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Supervisor social support and disability inclusion: examining mediation and moderation in employee performance

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Supervisor social support and disability inclusion: examining mediation and moderation in employee performance

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Abstract: The study explores the impact of supervisor's social support on performance of employees with disabilities in a Pakistani setting. It also examines how climate for psychological safety and stigma by association moderate the relationship. Furthermore, the study explores the indirect impact of leader-member exchange as a mediator. The analysis was based on data obtained from 441 paired responses of employees with disabilities (EWDs) and their supervisors working in different organisations, using PLS-SEM. The results indicate that a positive direct and indirect effect exists between supervisor's social support and performance of EWDs, mediated by leader-member exchange. Moreover, the relationship between supervisor's social support and performance of EWDs is strongly moderated by climate for psychological safety and stigma by association.

Keywords: supervisor's social support; employees with disabilities; EWDs; leader-member exchange; LMX; stigma by association; SBA; climate for psychological safety; CPS.

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1 Introduction

Organisations across the globe value people with disabilities, and one of the most important things they can do to support these individuals is to employ them (Malhotra et al., 2025). Employees with disabilities (EWDs) are very skilled and essential to the workforce, but they are often unable to secure employment opportunities that are suitable for them. Recent studies indicate that stigma, lack of institutional support, and the absence of disability-inclusive supervisory practices remain obstacles to the performance and societal integration of EWDs (Costa, 2024; Lachegar et al., 2025). The primary reason of such barriers is the lack of willingness or inability of colleagues and supervisors to provide essential support, rather than EWD competency (Chordiya, 2022; Follmer and Jones, 2018; Koch et al., 2022). This lack of research is particularly significant in organisations that are outside of the west, where stigma associated with disability makes systemic exclusion more severe (Malhotra et al., 2025).

According to several studies, EWDs can perform better at work in comparison to other employees. However, this may create some barriers that may not make EWDs a

good source of human capital with a shortage in social support (Chimatiro, 2024). To harness skills and capabilities of EWDs more efficiently and ultimately enhance performance, organisations are making increased investments in favourable working conditions (Baumgärtner et al., 2014; Yasmin et al., 2024; Zhang et al., 2025). In this group of workers, the workplace devoid of discrimination is the key to minimising the negative image that the EWDs face. It is a priority of supervisors to improve the performance levels of EWDs (Hashim et al., 2015; Villotti et al., 2017).

Supervisor's social support represents assistance or support that is provided by supervisors to their labourers at work (Mata et al., 2021). The existence of SSS also contributes to the feeling of worth among the EWDs, increasing the level of performance by EWDs. Disability is a condition that can deter work performance (Berkley et al., 2019; Lappalainen et al., 2019; Sohail and Rehman, 2015). These barriers can be removed by providing EWDs with social support by their supervisors, according to the recent body of research (Baumgärtner et al., 2014; Dwertmann and Boehm, 2016; Low and Borowska-Beszta, 2018). Although individuals with disabilities can show competence to meet their job demands, supervisor support might be critical to work consistency (French et al., 2018; Martin et al., 2022). Biswal and Mishra (2025) further underscore that psychological and institutional barriers – including the absence of trained supervisory support – continue to impede the full workplace participation of persons with disabilities, even where formal inclusion policies exist. This finding directly motivates the present investigation into the mechanisms through which supervisory social support translates into improved performance outcomes for EWDs.

The present study examines climate for psychological safety (CPS) and stigma by association (SBA) as moderators. A CPS allows people to express themselves freely without fear of negative consequences (Baer and Frese, 2003). Encourage EWDs to manage accommodation and handicap concerns to increase workplace fairness and inclusion (Colella, 2001; Nishii, 2013). EWD members may also experience SBA, which is devaluation and unfavourable acts against stain-linked people (Vayshenker et al., 2018). SBA harms people without the stigmatised trait (Brzykcy and Boehm, 2022; Sheehan et al., 2017). Recent research has shown that stigma dynamics extend to supervisory relationships, where supervisors who publicly support EWDs may be socially devalued by peers, which can paradoxically limit EWD support (Doyle et al., 2026). Jiang et al. (2026) found that the workplace social environment strongly influences the supervisor – subordinate interaction, emphasising the need to examine contextual moderators in the supervisory support – performance relationship. This attribution may make EWDs feel isolated in social contexts due to internalisation (Van der Sanden et al., 2016). Biswal and Mishra (2025) stress that psychological barriers and institutional neglect continue to hinder disability participation in the workplace. SBA can lead to prejudice against other group members, making it harder for EWDs and their organisations to achieve their work goals (Brzykcy and Boehm, 2022; Kulik and Roberson, 2008).

There is a scarcity of studies on EWDs, and even fewer focus on supervisors' role in improving EWD performance through social support, especially in developing countries with weak disability inclusion frameworks. This study addresses the gap by examining supervisor's social support's direct and indirect effects on EWD performance through leader-member exchange (LMX). This study examines how CPS and SBA moderate the SSS – performance link, adding to understanding. Finally, this study seeks to determine

how supervisors' social support affects EWD performance in Pakistani businesses, adding to the growing body of evidence on disability-inclusive leadership in the Global South (Nisar Khattak et al., 2024).

The present study reports the following key findings: supervisor social support (SSS) positively predicts EWD performance ($\beta = 0.245$, $p < 0.001$), partially mediated by LMX ($\beta = 0.049$, $p < 0.05$), amplified by CPS ($\beta = 0.117$, $p < 0.05$), and attenuated by SBA ($\beta = -0.249$, $p < 0.001$). Note that SBA's negative moderation ($\beta = -0.249$, $p < 0.001$) is the model's strongest boundary condition. High power distance, collectivist social norms (Hofstede, 2001), and deep-rooted cultural stigma around disability in Pakistan suggest that associative stigma dynamics will hinder performance more than institutional protections. Pakistan is theoretically generative for testing social exchange-based supervisory models' restrictions and contextualising results. These findings improve our understanding of the conditional and relational mechanisms by which supervisory assistance improves disability inclusion in non-Western organisations.

The present research aims to

- 1 investigate the direct impact of SSS on the performance of EWDs within Pakistani organisations
- 2 examine the influence of SSS on the quality of LMX
- 3 assess the extent to which LMX positively predicts the performance of EWDs
- 4 study the mediating function of LMX in the SSS-EWD performance relationship
- 5 assess the moderating impact of CPS
- 6 evaluate the moderating effect of SBA on the SSS-EWD performance relationship.

