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Emotional Intelligence and Burnout Dynamics in Industrial Workforces: Integrating Bibliometric Insights with Empirical Findings

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Abstract

Employee burnout poses a significant challenge in industrial workplaces, affecting both individual well-being and organizational performance. This study examines the role of emotional intelligence in mitigating burnout and improving the quality of life (QOL) among employees in the pharmaceutical, dairy, and automotive manufacturing sectors. Using a descriptive quantitative design, data were collected from 317 employees via stratified sampling. Standardized instruments, including the Maslach Burnout Inventory (MBI) and Emotional Quotient Inventory (EQ-i), were used to measure burnout and Emotional Intelligence. Statistical analyses, including correlation, t-tests, and ANOVA, revealed a significant negative correlation between Emotional Intelligence and burnout, suggesting that higher Emotional Intelligence is associated with lower emotional exhaustion and depersonalization. Industry-wise comparisons showed that pharmaceutical employees reported higher burnout levels than their dairy and automotive counterparts. The findings emphasize the need for emotionally intelligent, focused interventions to strengthen employee resilience, reduce burnout, and improve overall well-being in manufacturing environments.

Introduction

Employee burnout has become increasingly prevalent, making it essential to adopt evidence-based self-care practices in the workplace to enhance overall work environments. Research consistently indicates a strong association between burnout and life satisfaction (Brand et al., 2010). Burnout was first identified in the 1970s as a condition marked by gradual emotional exhaustion and declining motivation. Herbert Freudenberger described it as “a state of mental and physical exhaustion resulting from one’s professional life. In the 1980s, Maslach and Jackson further defined it as “a syndrome of emotional exhaustion (Almeneessier & Azer, 2023; Freudenberger, 1986). Higher burnout levels are linked to reduced life satisfaction, contributing to personal well-being challenges such as poor sleep quality, emotional and physical exhaustion, and conflicts within the family. Although burnout can occur across various professions, it is notably high among accounting professionals, where women tend to report greater reductions in personal accomplishment, while men more frequently experience higher levels of depersonalization (Mete, Ünal, & Bilen, 2014; Gupta et al., 2022).

In recent years, employees have faced increasing pressure due to various factors (Ganster, 2005; Hambrick, Finkelstein, & Mooney, 2005). The COVID-19 pandemic introduced significant changes to the work environment, including remote work and increased technology use (Müller & Kubátová, 2025; Adekoya, Adisa, & Aiyenitaju, 2022), disrupting traditional managerial practices. Among global competition, economic uncertainty, and demographic shifts, employees must quickly adapt to an uncertain professional landscape (Budhwar, Malik, Silva, & Thevisuthan, 2022; Zhang, Yao, & Yiu, 2020). These dynamics increase stress and burnout risk as employees strive to balance personal and professional lives. Personal crises, such as family issues or health concerns, can further compound this pressure (Mccarthy, Darcy, & Grady, 2010).

Emotional intelligence plays an essential role in sustaining organizational effectiveness, influencing both managerial performance and overall company outcomes. Performance becomes truly result-oriented when decision-makers can regulate their emotions, maintain composure, and capitalize on emerging opportunities (Istianingsih, Masnun, & Pratiwi, 2020). Moreover, when managers recognize that their decisions are subject to monitoring and accountability, emotional intelligence serves as a valuable asset, enabling them to navigate challenges constructively rather than becoming a liability (Alzoubi & Aziz, 2021). Emotional intelligence competency as "an ability to recognize, understand, and use emotional information about oneself that leads to or causes effective or superior performance" (p. 757). Despite variations in theoretical perspectives, EI models share a common conceptual foundation. Broadly, emotional intelligence refers to the capacity to perceive, understand, and manage emotions in oneself and others, encompassing four primary dimensions: Self-Awareness, Self-Management, Social Awareness, and Relationship Management. Although terminology and theoretical frameworks have evolved, these core components remain consistent across EI models (Boyatzis, 2009). Conceptualized as both an ability and a competency, EI involves recognizing, monitoring, and regulating emotions, typically associated with positive outcomes. Importantly, emotional intelligence is considered a developable skill at the individual level, similar to constructs such as self-efficacy, and is generally viewed as inherently beneficial (Boyatzis, 2001). Consequently, understanding its moderating effects on organizational and personal variables is of both theoretical significance and practical relevance (Shkoler & Tziner, 2017; Sariraei, et al., 2024).

