The thematic synthesis identified four interrelated dimensions antecedents, consequences, coping strategies, and intersectional/cultural contexts that together illustrate how impostor feelings are produced and sustained within professional environments. Despite these insights, the reviewed literature remains limited in several respects. Most studies were conducted in healthcare settings and relied heavily on cross-sectional quantitative designs, restricting the ability to identify causal and developmental dynamics. Moreover, the geographical concentration of studies primarily in the United States limits the cross-cultural generalizability of findings, constraining understanding of how impostor experiences manifest across diverse socio-cultural and institutional contexts. Future research should therefore extend beyond dominant sectors and regions, employing longitudinal, comparative, and mixed-method approaches to capture the multifaceted nature of impostorism. Incorporating intersectional and cross-cultural analyses will be essential to developing more inclusive theoretical and practical frameworks. For practitioners and policymakers, addressing the imposter phenomenon requires going beyond individual-level interventions. Organizational efforts must include inclusive leadership practices, transparent evaluation and promotion systems, and mentorship models grounded in gender equality principles. Integrating such multi-level strategies can foster women's professional legitimacy, psychological safety, and equitable participation across global work contexts.

Research Gap and Recommendatıons for Further Research

The results of this systematic review reveal that existing studies on the imposter phenomenon among women employees remain conceptually fragmented and geographically concentrated. The vast majority of research has been conducted in healthcare and academic settings within Western contexts, particularly the United States, resulting in limited understanding of the phenomenon across different cultural and sectoral environments. Furthermore, while most studies focus on individual-level psychological outcomes, organizational and structural antecedents such as leadership practices, promotion transparency, and psychological safety remain largely overlooked. The dominance of quantitative and cross-sectional designs also restricts the ability to explore the developmental trajectory of impostor feelings and their contextual dynamics. Finally, there is a notable absence of intersectional approaches that account for the combined effects of gender, ethnicity, and minority status (Table 1).

To address these gaps, future research should pursue longitudinal, comparative, and mixed-method designs that examine impostorism across diverse sectors, regions, and organizational settings. Studies exploring the antecedents, consequences, coping strategies, and intersectional/cultural contexts identified in this review (as shown in Table 2) would enrich theoretical understanding and guide evidence-based organizational interventions. Such work would enable a more holistic view of the imposter phenomenon as a socio-structural manifestation of gender inequality rather than a purely psychological experience.

In particular, future research would benefit from extending the analysis of the imposter phenomenon to sectors such as technology, engineering, law, public admin-

istration, entrepreneurship, and creative industries, where organizational logics and performance norms differ substantially from healthcare and academia. In technology and engineering fields, rapid innovation cycles, male-dominated cultures, and meritocratic discourses may intensify impostor feelings by framing competence as innate rather than developed. In legal and public administration contexts, rigid hierarchies, formalized authority, and status-based evaluation systems may reinforce gendered credibility gaps and increase women's self-doubt despite formal qualifications. Entrepreneurial and creative industries, while often perceived as flexible and progressive, may produce unique impostor dynamics through precarious employment, visibility pressures, and the internalization of success narratives centered on exceptionalism and risk-taking. Examining these sectors through a gender equality lens would allow researchers to identify sector-specific organizational mechanisms that shape impostor experiences and to develop more context-sensitive interventions.

Table 1 Workflow of thematic synthesis and coding process

Stage	Process description	Output
Stage 1-Identification	Initial extraction of 26 eligible studies from Web of Science and Scopus databases, filtered according to PRISMA inclusion and exclusion criteria (e.g., empirical, gender-related, workplace-focused)	Dataset of included articles
Stage 2-Descriptive Coding	Extraction of key study features: author, year, country, sample, method, variables, and findings. Summaries were organized in Excel for cross-study comparison	Descriptive synthesis table
Stage 3-Open Coding	Identification of recurring concepts and relationships (e.g., perfectionism, burnout, gender bias, mentorship, cultural factors) through inductive reading	Initial code list
Stage 4 -Axial Grouping	Clustering of related codes under broader conceptual dimensions according to thematic similarity and theoretical relevance	Preliminary thematic categories
Stage 5-Thematic Synthesis	Integration of categories into four overarching analytical themes: (1) Antecedents, (2) Consequences, (3) Coping Strategies, and (4) Intersectional/Cultural Contexts	Final thematic framework
Stage 6-Interpretation	Cross-theme comparison to identify conceptual gaps, sectoral/methodological limitations, and directions for future research	Synthesized findings and research gaps