1.1 Research questions

Building upon the theoretical gaps identified above and the four research objectives of this study, the following research questions are advanced:

- RQ1 To what extent does SSS directly and positively predict the job performance of EWDs in the Pakistani organisational context?
- RQ2 Does SSS exert a significant positive influence on the quality of LMX between supervisors and EWDs?
- RQ3 Does the quality of LMX significantly and positively predict the job performance of EWDs?
- RQ4 To what degree does LMX mediate the relationship between SSS and the job performance of EWDs, and what is the magnitude of this indirect effect?
- RQ5 Does CPS function as a positive moderating boundary condition, amplifying the performance benefits of SSS for EWDs?
- RQ6 Does SBA function as a negative moderating boundary condition, attenuating the effectiveness of SSS in generating performance gains for EWDs?

The paper continues as follows: Section 2 describes the theoretical framework and hypotheses, Section 3 explains the study methods, Section 4 provides the empirical data,

Section 5 discusses the results, and Section 6 concludes with theoretical and managerial implications, limitations, and recommendations for future research.

2 Literature review

Throughout this review, each hypothesis is theorised from the primary perspective of SET (Blau, 1964), with LMX theory (Graen and Uhl-Bien, 1995), the job demands-resources model (Bakker and Demerouti, 2017), and signalling theory (Spence, 1973) deployed as complementary and non-competing lenses to specify, respectively, the relational mechanism (LMX), the climate boundary condition (CPS), and the stigma perception mechanism (SBA) of the overarching supervisory exchange dynamic. The deployment of multiple, hierarchically ordered theoretical frameworks is consistent with established practice in the disability employment literature, where no single theoretical tradition has proven sufficient to capture the full complexity of supervisory dynamics in stigmatised and marginalised populations (Dwertmann and Boehm, 2016; Martin et al., 2016).

2.1 *Impact of supervisor's social support on performance of EWDs*

Disabled individuals make up 16% of the global population (WHO, 2025). Despite legal frameworks ensuring equal employment opportunities, many stay unemployed. Discrimination and stigma make disabled people's employment difficult, especially in underdeveloped nations like Pakistan, according to Hussain et al. (2022). Although Pakistan has disability policies, improving disability employment remains a priority (Arsh et al., 2019). Stigma against disability in Pakistan affects workplace relationships, EWD performance, and job status (Rathore et al., 2011).

Disability is defined as “an umbrella term for impairments, activity limitations and participation restrictions, referring to the negative aspects of the interaction between an individual (with a health condition) and that individual's contextual factors (environmental and personal factors)” [WHO, (2011), p.4]. This research is needed in Pakistan for many reasons. As one of the most populous countries in the Global South, Pakistan has 10–15% disabled people (WHO, 2023). Even with the 1981 Disabled Persons (Employment and Rehabilitation) Ordinance and subsequent provincial revisions under the Special Persons Act (2020), disability employment rates are low compared to worldwide standards (Arsh et al., 2019; Hussain et al., 2022). Private sector disability disclosure is stigmatised and HR departments lack the knowledge and resources to implement effective inclusion initiatives (Hussain et al., 2022). Second, while power distance and collectivist social norms define Pakistani organisational culture (Hofstede, 2001), the supervisor-subordinate relationship predicts employee outcomes better than HR laws. EWDs have little explicit institutional protections and are significantly influenced by the supervisory dyad (Nisar Khattak et al., 2024). Hence, supervisory assistance is crucial. Third, Pakistani cultural stigma rooted in social misattribution and familial guilt typically amplifies disability, intensifying associative stigma for EWD colleagues and supervisors and psychological safety hurdles for disclosers. This makes Pakistan a crucial and urgent location for exploring how supervisory social support influences disability inclusion.

Burns et al. (2007) have identified social support as a rehabilitation method to improve EWD job performance and career chances. Supervisor and colleague support create organisational social support networks. Thus, workplace social support involves EWDs working with co-workers, especially supervisors (Holland and Collins, 2022; Jamin et al., 2024). Social connections with co-workers affect EWDs' job and company attitudes. EWDs need mentoring, coaching, and monitoring. Thus, the supervisor must create a supportive environment that engages and promotes human capital performance (Low and Borowska-Beszta, 2018; Ziedan, 2018; Yasmin et al., 2024).

Recent empirical evidence supports this theory. A comprehensive review of disability inclusion in hospitality and tourism organisations by Jamin et al. (2024) found that supervisory support is a key enabling mechanism in the workplace inclusion ecosystem, directly affecting EWD performance outcomes across multiple organisational levels. Kyambade et al. (2024) discovered that relational resource accumulation and social capital, including SSS, strongly predicted self-efficacy and employment outcomes for disabled people. Arsh et al. (2019) found that EWDs in formal work in Pakistan report considerably poorer performance evaluations without supervisory accommodation, which inspired this study. Recently, Estreder et al. (2024) showed through longitudinal study that SSS supports the voice and active engagement of people with intellectual disabilities at work, confirming SSS's direct performance significance for EWD. We believe SSS in organisations will immediately improve EWD performance.

Leadership and HRM literature support supervisory support-performance. Like the SSS-LMX-performance chain hypothesised in this work, Suhartini and Sary (2025) found that relational and motivational intermediary processes mediate supervisory leadership behaviour and employee performance. Their findings demonstrate the conceptual applicability of PLS-SEM for modelling such links and the theoretical importance of supervisory investment in organisational performance.

H1 Supervisor's social support will positively impact the performance of EWDs.

2.2 *Impact of supervisor's social support on LMX*

SSS involves leaders' emotional, informational, and practical support for subordinates (House, 1981). SSS includes empathy, active encouragement, and stress reduction in addition to employment coaching. The norm of reciprocity in social exchange theory (SET) appears to govern the link between SSS and LMX quality (Blau, 1964). SET believes that interdependent exchanges build trusted, loyal, and reciprocal relationships.

Supervisors that care and give 'social gifts' of assistance create a cycle of high-quality exchanges. Support for EWDs, who often face structural and societal barriers, involves both administrative and psychological. Signalling theory states that a supervisor's time and empathy for a disabled employee demonstrate the employee's value to the company (Costa, 2024). This supportive signalling encourages EWDs to respond with increased relational commitment and 'felt obligation', transforming the dyadic bond from a transactional 'out-group' status to a high-quality 'in-group' LMX relationship based on mutual trust and respect.

Research shows that this reciprocal link is strongest in heterogeneous corporate environments, where social support drives work engagement (Wu et al., 2025). Thus, high-quality LMX links supervisor interventions to organisational effectiveness (Willie, 2025). In Pakistani businesses where disability stigma persists, supervisors' proactive

help drives inclusion (Nisar Khattak et al., 2024). A supervisor who successfully blends practical support with emotional empathy is more likely to develop a strong LMX dyad. Recent organisational behaviour research shows that supervisory behaviour modulates and catalyses relational quality. Awamleh et al. (2025) found that institutional and environmental barriers, including inadequate supervisory accommodation, are the biggest barriers to EWD employment outcomes in developing-country organisations, supporting the theory that supervisor-level resource investment improves EWD performance. This study confirms the SET premise that longer supervisory resource investment enhances LMX.