Theoretical Fundamentals of Burnout and Emotional Intelligence

The concept of burnout was first introduced by Freudenberger, who emphasized that burnout is not merely a work-related phenomenon but can also occur in individuals outside organizational settings when they face excessive demands on their personal resources. Such circumstances may lead to feelings of failure, fatigue, and emotional exhaustion (Freudenberger, 1975). Freudenberger further argued that the decline of a leader's charisma is a key antecedent of burnout. When leaders begin to doubt their ability to effectively manage their subordinates, it can result in disappointment or lowered expectations among team members. In an attempt to regain their perceived competence, leaders may impose excessive demands on their subordinates' capabilities or resources, thereby contributing to burnout and triggering various forms of physiological and psychological distress. Maslach and Jackson later contended that elevated levels of job burnout often led employees to experience heightened emotional exhaustion (Maslach & Jackson, 1981; Chen, Huang, & Chu, 2024). However, Emotional Intelligence can be examined through the dual lenses of emotion and intelligence. Salovey and Mayer describe emotions as organized responses involving physiological, cognitive, motivational, and experiential components (Salovey & Mayer, 1990). Unlike moods, emotions are generally more intense and of shorter duration. They serve as positive or negative reactions of an individual to internal or external stimuli. Wechsler defines intelligence as the overall capacity of an individual to respond effectively to environmental demands through purposeful thinking and rational decision-making (Wechsler, 1958).

Models of Emotional Intelligence

The concept of Emotional Intelligence (EI) has been explained through different theoretical models, among which Figure 1 shows that the Ability Model and the Mixed Model are most prominent. The Ability Model, developed by Mayer and Salovey (1997), defines EI as a set of cognitive skills related to processing emotions. It progresses from basic to advanced abilities, beginning with recognizing and expressing emotions, using emotions to guide thinking and problem-solving, understanding emotional patterns, and ultimately regulating emotions to promote mental health and social functioning (Mayer & Salovey, 1997; Serrat, 2017). This model emphasizes EI as a measurable set of abilities that can contribute to decision-making, communication, and well-being.

In contrast, the Mixed Models integrate emotional skills with personality traits. Bar-On (1997) proposed a framework highlighting adaptability, stress management, interpersonal skills, and general mood as crucial dimensions of EI (Bar-On, 2004; Walter, Fitzsimmons, Kasler, & Routray, 2023). Adopting a more practical lens, emphasized competencies such as self-awareness, self-management, social awareness, and relationship management, directly linking EI to workplace success (Hafinaz, Hariharan, & Kumar, 2025; Freda, 2024; Goleman, 2001). Further, the Trait Model conceptualizes EI as self-perceptions and behavioral tendencies across dimensions like well-being, self-control, emotionality, and sociability (Petrides & Furnham, 2001). In the figure 1 the relevance of the ability model is further reinforced by its established connections with psychology and organizational behavior. The cognitive mechanisms underlying EI situate it within broader psychological theories of cognition and emotion. In organizational behavior, the model informs multiple workplace processes (Mayer, Salovey, & Caruso, 2004). For instance, the role in shaping leadership effectiveness and organizational culture. Similarly, scholars argue that integrating EI insights into workplace practice fosters positive interpersonal relationships, collaboration, and enhanced performance outcomes (Cherniss, Extein, Golema, & Weissberg, 2010; Ashkanasy & Kay, 2023).