Table 2 Presents detailed recommendations for future research directions based on these identified gaps

Sectoral diversity	Future studies should extend beyond healthcare and academia to sectors such as technology, engineering, law, public administration, entrepreneurship, and creative industries. Comparative and multi-level research designs are recommended to examine how sector-specific organizational logics (e.g., innovation speed, hierarchical rigidity, precarity, meritocratic discourse) shape impostor experiences among women
Longitudinal and mixed methods designs	Longitudinal and mixed method studies that test the time course and causality of the imposter phenomenon are important for understanding the temporal course of the phenomenon and establishing cause-and-effect relationships
Organizational antecedents	Experimental testing of variables such as performance appraisal, promotion/pay transparency, inclusive leadership, and psychological safety is recommended. Experimental and quasi-experimental designs that test organizational antecedents such as inclusive leadership and psychological safety are recommended
Intersectionality approach	Research should be conducted that focuses on the interaction of gender, ethnicity, and minority status. Studies are recommended that address gender roles, gender-based expectations, gender-based prejudices, minority groups, etc., and that consider these as antecedents
Gender roles and norms	Structural and cultural factors that shape women's perceptions of competence should be considered as antecedents of the phenomenon

Appendix 1

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
1	Chodoff, A., Conyers, L., Wright, S., & Levine, R. (2023). "I never should have been a doctor": a qualitative study of imposter phenomenon among internal medicine residents. BMC medical education, 23(1), 57	Qualitative-Cross-Sectional	interview technique	Semi-structured Interview Form	USA	Medicine—28 Resident Doctors (21 female, 7 male)	Shifting roles with increasing responsibilities; constant scrutiny; and a rigid medical hierarchy Learning is impacted by inappropriate expectations, difficulty processing feedback, and mental energy diverted to impression management
2	Türkel, N. N., Başaran, A. S., Gazey, H., & Ertek, İ. E. (2025). The imposter phenomenon in psychiatrists: relationships among compassion fatigue, burnout, and maladaptive perfectionism. BMC psychiatry, 25(1), 30	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	Türkiye	Medical—160 psychiatric doctors (110 women—50 men)	The study tested the relationships among burnout, compassion fatigue, maladaptive perfectionism, and the imposter phenomenon The results demonstrate gender differences in compassion fatigue, burnout, imposter phenomenon, inconsistent perfectionism, and compassion satisfaction. The data reveal that women scored higher than men on these variables, except for compassion satisfaction. Finally, women reported higher levels of the imposter phenomenon than men

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
3	Clark, P., Holden, C., Russell, M., & Downs, H. (2022). The impostor phenomenon in mental health professionals: relationships among compassion fatigue, burnout, and compassion satisfaction. Contemporary family therapy, 44(2), 185–197	Quantitative/Cross-sectional	Survey Form	Leary et al., (2000) Imposter Scale	USA	Medical-158 mental health workers 132 women-26 men)	They found that imposter perception was positively associated with compassion fatigue and negatively associated with compassion satisfaction, controlling for years of experience and age Furthermore, the combination of lower levels of compassion satisfaction and higher levels of burnout predicted higher levels of imposter perception
4	Zeb, M., Khattak, S. K., Shah, F. O., Shah, S. S., SQ, A. S., & Haseeb, A. (2023). The Imposter Syndrome In Surgical Residents. JPMA. The Journal of the Pakistan Medical Association, 73(8), 1706–1708	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	Pakistan	Medical-Surgical residents—156 participants (104 male, 52 female)	81 (51.9%) of the participants reported moderate imposter, and 57 (36.5%) reported severe or extensive imposter. The prevalence was higher among female residents than male residents. Year of study had no effect on imposter scores