New empirical evidence supports this theoretical reasoning. Jiang et al. (2026) used a cross-lagged panel design to show that family-supportive supervisory behaviours, a specific dimension of SSS, significantly predicted LMX quality improvements over time, supporting a gain spiral of resources framework (Bakker and Demerouti, 2017). In the study, SSS started a virtuous cycle in which supervisory investment in employee welfare improved dyadic relationships. Wu et al. (2025) found that social support from supervisors in a moderated mediation research indirectly improved work engagement by improving relational quality, similar to the SSS → LMX path postulated in this study. In the disability context, Colella and Varma (2001) found that supervisors who supported EWDs developed qualitatively stronger LMX relationships over time, suggesting that SSS exchange dynamics are particularly salient for stigmatised employee populations whose access to high-quality LMX is structurally constrained.

H2 Supervisor's social support will positively impact LMX.

2.3 *Impact of LMX on performance of EWDs*

LMX theory distinguishes high- and low-quality supervisor-subordinate relationships (Graen and Uhl-Bien, 1995). LMX partnerships with reciprocal trust, respect, and support are better than those with lower involvement and effectiveness (Willie, 2025). Quality LMX connections can provide EWDs with formal and informal rewards, job-related problem-solving, emotional support, social support, and work support (Gerstner and Day, 1997; Golden and Veiga, 2008). High-LMX supervisors are more likely to provide these workers with resources, accommodations, and assistance (Dwertmann and Boehm, 2016; Dulebohn et al., 2012). Among other good EWD findings, Lyubykh et al. (2020) showed a strong association between LMX quality and job accommodations. This helps improve self-efficacy, performance barriers, and employment outcomes (Kyambade et al., 2024). We hypothesise that LMX relationship quality will improve EWD performance.

Recent EWD research supports the LMX-performance link. A systematic review by Willie (2025) showed that high-quality LMX relationships are the main path to organisational success due to trust, mutual obligation, and access to organisational resources that lower-quality dyadic relationships lack. Importantly, Dwertmann and Boehm (2016) observed that EWDs in high-quality LMX relationships with their supervisors were more likely to get performance-enabling accommodation and colleague acceptance, directly boosting objective performance results. Nisar Khattak et al. (2024) showed that LMX quality influences the association between supervisory leadership practices and employee attitudes in Pakistani firms, demonstrating the contextual importance of LMX mechanisms in this study's cultural setting.

H3 LMX will positively impact performance of EWDs.

2.4 *Mediating role of LMX*

Based on vertical dyad linkage theory (Dansereau et al., 1975) and SET (Liao et al., 2010; Wayne and Green, 1993), this study uses LMX as a mediating concept to examine supervisor-EWD social exchanges. Leaders' relationships with EWDs are crucial to LMX theory (Colella and Varma, 2001; Dulebohn et al., 2012). The supervisor's position is a key predictor of EWDs' job performance attitudes (Martin et al., 2016). Leaders' encouragement is likely to motivate followers to complete duties efficiently (Martin et al., 2016). Supervisor support and instruction can improve leader-member interchange (Colella and Varma, 2001). High-quality LMX interactions may improve subordinate performance (Martin et al., 2022). Such interactions increase workplace autonomy, giving EWDs opportunity to succeed (Dwertmann and Boehm, 2016; Estreder et al., 2024; AlKahtani et al., 2021). They also affect job performance (Tummers and Knies, 2013) and make many tangible and social resources available (Dulebohn et al., 2012). This theoretical framework can assist explain leader-member interchange as an intermediary process that links supervisor function to EWD performance.

H4 LMX will mediate the relationship between supervisor's social support and performance of EWDs.

2.5 *Moderating role of CPS*

SSS provides EWDs with 'relational resources'; the CPS creates a 'contingency environment' for performance. According to the job demands-resources (JD-R) model, CPS is a high-level contextual resource that reduces the psychological costs of being vulnerable, which are often associated with workplace handicaps. CPS is the concept that the team creates a safe space for interpersonal risk-taking, allowing people to express their needs or 'creative dissent' without fear of stigma or career consequences (Golubovich et al., 2014). Such an environment minimises the 'perceived risk' of discussing disability issues, allowing EWDs to fully utilise their supervisors' instrumental and emotional assistance. A setting where EWDs can discuss their issues without being deemed 'incompetent' enhances social support and productivity, according to Shamir-Baldermanin and Shalmon (2026).

We propose that SSS is the 'relational fuel', whereas CPS is the 'engine environment' that regulates fuel use. In particular, lower danger evaluation amplifies this. The JD-R framework's conservation of resources principle (Bakker and Demerouti, 2017) states that a high-CPS environment amplifies resources: EWDs who receive SSS in a psychologically safe environment have lower threat appraisal costs for disability disclosure and accommodation-seeking. They can allocate more supervisory support resources to performance-directed effort rather than defensive self-presentation, impression management, or identity concealment. Unfortunately, in low-CPS contexts, the EWD's psychological energy is diverted from task performance to social danger monitoring, which can negate even extensive supervisory support. So, CPS's moderating effect is a multiplicative amplifier that influences SSS resource conversion efficiency into performance outputs.

Recent research supports CPS as a supervisory support effectiveness boundary condition. Bahadurzada et al. (2024) showed that psychological safety is an organisational resource that supports employee performance even under structural limitation, confirming its theory that it amplifies SSS effects for EWDs. AlMunthiri et al. (2024) found that inclusive leadership increases innovative behaviour through psychological safety, confirming that safety climate and supervisory behaviour interact to shape employee outcomes. Shamir-Baldermanin and Shalmon (2026) found through qualitative analysis that supervisory support and environmental and personal factors, including team climate safety, affect workplace integration outcomes for employees with visible physical disabilities. These converging findings suggest that CPS is a critical boundary condition that boosts EWD SSS performance. The innovation and performance literature also demonstrates that organisational environment improves supervision. Based on Arifin et al. (2026), organisational-level contextual resources like collaborative climate and strategic partnerships multiply leadership investment's performance effects, supporting the JD-R model's claim that contextual resources amplify rather than supplement direct supervisory effects. This construction industry study found that environment variables improve performance rather than increase predictors, comparable to the disability inclusion study's CPS moderation.

H5 CPS will moderate the relationship between supervisor's social support and performance of EWDs.