Bibliometric Analysis: on Emotional Intelligence and Burnout in Industrial Settings

This study employs a bibliometric approach to examine research on emotional intelligence and burnout in industrial contexts. Data were retrieved from the Scopus database, yielding 6,115 publications, and analyzed using VOSviewer to generate network visualizations of co-authorship and keyword co-occurrence. These visualizations help identify influential researchers, collaborative structures, and dominant thematic trends. Co-authorship analysis reveals linkages among authors, institutions, and countries, though these do not always imply direct collaboration. Co-word analysis, by examining keywords, titles, and abstracts, captures thematic structures more deeply than metadata alone, though semantic ambiguity remains a challenge. Citation analysis measures scholarly influence through citation

frequency, highlighting seminal works while limiting recognition of recent publications with lower citation counts (Zupic & Čater, 2014). However, bibliographic coupling identifies relationships between documents, authors, and journals based on shared references. Unlike citation-based methods, it enables early mapping of emerging research fronts without requiring accumulated citations. However, its scope is bound to a specific timeframe, and the lack of citation-based impact measures can hinder the assessment of relative significance (Büyükkıdık, 2022). Collectively, these methods provide a systematic understanding of intellectual structures and evolving research directions.

Figure 2 presents the results of a VOSviewer keyword co-occurrence analysis, highlighting four primary clusters that map the intellectual structure of the field. The red cluster emphasizes emotional intelligence (EI), leadership, work engagement, and turnover intention, reflecting extensive research on how EI and leadership enhance employee engagement, job satisfaction, and resilience while reducing turnover (Côté, 2014; Miao, Humphrey, & Qian, 2017). The green cluster focuses on burnout, job stress, mental health, mindfulness, and resilience, particularly in the context of COVID-19. This indicates growing attention to employee well-being and coping strategies during crises, with mindfulness and resilience emerging as protective factors against psychological distress (Restubog, Ocampo, & Wang, 2020; Salari et al., 2020). The blue cluster encompasses conceptual terms such as human and psychology, signifying the theoretical foundations of workplace behavior studies. The yellow cluster highlights survey-based and cross-sectional methodological approaches, pointing to the need for longitudinal and experimental designs (Podsakoff, MacKenzie, & Podsakoff, 2012). However, the analysis shows strong links among EI, burnout, leadership, and stress, while underexplored areas like gender differences, AI applications, and long-term COVID-19 effects remain open for future research.

The author keyword analysis in Figure 3 highlights a research landscape dominated by emotional intelligence (EI) and burnout, with clear links to well-being, resilience, mindfulness, and occupational stress. Consistent with prior studies, EI emerges as a protective factor, buffering employees against negative experiences and enhancing psychological capital (Doğru, 2022; Miao, Humphrey, & Qian, 2016). Burnout, in contrast, is associated with emotional labor, workplace stress, and vulnerable occupational groups, reflecting its detrimental impact on performance and mental health (Maslach & Leiter, 2016). The red and orange clusters indicate work engagement's positive role while simultaneously highlighting risks from workplace bullying, emphasizing the need for supportive organizational climates (Bakker & Demerouti, 2016). Especially, despite using "industry" in the search, there is limited attention to industry-specific contexts, suggesting a gap for future research. Overall, the analysis underscores the multidimensional interplay of individual, interpersonal, and organizational factors in shaping employee well-being and mitigating burnout.

Figure 4 shows that the analysis of international co-authorship networks underscores the growing globalization of research collaboration, where scientific knowledge production is increasingly shaped by cross-border partnerships. Previous studies confirm that the United States and China dominate global research networks, forming central hubs of collaboration that drive knowledge dissemination (Wagner, Whetsell, & Leydesdorff, 2017). European countries, particularly the United Kingdom, Germany, and

Spain, also exhibit dense co-authorship ties, reflecting the historical strength of intra-European collaboration (Glänzel & Schubert, 2006). Emerging economies such as India play a bridging role, often connecting with regional partners like Malaysia and Pakistan, while gradually expanding their collaborations with Western nations. However, African nations such as Nigeria and Ghana remain underrepresented in global networks, indicating disparities in research capacity and visibility (Sooryamoorthy, 2017). Strengthening intercontinental collaborations, particularly involving India, could help address pressing global challenges such as emotional intelligence and burnout, which require culturally diverse perspectives.