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
5	Samur, B. M., Maraşlı, F., & Dursun, İ. (2024). Imposter Phenomenon in Pediatric Residency: An Empirical Simulation-Based Educational Study. Turkish Archives of Pediatrics, 59(3), 250	Qualitative-Cross-Sectional	Case Simulation	-	Türkiye	Medicine—113 pediatric residents (80 women-53 men)	Imposter scores were found to be higher in female participants. These findings support the claim that higher imposter scores are associated with a greater tendency to seek help from more experienced individuals, even when they are fully capable of managing cases independently This highlights the importance of awareness of the imposter phenomenon, as these factors can directly impact both trainee well-being and patient care outcomes
6	Shanafelt, T. D., Dyrbye, L. N., Sinsky, C., Trockel, M., Makowski, M. S., Tutty, M., … & West, C. P. (2022, November). Imposter phenomenon in US physicians relative to the US working population. In Mayo Clinic Proceedings (Vol. 97, No. 11, pp. 1981–1993). Elsevier	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA	Medicine—3,116 doctors (1,934 men / 1,185 women)	Experiences of imposter phenomenon are associated with increased burnout and suicidal thoughts and lower professional satisfaction Mean imposter phenomenon scores are higher in female physicians than in male physicians

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
7	Mulholland, K., Nichol, D., & Gillespie, A. (2023). 'It feels like you're going back to the beginning…': addressing imposter feelings in early career academics through the creation of communities of practice. Journal of Further and Higher Education, 47(1), 89–104	Qualitative-Cross-Sectional	Case Study	-	USA	Higher Education-Academics	The findings suggest that the causes of feelings of impostor phenomenon are multifaceted and encompass factors such as interactions with students and adapting to university language, culture, and systems. The study suggests that using social constructivist pedagogical tools in a structured professional development program for early-career academics supports the creation of mutually reinforcing communities of practice, thereby addressing threats to professional identity, providing a horizontal alternative to organizational hierarchical support mechanisms, and fostering the construction of a secure academic identity

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
8	Zaed, I., Bongetta, D., Della Pepa, G. M., Zoia, C., Somma, T., Zoli, M., … & Menna, G. (2022). The prevalence of imposter syndrome among young neurosurgeons and residents in neurosurgery: a multicentric study. Neurosurgical Focus, 53(2), E9	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	İtaly	Medicine-Neurosurgeons and surgical assistants (59 men- 44 women)	A correlation has been found between the level of imposter phenomenon and being female (gender), pursuing an academic career, or working in an academic hospital. A correlation has also been found between gender and imposter phenomenon (female neurosurgeons and neurosurgical residents) being more likely to be affected by the imposter phenomenon
9	Zoia, C., Stienen, M. N., Zaed, I., Menna, G., Aldea, C. C., Bartek, J., … & Gandía-Gonzalez, M. L. (2024). The prevalence of imposter syndrome among neurosurgeons in Europe: An EANS YNC survey. Brain and Spine, 4, 102,816	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	Europe	Medicine-Neurosurgeons (127 men-105 women)	The findings demonstrate a significant prevalence of imposter phenomenon among young neurosurgeons, with significant associations with gender and experience level. The median CIPS scores for women and men were 69 (IQR 25) and 60 (IQR 23), respectively ($p = 0.002$). Male neurosurgeons were 44% more likely to exhibit frequent/severe imposter phenomenon than female neurosurgeons

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
10	Clark, M., Vardeman, K. K., & Barba, S. E. (2014). Perceived inadequacy: A study of the imposter phenomenon among college and research librarians	Quantitative/Cross-sectional	Survey Form	Harvey Imposter Phenomenon Scale	USA	Higher Education—Librarians 352 Participants (90 male / 262 female)	Younger and less senior librarians experience the Imposter Phenomenon at a higher rate than their more experienced colleagues Women experience the Imposter Phenomenon at a higher rate than men
11	Anderson, A. R., LaPenna, J., Willis, D., Simpson, K., & Chang, A. H. (2024). Imposter phenomenon in physical therapists: A cross-sectional observational study. Health Science Reports, 7(3), e1953	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA	Health—514 physiotherapists (340 female—128 male)	Emotional exhaustion, job satisfaction, occupational and demographic information were considered. Other factors, such as gender, race, sexual orientation, geographic location, practice specialty/setting, APTA membership, and job satisfaction, did not significantly influence the Imposter Phenomenon