2.6 Moderating role of SBA

Supervisor support is crucial, but organisation culture might hinder it. We believe SBA – the undervaluation of people who are related to stigmatised people – is a major social barrier (Östman and Kjellin, 2002). Disability stigma in the workplace harms EWDs and their supporters and co-workers (Doyle et al., 2026). According to signalling theory, work relationships are 'signals' of position, skill, and group membership. If a supervisor gives an EWD a lot of social support, biased observers may interpret this 'signal' of inclusion as a sign of poor performance. A lot of SBA produces a 'negative signal' that prevents constructive social exchange. If colleagues stigmatise or punish a supervisor for advocating, it produces 'social friction' that harms the LMX relationship and the perceived legitimacy of the support (Seitz and Choo, 2021).

A high SBA affects the EWD like a 'social tax'. The EWD experiences 'stereotype threat' and anxiety when they believe their employer is losing social capital or making co-workers nervous due to their connection (McLaughlin et al., 2012). According to Biswal and Mishra (2025), exclusionary standards and external societal influences can undermine inclusive leadership. Since high-SBA environments punish the link that promotes success, SSS has less of an effect on performance. In these cases, the EWD may cease or lessen their performance to 'protect' the supervisor from greater stigma, negating the assistance's benefits. Beyond disability studies, social perception and stigma moderate supervisor-subordinate performance within organisations. According to Mo et al. (2026), supervisors' contextual pressures affect the kind and degree of supervisory investment in subordinate growth, restricting supervisory resource provision. This study found that SBA, the organisation's social environment, moderates EWDs' supervisory support-related performance outcomes.

Recent empirical research corroborates the SBA moderation theory. Brzykcy and Boehm (2022) found that disability labels impose relational costs on supervisors who visibly associate with EWDs, creating a ‘social tax’ that reduces supervisory willingness to support EWDs in high-stigma environments. Doyle et al. (2026) found that people working near to stigmatised co-workers have considerable organisational inequalities, confirming that associative stigma negatively impacts workplace relationships. Lachegar et al. (2025) showed that stigmatised employees in high-stigma environments actively negotiate their identity and suppress their use of support resources to protect their relational partners from reputational damage, weakening the SSS-performance relationship in high-SBA conditions. These findings strongly support the idea that SBA negatively moderates the SSS-EWD performance relationship.

H6 SBA will moderate the relationship between supervisor’s social support and performance of EWDs.

2.7 *Theoretical lens of the study*

An integrated multi-theoretical framework is used to analyse the complex dynamics of disability inclusion in the workplace. Each theoretical lens is applied to a distinct level of research and set of hypothesised linkages. SET is the foundational framework, LMX theory specifies the relational mechanism, the JD-R model explains the organisational boundary condition, and signalling theory explains the stigma moderation effect’s social perception mechanism.

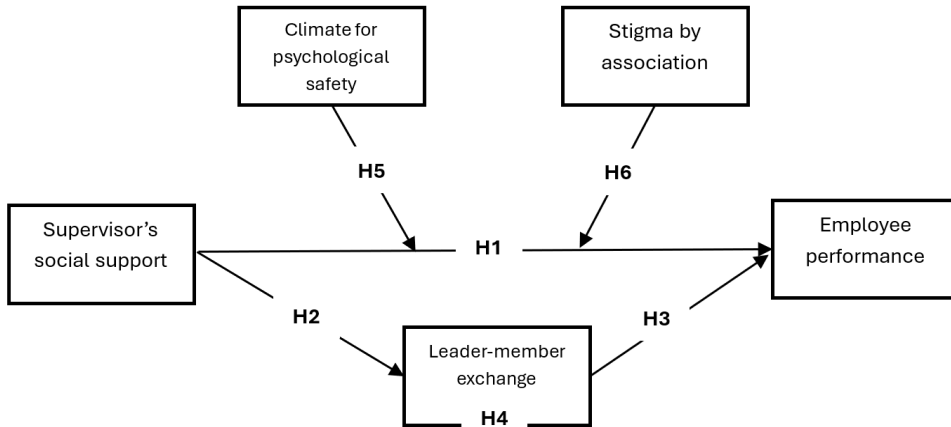
SET (Blau, 1964), the main theoretical framework, holds that social conduct is an exchange process guided by reciprocity (Gouldner, 1960): when one party contributes valued resources, the recipient is normatively obligated to reciprocate. In the present paradigm, SSS is a supervisor resource investment that motivates EWDs to work harder and perform better (H1). This reciprocity norm is especially important for EWDs, who have limited access to organisational resources and value supervisory support more than non-disabled employees (Dulebohn et al., 2012; Martin et al., 2016).

LMX theory (Graen and Uhl-Bien, 1995), an integrated sub-theory of SET, describes how supervisory resource investments lead to performance results. According to LMX theory, the quality of the supervisor-subordinate relationship – characterised by trust, affect, loyalty, and professional respect – varies across subordinates and affects employee access to organisational resources, information, and performance support (Dansereau et al., 1975). SSS initiates a circle of high-quality exchange that gradually elevates the LMX relationship (H2), which provides EWDs with the relational resources needed for sustained performance improvement (H3), with LMX mediating SSS and EWD performance (H4).

To explain CPS’s SSS-performance relationship boundary condition (H5), the JD-R model (Bakker and Demerouti, 2017) is used. The JD-R model states that organisational resources, especially team atmosphere, boost supervisory support’s motivation and performance. CPS is a team-level organisational resource that decreases the psychological cost of identity disclosure and accommodation-seeking for EWDs, allowing them to fully utilise supervisor support. EWDs dread interpersonal risk in low-CPS situations, reducing SSS use and performance advantages (Edmondson, 1999; Bahadurzada et al., 2024).

Finally, signalling theory (Spence, 1973) explains the SBA moderating effect's social perception mechanism (H6). Signalling theory holds that observable actions reveal an actor's identity, values, and group memberships to observers (Connelly et al., 2011). Visible support for an EWD signals group membership proximity, which colleagues interpret as social contagion in high-SBA environments, devaluing the supervisor and eroding their willingness to support (Brzykcy and Boehm, 2022). High associative stigma reduces the performance gains of SSS because EWDs engage in protective disengagement due to the social signal cost of obtaining prominent supervisory support.

Figure 1 Theoretical framework



3 Methodology

3.1 Research approach and design

This study employs a quantitative research methodology based on a positivist philosophical framework and a deductive reasoning approach. A deductive research strategy was applied, as the study develops testable hypotheses from established theoretical frameworks, namely, SET (Blau, 1964), LMX theory (Graen and Uhl-Bien, 1995), and the JDR model (Bakker and Demerouti, 2017), subsequently subjecting these hypotheses to empirical testing through collected data (Bryman, 2016). A cross-sectional survey design was used, collecting data at specific point in time across different organisations. Although a cross-sectional design limits causal inference, it is widely employed in organisational behaviour research when longitudinal data collection is constrained by the accessibility of specialised populations such as EWDs (Estreder et al., 2024), and is appropriate for the explanatory and predictive goals of this investigation.