The bibliographic coupling network figure 5 highlights global collaboration patterns and disciplinary clusters within emotional intelligence (EI) and burnout research. Strong ties between the United States and China are reflected in frequent publications in journals such as Journal of Business Research and Management Decision, emphasizing strategy and management domains (Zupic & Čater, 2014). European countries, including the United Kingdom, Germany, and the Netherlands, form another cluster, publishing widely in the International Journal of Human Resource Management and Personnel Review, with a focus on organizational psychology (Donthu, Kumar, Mukherjee, Pandey, & Lim, 2021). Smaller but emerging collaborations, such as those between India, Malaysia, and Saudi Arabia, increasingly publish in the Asia Pacific Journal of Management. African contributions remain under-represented, likely due to limited access to high-ranking journals (Aria & Cuccurullo, 2017). Total, the analysis reveals thematic and regional research divides, underscoring the need for greater inclusivity and industry-specific inquiry.

Research Design and Methods

This study employs a quantitative research approach, involving the systematic collection and statistical analysis of numerical data to identify patterns, relationships, and trends within a defined population. Quantitative research offers an objective framework to examine the variables under study namely, emotional intelligence, employee burnout, and quality of life- and allows the researcher to assess the strength and nature of the interrelationships among them. To guide this inquiry, a descriptive research design was adopted. This design facilitates the detailed description and examination of the current perceptions of employees across selected industries, specifically focusing on how emotional intelligence may act as a protective factor against employee burnout while also promoting quality of life in the workplace. The target population for this study consisted of 1,800 employees across three manufacturing industries: pharmaceutical, dairy, and automotive sectors. A sample of 317 respondents was drawn using the Krejcie and Morgan Table for determining sample size. To ensure proportional representation across industries, a stratified random sampling technique was used. The entire population was divided into strata based on industry type, and within each stratum, participants were randomly selected using random number tables. This sampling strategy helped to enhance the representativeness and validity of the study findings by minimizing sampling bias and ensuring adequate coverage of all industry sectors involved.

To gather reliable and comprehensive data, the researcher employed three standardized instruments. Employee burnout was measured using the Maslach Burnout Inventory (MBI), developed by Maslach and Jackson in 1981, which includes 14 items rated on a 6-point scale. Emotional Intelligence was assessed using the Schutte Self-Report Emotional Intelligence Test (SSEIT), comprising 33 items rated on a 5-point Likert scale. For evaluating Quality of Life (QOL), the researcher used the WHOQOL-BREF, developed by the World Health Organization. From the original 26 questions in the WHOQOL-BREF, 7 items were omitted based on guidelines provided in the scoring manual. All three tools were consolidated into a single structured interview schedule, which also included demographic questions to allow for deeper analysis. Data were collected face-to-face using this structured interview schedule during the researcher's block placement period. This method enabled greater interaction and clarity during data collection while maintaining uniformity across responses.

The study included participants based on the following inclusion criteria: they had to be currently employed in one of the target industries, be 18 years or older, and must have at least one year of experience in their present role. Participants also had to be willing to participate and provide informed consent. The exclusion criteria ruled out individuals on extended leave (e.g., medical or maternity leave), those who declined to consent, and those with less than one year of tenure in their current role. The study's independent variable is Emotional Intelligence (EI), measured through dimensions like self-awareness, emotional regulation, and empathy. The dependent variables are Employee Burnout, measured through indicators such as emotional exhaustion and depersonalization, and Quality of Life (QOL), assessed through factors related to physical, psychological, and social well-being.

Results and Discussions

Table 1 Demographic Details of the Employees

Demographic Aspect	Categories	Number of Employees	Percentage	χ^2	df	p-value
Age	24–33	86	27.1	15.16	2	0.0005
	34–46	138	43.5			
	47–60	93	29.3			
Work Experience	1–8	107	33.8	77.08	2	<0.0001
	8–23	169	53.3			
	23–38	41	12.9			
Employment Type	Permanent	288	90.9	210.92	1	<0.0001
	Temporary	29	9.1			
Gender	Male	267	84.2	148.56	1	<0.0001
	Female	50	15.8			
Marital Status	Married	285	89.9	457.43	2	<0.0001
	Unmarried	23	7.3			
	Others	9	2.8			
Number of Dependents	1	14	4.4	368.74	4	<0.0001
	2	103	32.5			
	3	179	56.5			
	4	4	1.3			
	5	17	5.4			