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
12	Hernandez, J. L., & Lopez, N. V. (2023). Impostor phenomenon in registered dietitians: an exploratory survey. BMC nutrition, 9(1), 64	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA	Health—266 Dietitians (96% female)	More than 76% of 66 respondents reported at least a moderate level of dishonesty (a score of 40 or less out of 100). There was no difference by education level, but those with less than five years of experience reported higher rates of dishonesty. 50% of female respondents and 25% of male respondents reported feelings of imposter phenemenon
13	Alrasheed, A. M., Alomar, K. S., Al Olaywi, A., Alomar Sr, K., & AlOlaywi, A. (2024). Imposter phenomenon and its predictors in Saudi ENT specialists: A Cross-Sectional study. Cureus, 16(2)	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	Saudi Arabia	Medical-doctors - 80 (46 men-34 women)	Higher levels of the Imposter Phenomenon were found in men than in women. The study found that 36.9% of otolaryngologists experienced the Imposter Phenomenon, with trainees being more susceptible than specialists and residents

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
14	Liu, R. Q., Davidson, J., Van Hooren, T. A., Van Koughnett, J. A. M., Jones, S., & Ott, M. C. (2022). Impostorism and anxiety contribute to burnout among resident physicians. Medical Teacher, 44(7), 758–764	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	Canada	Medical Assistant Doctors-269 participants (%67 women - %32 men)	Imposter Phenomenon was an independent risk factor for both anxiety and burnout. Women were at higher risk for Imposter Phenomenon
15	Lin, E., Crijns, T. J., Ring, D., & Jayakumar, P. (2023). Imposter syndrome among surgeons is associated with intolerance of uncertainty and lower confidence in problem solving. Clinical Orthopaedics and Related Research®, 481(4), 664–671	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA and Europe	Medicine-Musculoskeletal system specialist surgeons-200 participants (91 male−102 female)	It has been demonstrated that feelings of imposter syndrome may be moderately or significantly associated with modifiable factors such as difficulty managing uncertainty and lack of confidence in problem solving

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
16	LaPalme, M., Luo, P., Cipriano, C., & Brackett, M. (2022). Imposter syndrome among pre-service educators and the importance of emotion regulation. Frontiers in Psychology, 13, 838,575	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA	Education-1643 Pre-Service Trainers (75.4% female)	The study found that the majority of pre-service educators experienced the Imposter Phenomenon, with 93% experiencing moderate imposter thoughts and 54% experiencing frequent or severe imposter thoughts. The Imposter Phenomenon was negatively associated with educator well-being. Imposter thoughts were more severe for women and queer minorities, but less severe for racial minorities. When comparing men and women, women were found to have significantly higher rates of imposter thoughts than men
17	LaDonna, K. A., Cowley, L., Field, E., Ginsburg, S., Watling, C., & Pack, R. (2025). Introducing the intruder paradox:"It's not the imposter syndrome, it's you don't want me in the field". Medical Education	Qualitative-Cross-Sectional	interview technique / Ipx Paradoksu (The Intruder Paradox Theory has been developed)	Semi-structured Interview Form	Canada	Medicine—40 Doctors	Participants' perspectives align with and empirically support academic and social media discussions suggesting that conversations about the phenomenon of imposters do not fully account for the role of gender discrimination, harassment, and intersectional discrimination on women's sense of competence and belonging in their professional work

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
18	Kanatova, R. (2023). Women leaders: Overcoming impostor syndrome in higher education in Kazakhstan. Journal of Higher Education Theory and Practice, 23(14), 51–63	Qualitative-Cross-Sectional	interview technique	Semi-structured Interview Form	Kazakhstan	Higher Education—10 Women Leaders	This first study on Imposter Syndrome in Kazakhstan shows that nearly all female leaders face these problems
19	Iwai, Y., Yu, A. Y. L., Thomas, S. M., Fayanju, O. A., Sudan, R., Bynum, D. L., & Fayanju, O. M. (2023). Leadership and impostor syndrome in surgery. Journal of the American College of Surgeons, 237(4), 585–595	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA	Medical-doctors (52.6% female, 47.4% male)	Female physicians, regardless of specialty or leadership role, were more likely than males to experience imposter syndrome (90% female/60% male). Men were more likely than females to hold leadership roles. Logistic regression revealed that men were less likely to experience imposter syndrome