3.2 Sample and data collection

The study population included EWDs from corporate sector, public, and non-governmental organisations in Khyber Pakhtunkhwa province. Between January and February 2025, EWD respondents were paired with their direct line supervisor to

complete a standardised paired-questionnaire. Supervisors individually rated their paired EWD subordinates across SSS, LMX, CPS, and SBA. Employee performance was judged by a source other than the predictor variable rater in this dyadic design, reducing method bias (Podsakoff et al., 2003).

It was challenging to identify EWDs using regular sampling frames, so snowball sampling was used. Disabled workers in Pakistan are not openly included in organisational directories since disability disclosure is socially stigmatised and many choose anonymity (Hussain et al., 2022). Disability support networks, disability-inclusive HR departments, and Khyber Pakhtunkhwa NGOs made initial contact. More eligible responders were nominated by these initial interactions in waves. Across sampling waves, 530 paired questionnaire packages were given. There were 441 paired dyads left after deleting incomplete responses and unmatched EWD-supervisor dyads, representing an 83% completeness and matching rate. When probability sampling is not possible, snowball sampling is recommended for hard-to-reach, stigmatised, or marginalised communities (Chordiya, 2022; Koch et al., 2022). A total of 441 paired EWD-supervisor dyads were assessed using Hair et al.'s (2019) minimal sample size criterion for PLS-SEM. For the employee performance construct, Hair et al. (2019) showed that a minimum sample size of 59 observations is needed with three direct predictors (SSS, LMX, and interaction terms) at a 5% significance level and R^2 threshold of 0.10. This threshold is exceeded by 441 samples, allowing statistical power to detect all assumed route effects.

3.3 *Analytical technique*

PLS-SEM had been selected over CB-SEM for three reasons. In exploratory and prediction-oriented research using complicated models with various mediating and moderating routes, like this study, PLS-SEM is ideal (Hair et al., 2019). PLS-SEM works well with non-probability samples and multivariate normality violations (Ringle et al., 2020). PLS-SEM is suitable for models with reflecting constructs and interaction terms, including this study's moderation effects (Hair et al., 2019). SmartPLS 4 performed all analyses. Analysis was done in two steps. Checking the measurement model for constructing validity and reliability was the initial step. Observable indicators quantified latent variables sufficiently, according to this evaluation. Second, the structural model examined the proposed relationships between the variables in the research model. The hypothesised pathways' direct, mediating, and moderating effects were validated using predictive validity and relevance.

3.4 *Measures*

The study used scales that were adopted in earlier studies to measure the constructions. Supervisor's social support was measured using ten of the items used by Berlin social support scales (Schwarzer and Schulz, 2000). LMX was measured using a nine-item scale adapted with Venkataramani et al. (2010). SBA was measured on a four-item scale presented by Mehta and Farina (1988). An instrument consisting of a seven-item scale was used to measure CPS through the works of Baer and Frese (2003). The employee performance of EWDs was measured on a five-item scale by Van Yperen and de Jong (1997). All items for SSS, LMX, EP, and CPS were rated on a five-point Likert scale

ranging from 1 (strongly disagree) to 5 (strongly agree). While the SBA items were rated on a five-point scale from 1 (never) to 5 (almost always).

Table 1 Factor loadings, Cronbach's alpha, composite reliability, AVE

<i>Construct</i>	<i>Items</i>	<i>Loadings</i>	<i>VIF</i>	<i>Cronbach's alpha</i>	<i>Composite reliability</i>	<i>AVE</i>
CPS	CPS2	0.882	2.268	0.847	0.864	0.526
	CPS3	0.858	2.232			
	CPS4	0.795	2.013			
	CPS5	0.716	1.532			
	CPS6	0.469	1.749			
	CPS7	0.529	1.878			
EP	EP1	0.844	2.214	0.773	0.847	0.529
	EP2	0.794	1.923			
	EP3	0.626	1.165			
	EP4	0.685	1.409			
	EP5	0.663	1.428			
LMX	LMX1	0.841	3.057	0.911	0.927	0.588
	LMX2	0.813	2.642			
	LMX3	0.719	1.783			
	LMX4	0.829	2.922			
	LMX5	0.796	2.458			
	LMX6	0.708	1.760			
	LMX7	0.778	2.127			
	LMX8	0.744	1.856			
	LMX9	0.650	1.636			
SBA	SBA1	0.780	1.680	0.810	0.874	0.637
	SBA2	0.866	2.376			
	SBA3	0.847	2.030			
	SBA4	0.687	1.734			
SSS	SSS3	0.704	1.797	0.865	0.895	0.516
	SSS4	0.745	2.039			
	SSS5	0.764	1.879			
	SSS6	0.683	1.705			
	SSS7	0.655	1.524			
	SSS8	0.752	1.878			
	SSS9	0.764	1.905			
	SSS10	0.668	1.574			

4 Results

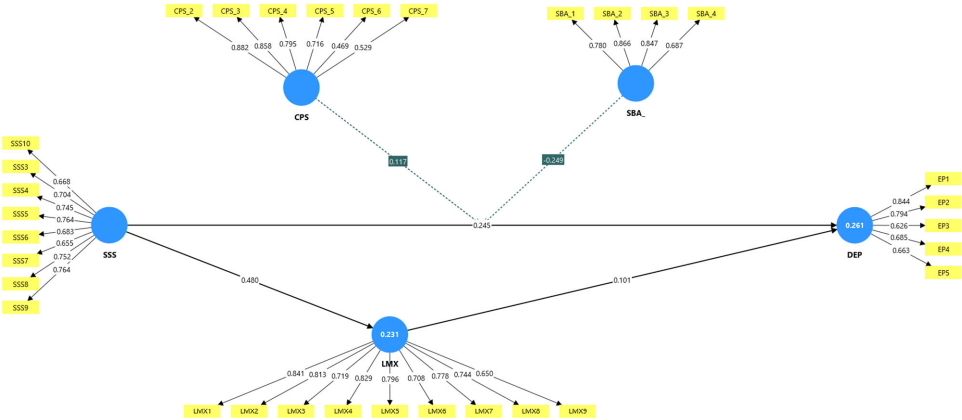
4.1 Measurement model

Measurement model was evaluated using factor loadings, Cronbach's alpha, composite reliability, and AVE. Figure 2 and the Table 1 shows required values.