Source: Authors' survey, 2024

Table 1 presents the demographic profile of employees, highlighting age, work experience, employment type, gender, marital status, and number of dependents. The results reveal that the workforce is predominantly mid-career, with the largest age cohort falling between 34–46 years (43.5%), followed by 24–33 years (27.1%) and 47–60 years (29.3%). The chi-square test ($\chi^2 = 15.16$, $p = 0.0005$) indicates significant variation in age distribution across the sample. In terms of work experience, more than half of the respondents (53.3%) have 8–23 years of experience, reflecting a mature and stable workforce. Those with 1–8 years of experience constitute 33.8%, whereas only 12.9% have the longest tenure of 23–38 years. The difference in distribution is statistically significant ($\chi^2 = 77.08$, $p < 0.0001$). Employment type further underscores stability, with 90.9% in permanent positions compared to only 9.1% in temporary roles, a highly significant difference ($\chi^2 = 210.92$, $p < 0.0001$). Gender distribution shows that males

dominate the workforce (84.2%) relative to females (15.8%), and the imbalance is statistically significant ($\chi^2 = 148.56$, $p < 0.0001$).

Marital status data suggest that most employees are married (89.9%), while unmarried individuals (7.3%) and others (2.8%) form smaller segments. The chi-square test confirms strong significance ($\chi^2 = 457.43$, $p < 0.0001$). With regard to family responsibilities, the majority have three dependents (56.5%), followed by two dependents (32.5%). A smaller proportion reports either one dependent (4.4%), four dependents (1.3%), or five dependents (5.4%). The differences are statistically significant ($\chi^2 = 368.74$, $p < 0.0001$). the demographic data depict a predominantly male, married, mid-career, and permanently employed workforce with moderate family responsibilities. The significant chi-square results across categories reflect that the distributions are not uniform but skewed toward particular demographic groups, which is crucial for understanding workforce composition and related organizational dynamics.

Table 2 Correlation of Emotional Intelligence, Employee Burnout and Quality of Life

Variables	N	Range	Mean	SD	Cronbach's alpha (α)	EI	EB	QOL
Emotional Intelligence	250	65–160	112.52	22.642	0.87	1		
Employee Burnout	250	20–55	34.09	7.103	0.81	-.255**	1	
Quality of Life	250	150–350	262.67	52.571	0.90	.451**	-.237**	1

**. Correlation is significant at the 0.01 level (one-tailed)

Source: Authors' survey, 2024

Table 2 presents the correlation between Emotional Intelligence (EI), Employee Burnout (EB), and Quality of Life (QOL). The reliability of the scales is strong, with Cronbach's alpha values ranging from 0.81 to 0.90. The mean EI score (112.52) suggests that participants generally possess above-average emotional intelligence, though some variation is evident. Similarly, burnout levels (M = 34.09) are moderate, while QOL (M = 262.67) reflects a reasonably positive life evaluation among respondents. The correlation analysis reveals three key findings. First, EI is significantly and negatively correlated with burnout ($r = -0.255$, $p < 0.01$), indicating that individuals with higher emotional intelligence experience lower levels of burnout. This suggests that the ability to perceive, regulate, and utilize emotions effectively may serve as a protective factor against stress and emotional exhaustion. Second, EI is positively and strongly correlated with QOL ($r = 0.451$, $p < 0.01$). This highlights that emotionally intelligent individuals are more likely to enjoy greater well-being, possibly due to stronger coping skills, healthier interpersonal relationships, and enhanced adaptability. Third, burnout is negatively associated with QOL ($r = -0.237$, $p < 0.01$), suggesting that higher burnout diminishes overall life satisfaction and functioning. Overall, the findings underscore the pivotal role of emotional intelligence in enhancing quality of life while mitigating

burnout. Interventions aimed at strengthening EI could therefore be an effective strategy for improving both employee well-being and organizational outcomes.