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
20	Gopal, B., Fortenberry, K. T., & Coskey, O. (2023). Impostor phenomenon among family medicine residency program directors: a CERA study. Family Medicine, 55(8), 550	Quantitative/Cross-sectional	Survey Form	Leary Imposter Scale (LIS)	USA	Medical-Family Medicine Specialization Program Managers (52 Male–46 Female)	No significant differences were observed by gender. Those who reported insufficient support in the study had higher levels of imposter phenomena compared to those who perceived sufficient support. This effect may be related to an external locus of control or stress from societal or organizational expectations. Contrary to previous research linking imposter phenomenon, burnout, and leaving a role, higher imposter phenomenon were not found among those who were more likely to leave their positions

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
21	Gisselbaek, M., Suppan, M., Saxena, S., Hudelson, P., & Savoldelli, G. L. (2025). Association of impostor phenomenon and burnout among Swiss residents and junior anaesthesiologists: results of a cross-sectional survey. BMC anesthesiology, 25(1), 98	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS) and MBI-HSS-MP	Switzerland	Medical-Anesthesia Assistant Doctors (136 Female / 75 Male)	The imposter phenomenon is associated with the presence of burnout among trainee anesthesiologists. Furthermore, the imposter phenomenon affected more than half of the participants. Two risk factors for the imposter phenomenon were identified: being female and being a Swiss citizen. The imposter phenomenon was more prevalent in female participants and Swiss citizens, and burnout was also more common in women. Our current results confirm previous research suggesting that variables such as gender and professional experience potentially influence the prevalence of the imposter phenomenon. Gender differences in the imposter phenomenon and burnout among physicians have also been reported by several authors

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
22	Gaetano, A. J., Razzak, E., Howard, J., Saraf, S. M., & Mulcahey, M. K. (2025). Imposter Phenomenon, Burnout, and Suicidal Ideation Among Orthopaedic Surgery Residents. JAAOS Global Research & Reviews, 9(5), e25	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS))	USA	Medical-Orthopedic Surgery Residents-42 participants (30 male, 12 female)	The study examined the relationship between imposter syndrome, burnout, and suicidal ideation. 54.8% of orthopedic surgery residents reported significant or severe burnout, with higher levels found in women, those experiencing burnout within the past 5 years, and those with a history of suicidal ideation. By gender, the mean CIPS score was 56,1 for men and 80,4 for women, indicating a significant gender difference
23	Chakraverty, D. (2020). The impostor phenomenon among postdoctoral trainees in STEM: A US-based mixed-methods study. International Journal of Doctoral Studies, 15, 329	Mixed Methods (Quantitative + Qualitative)	Survey Form + interview technique	Clance Imposter Perception Scale (CIPS)+ Semi-structured Interview Form	USA	Higher Education Postdoctoral Researchers (STEM) (6 male/37 female)	Participants were predominantly White, female, and from scientific disciplines. Findings: Survey results indicated moderate to severe feelings of imposterism; interviews identified six triggers for imposterism among postdoctoral researchers: 1. Not pursuing new things; 2. Not making social connections; 3. Impaired academic communication; 4. Not applying; 5. Procrastination and mental health; and 6. Feelings of worthlessness and inadequacy

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
24	Carvajal, D. N., Reid, L. D., & Zambrana, R. E. (2023). URiMs and imposter syndrome: symptoms of inhospitable work environments?. Family Medicine, 55(7), 433	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS)	USA	Higher Education-Family Medicine Faculty Members (430–77% female—33% male)	Women reported higher rates of imposter syndrome than men. Regarding imposter syndrome, our data do not reflect higher incidences of this phenomenon among underrepresented faculty participants. Nevertheless, underrepresented faculty and other faculty of color in academic settings often describe a sense of imposterism