4.1.1 Factor loadings and multicollinearity

Factor loadings, which show how observed items have links to their underlying constructs (Hair et al., 2019), were largely adequate (Table 1), which shows that convergent validity is reliable. Most items reached a peak of 0.70, signifying substantial construct contribution (Hair et al., 2019). CPS6 (0.469) and CPS7 (0.529) had lower loadings, but they were kept because they fit the model and were reliable and valid. The variance inflation factor (VIF) (Hair et al., 2019) indicated no significance in multi-collinearity. All item-level VIF values were below 5 (range: 1.165 to 3.057; see Table 1), which means that the predictor variables were not very correlated and the regression coefficients were stable.

Figure 2 Measurement model (see online version for colours)



4.1.2 Construct reliability and convergent validity

The Cronbach's alpha (Cortina, 1993) values for all constructs were over 0.70 (CPS = 0.847, EP = 0.773, LMX = 0.911, SBA = 0.810, SSS = 0.865), which means that the items in each scale consistently measured a similar phenomenon. Composite reliability, a common measure of internal consistency used when item loading changes (Hair et al., 2019), was good for all constructs (see Table 1), which showed that the measures were reliable. The average variance extracted (AVE) values for all constructs were greater than 0.50 (CPS = 0.526, EP = 0.529, LMX = 0.588, SBA = 0.637, SSS = 0.516; see Table 1). All constructs exhibited robust convergent validity. This indicates that the items aligned with their constructs, with each construct accounting for a substantial proportion of its indicators' variance.

Table 1 indicates the factor loadings and VIF values for construct items. The table also showed the Cronbach alpha, Composite reliability, and AVE values for all the constructions. Figure 2 shows the output of the SmartPLS measurement model.

4.1.3 Discriminate validity

- Heterotrait-monotrait (HTMT) ratio: HTMT correlation ratios assessed discriminant validity (Henseler et al., 2015). This method evaluates construct empirical uniqueness. HTMT values below 0.90 are preferred for discriminant validity (Henseler et al., 2015). All HTMT values were below this criterion (Table 2), with the extreme value (0.539 in SSS-LMX) demonstrating sufficient distinctiveness even in a moderate association. Table 2's HTMT supports the constructs' discriminant validity, meaning each assesses a separate phenomenon.

Table 2 HTMT matrix

<i>Constructs</i>	<i>CPS</i>	<i>DEP</i>	<i>LMX</i>	<i>SBA</i>	<i>SSS</i>
CPS					
EP	0.265				
LMX	0.146	0.340			
SBA	0.399	0.314	0.336		
SSS	0.262	0.425	0.539	0.419	

- Farnell-Larcker criterion: Discriminant validity was examined using the Fornell-Larcker criterion (1981). To be discriminant, each construct's square root of the AVE must be larger than its correlations with other constructs. According to Table 3, diagonal values (AVE square root) were bigger than off-diagonal values (inter-construct correlations). Compared to EP (0.208), LMX (0.068), SBA (−0.290), and SSS (0.198), CPS' square root of the AVE (0.725) was higher. All other constructs follow this trend, demonstrating that each construct has more variation with its own measures than with others, validating measurements' discriminant validity.

Table 3 Fornell-Larcker criterion

<i>Constructs</i>	<i>CPS</i>	<i>DEP</i>	<i>LMX</i>	<i>SBA</i>	<i>SSS</i>
CPS	0.725				
EP	0.208	0.727			
LMX	0.068	0.285	0.767		
SBA	−0.290	−0.257	−0.297	0.798	
SSS	0.198	0.357	0.480	−0.354	0.718

- Cross loadings: Cross-loadings examine item-level discriminant validity in structural equation modelling. This requires testing if each item loads stronger on its intended construct than any other model construct. Table 4 shows all item cross-loadings. As seen on the table, each piece loaded highest on its build. For instance, item CPS_2 had the highest CPS construct loading (0.882), compared to EP (0.203), LMX (0.139), SBA (−0.277), and SSS (0.194). All things followed this pattern. These data

show that each question measures its intended construct, supporting item-level discriminant validity.

Table 4 Cross loadings

<i>Items</i>	<i>CPS</i>	<i>DEP</i>	<i>LMX</i>	<i>SBA</i>	<i>SSS</i>
CPS_2	0.882	0.203	0.139	−0.277	0.194
CPS_3	0.858	0.174	0.091	−0.301	0.184
CPS_4	0.795	0.141	0.029	−0.256	0.182
CPS_5	0.716	0.143	−0.062	−0.083	0.069
CPS_6	0.469	−0.028	−0.013	−0.269	0.179
CPS_7	0.529	0.035	−0.077	−0.291	0.184
EP1	0.103	0.844	0.329	−0.172	0.287
EP2	0.011	0.794	0.275	−0.135	0.258
EP3	0.308	0.626	0.050	−0.218	0.333
EP4	0.149	0.685	0.248	−0.205	0.190
EP5	0.149	0.663	0.130	−0.195	0.194
LMX1	0.011	0.259	0.841	−0.261	0.413
LMX2	0.089	0.201	0.813	−0.231	0.373
LMX3	0.020	0.180	0.719	−0.217	0.332
LMX4	0.040	0.308	0.829	−0.257	0.374
LMX5	0.020	0.291	0.796	−0.214	0.309
LMX6	0.105	0.162	0.708	−0.284	0.396
LMX7	−0.019	0.182	0.778	−0.172	0.352
LMX8	0.032	0.231	0.744	−0.189	0.351
LMX9	0.172	0.123	0.650	−0.215	0.403
SBA_1	−0.169	−0.196	−0.255	0.780	−0.336
SBA_2	−0.248	−0.235	−0.242	0.866	−0.255
SBA_3	−0.271	−0.233	−0.283	0.847	−0.319
SBA_4	−0.246	−0.134	−0.143	0.687	−0.211
SSS10	0.235	0.270	0.326	−0.212	0.668
SSS3	0.078	0.214	0.320	−0.260	0.704
SSS4	0.118	0.296	0.340	−0.249	0.745
SSS5	0.193	0.266	0.392	−0.295	0.764
SSS6	0.123	0.257	0.347	−0.252	0.683
SSS7	0.135	0.256	0.304	−0.208	0.655
SSS8	0.118	0.233	0.335	−0.286	0.752
SSS9	0.126	0.254	0.382	−0.265	0.764

4.1.4 Predictive relevance

The Q^2 statistic was used to test predictive relevance. It examines how accurately the model can predict the outcome constructs in PLS-SEM (Hair et al., 2019). A Q^2 value is

greater than zero signifies predictive relevance. The R^2 and Q^2 values for the outcome constructs are shown in Table 5. Both (EP; $R^2 = 0.261$, $Q^2 = 0.219$) and (LMX; $R^2 = 0.231$, $Q^2 = 0.224$) showed predictive relevance, with Q^2 values that were well above zero. The R^2 values show the amount of the outcome variables' variance is explained by the predictors.