Table 3 Gender wise and type of employment with Emotional Intelligence, Employee Burnout and Quality of Life

Variable	Categories	N	Mean	SD	Mean Diff.	t	df	Sig. (2-tailed)	Cohen's d
Emotional Intelligence	Male	160	1.84	0.611	-0.14	-1.492	315	0.137	0.19
	Female	157	1.98	0.515					
Employee Burnout	Male	160	1.71	0.539	-0.15	-1.898	315	0.049*	0.24
	Female	157	1.86	0.405					
Quality of Life	Male	160	1.76	0.453	-0.02	-0.277	315	0.782	0.03
	Female	157	1.78	0.507					
Emotional Intelligence	Permanent	200	1.88	0.595	0.12	0.998	315	0.319	0.12
	Temporary	117	1.76	0.636					
Employee Burnout	Permanent	200	1.72	0.530	-0.18	-1.788	315	0.045*	0.26
	Temporary	117	1.90	0.409					
Quality of Life	Permanent	200	1.78	0.456	0.16	1.754	315	0.080	0.21
	Temporary	117	1.62	0.494					

Note: *p < 0.05 (statistically significant).

Source: Authors' survey, 2024

Table 3 presents a gender-wise and employment-type comparison of Emotional Intelligence, Employee Burnout, and Quality of Life. For gender, the results indicate that females (M = 1.98, SD = 0.515) reported slightly higher levels of emotional intelligence compared to males (M = 1.84, SD = 0.611). However, this difference was not statistically significant (t = -1.492, p = 0.137), suggesting no meaningful gender gap in emotional intelligence. Regarding employee burnout, females (M = 1.86, SD = 0.405) scored significantly higher than males (M = 1.71, SD = 0.539), with the difference being statistically significant (t = -1.898, p = 0.049, Cohen's d = 0.24). This finding highlights that female employees experienced greater burnout than

their male counterparts, though the effect size was small. In terms of quality of life, both males (M = 1.76) and females (M = 1.78) reported nearly identical scores, with no significant difference (p = 0.782).

For employment type, employees in permanent positions reported higher emotional intelligence (M = 1.88) than temporary employees (M = 1.76), though this difference was not significant (p = 0.319). With respect to employee burnout, temporary employees (M = 1.90, SD = 0.409) experienced significantly higher burnout than permanent employees (M = 1.72, SD = 0.530; t = -1.788, p = 0.045, Cohen's d = 0.26). This suggests that job insecurity may be a stressor contributing to burnout. For quality of life, permanent employees (M = 1.78) scored higher than temporary employees (M = 1.62). Although this difference was not statistically significant (p = 0.080), the effect size (Cohen's d = 0.21) indicates a small practical difference, favoring permanent employees. The findings suggest that gender differences are evident primarily in burnout, with females reporting higher levels, while employment type differences are most pronounced in burnout, with temporary employees at greater risk. Emotional intelligence and quality of life showed no significant differences across groups.

Table 4 Emotional Intelligence with Employee Burnout and Quality of Life and its Domains

Variables	EI Level	N	Mean	SD	F	Sig.	η^2	Post Hoc (Tukey HSD) Summary
Employee Burnout	Low	81	1.91	.453	7.236	.001	.05	Low > Moderate, High
	Moderate	198	1.66	.536				
	High	38	1.74	.503				
Quality of Life	Low	81	1.38	.489	49.193	.000	.21	Moderate > High > Low
	Moderate	198	1.91	.366				
	High	38	1.82	.393				
Physical QOL	Low	81	1.58	.756	17.436	.000	.11	Moderate > High > Low
	Moderate	198	2.09	.651				
	High	38	1.74	.644				
Psychological QOL	Low	81	1.51	.744	16.027	.000	.10	Moderate > High > Low
	Moderate	198	2.03	.675				
	High	38	1.84	.754				
Social Relations QOL	Low	81	1.44	.612	28.254	.000	.16	Moderate > High > Low
	Moderate	198	2.08	.656				
	High	38	1.92	.632				
Environmental QOL	Low	81	1.62	.784	9.778	.000	.07	Moderate, High > Low
	Moderate	198	2.05	.722				
	High	38	1.97	.716				
Exhaustion	Low	81	2.28	.454	30.079	.000	.18	Low > Moderate, High
	Moderate	198	1.72	.612				
	High	38	1.71	.515				
Depersonalization	Low	81	2.07	.380	27.861	.000	.17	Low > Moderate, High
	Moderate	198	1.57	.554				

	High	38	1.68	.525				
Personal Achievement	Low	81	1.46	.571	22.201	.000	.13	High, Moderate > Low
	Moderate	198	1.90	.494				
	High	38	1.92	.539				

Source: Authors' survey, 2024

Note: *p < 0.05 (statistically significant).