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
25	Batur, A., Arslan, V., & Turan, S. (2024). Analysis of the relationship between medical achievement self-efficacy perception and impostor phenomenon in the postgraduate education process: a cross-sectional study. BMC Medical Education, 24(1), 1536	Quantitative/Cross-sectional	Survey Form	Clance Imposter Perception Scale (CIPS))	Türkiye	Medical-Assistant Doctors / 261 People (133 women—128 men)	The study aimed to assess the relationship between imposter phenomenon and academic self-efficacy. The secondary objective was to identify the sociodemographic variables that influence these two factors. There is a strong relationship between academic self-efficacy and imposter phenomenon. Residents in the early stages of their academic careers experience a strong sense of imposter phenomenon. A lack of necessary competencies may be the primary reason for this. The current study found that as the level of imposter phenomenon increases, academic self-efficacy decreases, and there is a strong negative correlation between the two. Individuals with a positive baseline self-evaluation will have low levels of imposter phenomenon and high academic self-efficacy because they perceive themselves as competent and valued. There was no correlation between the gender of the participants, the level of imposter phenomenon, and academic self-efficacy scores

Table (continued)

	Article information	Research design	Data collection method	Scale	Country	Sector and sample	Variables and findings
26	Badawy, W., & Shaban, M. (2025). The impact of imposter syndrome on ego integrity and gender dynamics among aging nurses: A mixed-methods study. Geriatric Nursing, 65, 103,467	Mixed Methods (Quantitative + Qualitative)	Survey Formu+ interview technique	(Clance Imposter Perception Scale (CIPS)+ Semi-structured Interview Form	Saudi Arabia	Medicine—Nurses over 60 (based on psychosocial development theory)	This study explores the relationship between imposter syndrome and ego integrity among aging nurses, focusing specifically on gender dynamics defined as gender-based perceptions, expectations, and role conflicts within the nursing profession. Quantitative findings revealed a significant negative correlation between imposter syndrome and ego integrity, indicating that higher imposter feelings hinder psychological well-being in aging nurses. Qualitative results enriched these findings through three main themes: (1) reflections on life accomplishments, (2) feelings of inadequacy and undeserved success, and (3) the emotional and psychological impact of imposter syndrome on aging

Appendix 2

Methodological risk assessment of ıncluded studies (n=26)

No	Author(s) & Year	Sample & representativeness	Measurement validity	Control factors	Methodological transparency	Risk level
1	Chodoff et al. (2023)	Moderate—small purposive sample (n=28), single institution, qualitative design limits representativeness	Strong—semi-structured interview guide grounded in IP literature; thematic analysis applied consistently	Limited—no control variables; qualitative design not intended for causal inference	Transparent—recruitment, data collection, analysis procedure clearly reported	*Moderate*
2	Türkel et al. (2025)	Strong—n=160, mixed-gender sample across psychiatric specialties in multiple institutions	Strong—validated CIPS scale; additional validated scales for burnout, compassion fatigue, perfectionism	Moderate—controls for gender and professional variables; no institutional-level controls	Transparent—methods, instruments, and statistical procedures clearly described	**Low**
3	Clark et al. (2022)	Strong—n=158, cross-sectoral mental health professionals, reasonable gender distribution	Strong—Leary Imposter Scale; validated burnout and compassion measures	Moderate—controls for years of experience and age; no organizational-level controls	Transparent—analysis strategy and findings clearly presented	**Low**
4	Zeb et al. (2023)	Moderate—n=156, single specialty (surgery), single-country convenience sample	Strong—CIPS; validated and widely used in medical IP research	Limited—year of study included; gender comparison conducted but no multivariate controls	Moderate—methods reported but limited discussion of sampling strategy	*Moderate*
5	Samur et al. (2024)	Moderate—n=113, single-institution pediatric residency; simulation-based design	Moderate—simulation-based assessment; no validated IP scale; indirect measurement	Limited—gender comparison made but no statistical controls applied	Transparent—study design and educational context clearly explained	*Moderate*
6	Shanafelt et al. (2022)	Strong—n=3,116 physicians; large nationally representative sample compared to US working population	Strong—CIPS; benchmarked against normative population data	Comprehensive—controls for specialty, gender, age, career stage, and burnout	Highly transparent—detailed methodology, large-scale survey infrastructure described	**Low**
7	Mulholland et al. (2023)	Moderate—small purposive sample, single-institution qualitative case study	Strong—semi-structured qualitative methods; community of practice framework applied rigorously	Limited—qualitative design; no control variables intended	Transparent—reflexivity, participant selection, and thematic analysis process reported	*Moderate*
8	Zaed et al. (2022)	Strong—n=103, multicentric design across multiple neurosurgery programs in Italy	Strong—CIPS; validated and applied consistently	Limited—gender, career stage included; no multivariate regression reported	Transparent—multicentric design and data collection clearly described	**Low**
9	Zoia et al. (2024)	Strong—n=232, pan-European survey (EANS YNC); broad geographic coverage	Strong—CIPS; standardized across sites	Moderate—gender and experience level controlled; country-level variation not fully modelled	Transparent—survey methodology and statistical analysis clearly described	**Low**