Table 5 Predictive relevance

<i>Outcome(s)</i>	<i>R-square</i>	<i>Q² predict</i>
EP	0.261	0.219
LMX	0.231	0.224

4.2 Structure model

4.2.1 Path analysis

The results of the path analysis, which were examined to determine the way the study's constructs were related to each other, are shown in Table 6. The analysis shows that all three proposed paths are statistically significant ($p < 0.05$). Specifically, LMX has a positive effect on employee performance (EP) ($\beta = 0.101$, $t = 1.674$), SSS has a positive effect on EP ($\beta = 0.245$, $t = 4.727$), and SSS has a positive effect on LMX ($\beta = 0.480$, $t = 13.849$). The t-statistics for all paths are well above the usual threshold of 1.96, which shows that these relationships are statistically significant.

Table 6 Path analysis

<i>Relationship</i>	<i>Original sample (O)</i>	<i>T statistics (O/STDEV)</i>	<i>P values</i>	<i>Status</i>
LMX → EP	0.101	1.674	0.049	Accepted
SSS → EP	0.245	4.727	0.000	Accepted
SSS → LMX	0.480	13.849	0.000	Accepted

4.2.2 Mediation analysis

Mediation analysis was assessed through bootstrapping techniques to determine significance (Hayes, 2018). In order to examine the mediating role of LMX in the relationship between SSS and EP. The results, shown in Table 7, indicated a significant direct effect of SSS on EP ($\beta = 0.245$, $t = 4.727$, $p < 0.001$, 95% CI [0.165, 0.324]) and a significant indirect effect of SSS on EP through LMX ($\beta = 0.049$, $t = 1.679$, $p < 0.05$, 95% CI [0.014, 0.102]). This suggests that SSS positively impacts EP both directly and indirectly by enhancing LMX quality, which subsequently improves EP. The significant total effect of SSS on EP ($\beta = 0.294$, $t = 7.080$, $p < 0.001$, 95% CI [0.233, 0.366]) suggests that LMX partially mediates the relationship between SSS and EP.

4.2.3 Moderation analysis

Moderation analysis was conducted to determine if the relationship between SSS and the performance of EWDs was influenced by CPS and SBA. Table 8 reveals that CPS significantly moderates the relationship between SSS and EP ($\beta = 0.117$, $t = 2.168$,

$p < 0.05$), indicating that a higher perceived CPS strengthens the positive effect of SSS on employee performance.

Table 7 Mediation analysis (LMX)

Types of effect	Path	Coefficients	<i>T</i> statistics ($ O/STDEV $)	<i>P</i> -value	Percentile bootstrap 95% confidence interval	
					Lower	Upper
Direct effect	SSS → DEP	0.245	4.727	0.000		
Indirect effect	SSS → LMX → DEP	0.049	1.679	0.048		
Total effect	SSS → DEP	0.294	7.080	0.000	0.233	0.366

Table 8 Moderation analysis (CPS) (see online version for colours)

Relationship	Original sample (<i>O</i>)	<i>T</i> statistics ($ O/STDEV $)	<i>P</i> values
CPS → EP	−0.014	0.172	0.432
SSS → EP	0.245	4.727	0.000
CPS × SSS → EP	0.117	2.168	0.016

Conversely, Table 9 shows that SBA significantly moderates the relationship between SSS and EP ($\beta = -0.249$, $t = 5.777$, $p < 0.001$). This suggests that the positive effect of SSS on employee performance is diminished when employees experience higher levels of SBA. The direct effect of SSS on EP remains significant in both analyses ($p < 0.001$).

Table 9 Moderation analysis (SBA) (see online version for colours)

Relationship	Original sample (<i>O</i>)	<i>T</i> statistics ($ O/STDEV $)	<i>P</i> values
SBA → EP	−0.023	0.395	0.347
SSS → EP	0.245	4.727	0.000
SBA × SSS → EP	−0.249	5.777	0.000

4.2.4 Control variables: acknowledgement and future direction

This structural model lacks demographic control factors. Disability severity, organisational tenure, gender, and disability type individually predict performance outcomes and may covariate with supervisory support allocation and stigma experience (Lyubikh et al., 2020; Sanclemente et al., 2022a). The analysis's absence of such controls should be addressed in future study. Based on evidence that supervisory support and associative stigma vary across disability categories, researchers extending this model should include disability type (physical, sensory, cognitive, or mental) as a categorical control (Lyubikh et al., 2020). Long-term employees may have different supervisor-employee exchanges than newer employees, hence organisational tenure should be managed (Graen and Uhl-Bien, 1995). LMX quality develops over time. We should interpret the current findings as estimates of the SSS-LMX-performance relationships net of these uncontrolled sources of variance, and future studies should use more comprehensive designs to isolate the focus constructs' distinctive contributions.

5 Discussion

Supervisor's Social Support and EWD performance were evaluated using LMX as a mediating mechanism and CPS and SBA as boundary conditions. The findings validate the model across all six hypotheses. Positive direct effect of SSS on EWD performance ($\beta = 0.245$, $p < 0.001$) supports SET (Blau, 1964) and supports prior empirical evidence that supervisory support drives EWD performance outcomes (Baumgärtner et al., 2014; Dwertmann and Boehm, 2016). This research complements Jamin et al. (2024), who highlighted supervisory support as a key node in the disability inclusion ecosystem, by directly quantifying the SSS-performance effect in a Pakistani organisational context (Zhang et al., 2025; Sohail et al., 2024a, 2024b). Malhotra et al. (2025) noted the lack of empirical research on disability employment in developing economies, but this study provides one of the first quantitative estimations of the SSS-EWD performance association from Pakistan. Second, SSS positively impacts LMX quality ($\beta = 0.480$, $p < 0.001$), supporting the SET-based hypothesis that supervisory resource investments enhance dyadic relationship quality (Gouldner, 1960). This supports Jiang et al.'s (2026) longitudinal cross-lagged analysis that supervisory support behaviours predict LMX improvements and applies it to EWDs in high power-distance cultures. The small beneficial effect of LMX on EWD performance ($\beta = 0.101$, $p = 0.049$) supports H3 and confirms LMX as a performance-relevant relational resource for EWDs. Willie (2025) and Colella and Varma (2001) found that high-quality LMX connections give EWDs access to performance-enabling resources and accommodations not available in lower-quality dyadic interactions. Fourthly, LMX partially mediates the SSS-EP association (indirect $\beta = 0.049$, 95% CI [0.014, 0.102], $p = 0.048$), supporting H4, suggesting that LMX is not the primary mechanism linking SSS to performance outcomes. Nisar Khattak et al. (2024) showed that LMX mediates supervisory leadership relationships in Pakistani organisations. This study applies this mechanism to the EWD subpopulation and shows its involvement in SSS-performance conversion. The partial mediation shows that SSS directly effects performance through pathways other than LMX quality, such as instrumental assistance, informational resources, or emotional control, warranting additional study. Fifthly, CPS positively moderates the SSS-EP connection ($\beta = 0.117$, $p = 0.016$), supporting H5, highlighting the enhanced performance benefits of SSS in psychologically safe teams. This research supports and expands Bahadurzada et al. (2024), who identified psychological safety as an organisational resource, by showing that CPS specifically enhances EWD supervisory support performance. The result supports AlMunthiri et al. (2024), who showed that psychological safety and supervisory behaviours affect employee outcomes and advances the JD-R model (Bakker and Demerouti, 2017) by establishing CPS as a disability inclusion team-level resource amplifier. Finally, the analysis confirms H6 with the highest moderation effect of SBA on the SSS-EP relationship ($\beta = -0.249$, $p < 0.001$), making it a novel empirical contribution. SBA's performance-inhibiting effect on the SSS-EWD performance conversion process is quantified for the first time, extending Brzykcy and Boehm (2022) by showing that associative stigma significantly reduces SSS's performance benefits. Even generous supervisory support may not improve EWD performance in an organisational environment with high associative stigma, suggesting that disability inclusion initiatives must simultaneously address stigma dynamics to be effective.