: Effect size (η^2): Indicates strength of relationship (small = .01, medium = .06, large = .14).

: Post Hoc (Tukey HSD) summary: Shows which groups differ significantly.

The analysis of Table 4 provides important insights into the relationship between emotional intelligence (EI), employee burnout, and quality of life (QOL) among employees. The one-way ANOVA results indicate a statistically significant difference in emotional intelligence across employees experiencing different levels of burnout ($F = 7.236$, $p = 0.001$, $\eta^2 = 0.05$). Specifically, employees with low burnout reported the highest emotional intelligence scores (Mean = 1.91), while those with moderate and high burnout scored lower. This suggests that higher emotional intelligence may help employees manage stress more effectively, reducing their susceptibility to burnout. Similarly, emotional intelligence varied significantly across levels of overall quality of life ($F = 49.193$, $p < 0.001$, $\eta^2 = 0.21$). Employees with moderate QOL exhibited the highest EI scores (Mean = 1.91), followed by those with high and low QOL. This indicates that individuals with higher emotional intelligence may perceive and maintain a better quality of life, highlighting the interplay between EI and life satisfaction.

Further analysis across QOL domains revealed significant differences in emotional intelligence. In the physical domain, employees with moderate physical QOL reported higher EI (Mean = 2.09) compared to low and high QOL groups ($F = 17.436$, $p < 0.001$, $\eta^2 = 0.11$). Similarly, in the psychological domain, moderate QOL employees demonstrated the highest EI (Mean = 2.03, $F = 16.027$, $p < 0.001$, $\eta^2 = 0.10$). For the social relations domain, EI was highest among employees with moderate social QOL (Mean = 2.08, $F = 28.254$, $p < 0.001$, $\eta^2 = 0.16$), suggesting that strong social connections enhance emotional intelligence. The environmental domain also showed significant differences ($F = 9.778$, $p < 0.001$, $\eta^2 = 0.07$), with both moderate and high QOL employees exhibiting higher EI than those with low QOL. Overall, these results confirm that emotional intelligence is closely linked to multiple aspects of life quality, particularly physical, psychological, social, and environmental well-being. The relationship between emotional intelligence and employee burnout was further examined across burnout dimensions. In the exhaustion domain, employees with low exhaustion had the highest EI (Mean = 2.28, $F = 30.079$, $p < 0.001$, $\eta^2 = 0.18$), indicating that emotionally intelligent employees experience less fatigue. Similarly, in the depersonalization domain, low depersonalization corresponded to higher EI (Mean = 2.07, $F = 27.861$, $p < 0.001$, $\eta^2 = 0.17$), suggesting better coping with work-related stress and interpersonal

detachment. Finally, the personal achievement domain revealed that employees with moderate and high personal achievement had significantly higher EI (Means = 1.90 and 1.92, respectively, $F = 22.201$, $p < 0.001$, $\eta^2 = 0.13$), highlighting that emotional intelligence contributes positively to feelings of competence and accomplishment.

Table 5 Number of Dependents with Emotional Intelligence, Employee Burnout, and Quality of Life

Variables	No. of Dependents	N	Mean	SD	F	Sig.	η^2 (Effect Size)	Interpretation
Emotional Intelligence	1	14	1.71	.426	2.326	.052	0.02	Marginal effect
	2	103	1.89	.554				
	3	179	1.87	.497				
	4	4	1.50	.577				
	5	17	1.82	.562				
Employee Burnout	1	14	1.79	.469	0.674	.610	0.00	No effect
	2	103	1.71	.609				
	3	179	1.72	.600				
	4	4	2.50	.577				
	5	17	1.76	.636				
Quality of Life	1	14	1.57	.514	1.498	.203	0.01	Weak effect
	2	103	1.76	.474				
	3	179	1.80	.442				
	4	4	1.75	.500				
	5	17	1.59	.507				

Source: Authors' survey, 2024

Table 5 presents the relationship between the number of dependents and three key variables: emotional intelligence, employee burnout, and quality of life. The analysis indicates that the number of dependents has a marginal effect on emotional intelligence ($F = 2.326$, $p = 0.052$, $\eta^2 = 0.02$). The mean scores of emotional intelligences range from 1.50 for individuals with four dependents to 1.89 for those with two dependents, suggesting a slight inverse relationship. This implies that as the number of dependents

increases, individuals may experience a small reduction in emotional intelligence, potentially influencing interpersonal interactions and decision-making abilities.