Table (continued)

No	Author(s) & Year	Sample & representativeness	Measurement validity	Control factors	Methodological transparency	Risk level
10	Clark et al. (2014)	Strong—n=352 librarians across college and research settings; reasonable gender distribution	Strong—Harvey Imposter Phenomenon Scale; validated instrument	Limited—seniority and gender compared descriptively; no multivariate controls	Transparent—sampling frame and analysis approach clearly explained	**Low**
11	Anderson et al. (2024)	Strong—n=514 physical therapists; large, multi-setting sample across the US	Strong—CIPS; validated; additional measures for emotional exhaustion and job satisfaction	Comprehensive—gender, race, sexual orientation, geographic location, and practice setting included	Transparent—observational cross-sectional design clearly documented	**Low**
12	Hernandez and Lopez (2023)	Moderate—n=266 dietitians; predominantly female sample (96%); limits gender comparison	Strong—CIPS; validated	Limited—experience level included; no multivariate controls; gender comparison limited by sample composition	Transparent—exploratory design and limitations acknowledged	*Moderate*
13	Alrasheed et al. (2024)	Moderate—n=80 ENT specialists; small, single-country convenience sample	Strong—CIPS; validated	Limited—gender and training level compared; no multivariate analysis	Moderate—cross-sectional design described; limited discussion of sampling limitations	*Moderate*
14	Liu et al. (2022)	Strong—n=269 resident physicians; multi-specialty Canadian sample with reasonable gender distribution	Strong—CIPS; validated; additional anxiety and burnout measures	Moderate—gender, specialty, and year of training included; regression analysis applied	Transparent—multivariate analysis strategy clearly reported	**Low**
15	Lin et al. (2023)	Strong—n=200 surgeons; multi-country sample (USA and Europe)	Strong—CIPS; validated; additional scales for uncertainty tolerance and problem-solving confidence	Moderate—gender included; modifiable cognitive factors modelled; institutional context not controlled	Transparent—statistical model and variable operationalization clearly described	**Low**
16	LaPalme et al. (2022)	Strong—n=1,643 pre-service educators; large, multi-institutional US sample	Strong—CIPS; validated; emotion regulation measured with validated instrument	Comprehensive—gender, race, sexual orientation, and emotion regulation all included in analysis	Transparent—large-scale survey design and regression strategy well documented	**Low**
17	LaDonna et al. (2025)	Strong—n=40 physicians; theoretically purposive qualitative sample; diverse specialties	Strong—semi-structured interviews; grounded theory-informed analysis; Intruder Paradox framework developed inductively	Moderate—qualitative design; intersectional identities explored systematically	Highly transparent—methodological reflexivity, positionality statement, and analysis process thoroughly described	**Low**

Table (continued)