6 Conclusions

This study examined the mechanisms through which SSS influences the performance of EWDs, with LMX as a mediator and CPS and SBA as boundary-condition moderators. Using PLS-SEM applied to 441 paired EWD-supervisor dyads from Pakistani organisations, the study confirmed all six hypothesised relationships. The findings demonstrate that SSS directly and positively predicts EWD performance; that LMX partially mediates this relationship; that CPS amplifies the SSS-performance effect; and that SBA significantly attenuates it.

This research makes three distinct contributions to the extant literature. First, it provides one of the limited empirical analyses of the SSS-EWD performance relationship within a Pakistani organisational framework, addressing the geographical gap in the disability inclusion literature identified by Malhotra et al. (2025) and Hussain et al. (2022). Second, by establishing LMX as a process mechanism that links SSS to EWD performance, the study enhances mechanistic comprehension beyond the direct-effects paradigm that has prevailed in previous disability employment research (Colella and Varma, 2001; Dwertmann and Boehm, 2016). Third, the simultaneous analysis of a facilitating moderator (CPS) and an inhibiting moderator (SBA) represents a theoretically integrative boundary condition analysis not previously investigated in the disability inclusion literature, suggesting that the effectiveness of supervisory support is fundamentally contingent upon the social and psychological context in which it is provided.

6.1 *Implications of the study*

6.1.1 *Theoretical implications*

The findings theoretically extend SET (Blau, 1964) by demonstrating its relevance to a marginalised employee demographic within a non-Western, high power-distance cultural framework, thereby expanding the contextual applicability of SET beyond the predominantly Western organisational environments in which it has been primarily evaluated (Dulebohn et al., 2012). The mediation by LMX corroborates the vertical dyad linkage model (Dansereau et al., 1975) and validates the theoretical assertion that relational quality serves as the principal mechanism through which supervisory resources are transformed into performance outcomes for EWDs (Martin et al., 2016). The moderation by CPS enhances the JD-R model (Bakker and Demerouti, 2017) by identifying team-level psychological safety as an organisational resource that exponentially increases the motivational advantages of supervisory support, thereby extending the JD-R framework into the realm of disability inclusion. The adverse moderation by SBA synthesises signalling theory (Spence, 1973) with the disability stigma literature (Brzykcy and Boehm, 2022), elucidating that the social signal dynamics of associative stigma constitute a previously overlooked mechanism by which organisational context limits supervisory efficacy for EWDs.

6.1.2 *Practical implications*

The findings have four actionable implications for Pakistani and other developing-economy HR managers and leaders. SSS significantly predicts EWD

performance ($= 0.245$, $p = 0.001$). Organisations should implement structured, disability-aware supervisor training programs that include understanding disability types and workplace implications, providing emotional, informational, and instrumental support, and building trust-based subordinate relationships. Six-month EWD performance appraisals and pre- and post-intervention LMX quality assessments should evaluate training effectiveness (Graen and Uhl-Bien, 1995). Plans for HR transformation with enhanced supervisory support methods affect employee well-being even under organisational constraints, Sharma and Sharma (2025). Since LMX partially mediates the SSS–performance relationship, HR departments should establish formal mentoring dyads between supervisors and EWDs with quarterly structured check-ins to build mutual trust, reciprocal obligation, and relational quality (Graen and Uhl-Bien, 1995). This mediation suggestions are valuable, however Pakistani organisations for EWDs do not frequently implement this approach. Utilise established psychological safety climate metrics (Edmondson, 1999) at least once annually at the team level, as CPS improves the link between SSS and performance ($\beta = 0.117$, $p = 0.016$). Teams that fail to meet criteria should get assistance with team discussions, anonymous reporting, and training regarding how to include people with disabilities. HR needs to train supervisors because low safety hurts EWD performance and depletes resources. SBA has a strong negative moderation ($\beta = -0.249$, $p < 0.001$), which means that anti-discrimination measures need to be more effective to protect EWDs and those who support them, like co-workers and supervisors. Organisational regulations must include transparent reporting procedures, punishments for associative stigma traits, and periodic awareness initiatives that promote disability advocacy as an acceptable thing to strive for professional and reputational integrity (Brzykcy and Boehm, 2022).

6.1.3 Limitations and future directions

This study presents some limitations but suggests intriguing future research. First, cross-sectional research cannot deduce causality. Longitudinal and experience-sampling studies should evaluate the temporal development of LMX quality as a function of SSS and whether performance benefits precede or follow relationship quality changes (Estreder et al., 2024). Second, snowball sampling lowers validity. Generalisability may improve in Pakistani research employing probability-based sampling across regions and industries. Third, it investigates one nation. Multinational comparative designs comparing high-stigma and low-stigma cultures, such as Pakistan and Nordic nations, could evaluate the model's cultural border conditions and whether the SBA moderating impact is culturally dependent (Malhotra et al., 2025). Binary disability, supervisory support and stigma often vary by disability type and severity (Lyubykh et al., 2020). Future research should disaggregate by disability type and severity. Fifthly, the structural model lacks demographic controls. Future studies should account for respondent age, gender, organisational tenure, and disability severity to identify focus construct effects (Lyubykh et al., 2020; Sanclemente et al., 2022b). To better understand the contextual conditions that affect EWD supervisor effectiveness, future research should examine inclusive leadership (Shore et al., 2011) as an alternative or complementary predictor to SSS and organisational culture dimensions (Hofstede, 2001) as higher-level moderators.

Declarations

All authors declare that they have no conflicts of interest.

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