No	Author(s) & Year	Sample & representativeness	Measurement validity	Control factors	Methodological transparency	Risk level
18	Kanatova (2023)	Moderate—n=10 women leaders; small, single-country qualitative sample (Kazakhstan)	Strong—semi-structured interviews; culturally situated analysis	Limited—qualitative design; no control variables; exploratory scope	Transparent—first study on IP in Kazakhstan; methodological and contextual limitations acknowledged	*Moderate*
19	Iwai et al. (2023)	Strong—large multi-specialty surgical sample (n not specified but substantial); 52.6% female	Strong—CIPS; validated; logistic regression applied	Comprehensive—gender, specialty, leadership role, and career stage all controlled	Transparent—logistic regression model clearly described; findings disaggregated by gender	**Low**
20	Gopal et al. (2023)	Strong—CERA national survey; family medicine residency program directors; 52 male / 46 female	Strong—Leary Imposter Scale; validated	Moderate—gender, organizational support compared; no full multivariate controls reported	Transparent—national survey design and CERA methodology clearly referenced	**Low**
21	Gisselbaek et al. (2025)	Strong—n=211 Swiss anaesthesiology residents; 136 female / 75 male; national scope	Strong—CIPS and MBI-HSS-MP (validated burnout scale); dual instrument design	Comprehensive—gender, nationality, training level, and burnout all modelled	Highly transparent—statistical analysis, risk factor modelling, and limitations clearly reported	**Low**
22	Gaetano et al. (2025)	Moderate—n=42 orthopaedic surgery residents; small, single-institution sample	Strong—CIPS; validated; burnout and suicidal ideation measured with validated instruments	Limited—gender comparison reported; small n limits multivariate modelling	Transparent—study design, instruments, and limitations clearly acknowledged	*Moderate*
23	Chakraverty (2020)	Moderate—n=43 postdoctoral STEM researchers; predominantly White female sample; convenience sampling	Strong—CIPS and semi-structured interviews; mixed-methods triangulation	Moderate—discipline and demographic variables explored; intersectional analysis limited by sample size	Transparent—mixed-methods rationale and integration strategy clearly described	*Moderate*
24	Carvajal et al. (2023)	Strong—n=430 family medicine faculty; 77% female; multi-institutional US sample	Strong—CIPS; validated	Moderate—gender, race/ethnicity, and underrepresented minority status compared; no full multivariate model reported	Transparent—survey methodology and intersectional framing clearly described	**Low**

Table (continued)

No	Author(s) & Year	Sample & representativeness	Measurement validity	Control factors	Methodological transparency	Risk level
25	Batur et al. (2024)	Strong—n=261 medical residents; 133 female / 128 male; single-country but balanced gender distribution	Strong—CIPS and academic self-efficacy scale; both validated	Moderate—gender, career stage, and self-efficacy modelled; institutional factors not included	Transparent—correlation and regression strategy clearly reported	**Low**
26	Badawy and Shaban (2025)	Moderate—aging nurses (60 +); convenience sample; single country (Saudi Arabia); narrow age band	Strong—CIPS and ego integrity scale; mixed-methods with semi-structured interviews	Moderate—gender dynamics and age explored; institutional or cultural controls limited	Transparent—mixed-methods design, psychosocial framework, and thematic analysis clearly described	*Moderate*

Quality appraisal was conducted using criteria adapted from the Joanna Briggs Institute (JBI) Checklist for Analytical Cross-Sectional Studies (applied to sample representativeness and measurement validity) and the Newcastle–Ottawa Scale (applied to control factors and methodological transparency). Appraisal was conducted by a single reviewer; absence of double-coding is acknowledged as a limitation. Bold = Low risk | Italics = Moderate risk.

Assessment criteria: (1) Sample & Representativeness, (2) Measurement Validity, (3) Control Factors, (4) Methodological Transparency. Risk levels: Low = strong/moderate ratings across all criteria; Moderate = limitations in one or two criteria; High = multiple limited ratings or compromised measurement validity. Ratings: Strong / Moderate / Limited / Comprehensive / Transparent / Highly transparent.

Risk distribution: Low risk = 16 studies (62%) | Moderate risk = 10 studies (38%) | High risk = 0 studies.

Author Contribution Author whose names appear on the submission Made substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data; or the creation of new software used in the work; Drafted the work or revised it critically for important intellectual content; approved the version to be published; and Agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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Authors and Affiliations

Nazlı Yüceol[1]

✉ Nazlı Yüceol
nyuceol@gelisim.edu.tr

[1] Department of Medical Documentation and Secretarial, Istanbul Gelisim University, Istanbul, Turkey