In contrast, the number of dependents does not significantly affect employee burnout ($F = 0.674$, $p = 0.610$, $\eta^2 = 0.00$), indicating no observable effect. Similarly, quality of life shows only a weak, non-significant relationship with the number of dependents ($F = 1.498$, $p = 0.203$, $\eta^2 = 0.01$). These findings suggest that factors beyond the number of dependents—such as job satisfaction, work-life balance, social support, and coping mechanisms—may have a more pronounced impact on employee burnout and overall quality of life. While emotional intelligence may be slightly sensitive to the number of dependents, burnout and quality of life appear largely independent of family size in this sample.

Conclusion

This study provides comprehensive insights into the interplay between emotional intelligence (EI), employee burnout, and quality of life (QOL) within manufacturing industries. The findings consistently demonstrate that higher emotional intelligence is associated with lower levels of burnout and enhanced well-being, confirming its role as a protective factor in occupational settings. Employees with greater EI exhibited reduced emotional exhaustion and depersonalization, alongside higher perceptions of personal achievement, suggesting that the ability to recognize, regulate, and utilize emotions effectively strengthens resilience against workplace stressors. Similarly, emotional intelligence positively correlated with multiple domains of quality of life, including physical, psychological, social, and environmental well-being, indicating its broader impact on overall life satisfaction.

The study further revealed gender and employment-type differences, with female and temporary employees experiencing higher burnout levels, highlighting the influence of occupational and social contexts on stress vulnerability. Demographic factors such as age, work experience, and family responsibilities, while statistically significant in distribution, showed limited direct impact on burnout and QOL, suggesting that emotional intelligence and organizational factors may play more decisive roles in shaping employee experiences. Bibliometric analyses reinforced these findings by illustrating global research trends, collaborative networks, and thematic clusters, emphasizing the centrality of EI and burnout research while identifying underexplored areas such as industry-specific contexts and long-term effects of recent global crises like COVID-19. The evidence underscores the importance of integrating emotional intelligence development into organizational strategies to mitigate burnout and promote employee well-being. Interventions such as EI training, mindfulness programs, and supportive work environments can enhance resilience, improve engagement, and strengthen overall life satisfaction. Future research should adopt longitudinal designs, explore diverse industrial settings, and examine emerging factors, including artificial intelligence integration and gender-sensitive approaches, to further understand and address the multidimensional challenges of employee burnout and well-being.

Declarations

Author contributions: The first author conceptualized the study, proposed the research, collected the data, and drafted the manuscript. The second author added a literature review and revised

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Data availability: The participants provided informed consent but, they did not provide consent for data sharing. Therefore, to maintain the confidentiality and privacy of the participants, direct access to the data is not available.

Compliance with ethical standards The Institutional Ethics Committee approved this study. All research procedures were carried out in accordance with the ethical guidelines and standards approved by the committee.

Informed consent: The research participants provided informed consent for data collection.

Competing interests: We report no potential conflict of interest with respect to the research, authorship, and/or publication of this article.

References

1. Adekoya, O. D., Adisa , T. A., & Aiyenitaju, O. (2022). Going forward: remote working in the post-COVID-19 era. *Employee Relations: The International Journal, 44*(6), 1410–1427. doi:https://doi.org/10.1108/ER-04-2021-0161
2. Almeneessier, A. S., & Azer, S. A. (2023). Exploring the relationship between burnout and emotional intelligence among academics and clinicians at King Saud University. *BMC Medical Education, 673*(23), 1-11. doi:https://doi.org/10.1186/s12909-023-04604-7
3. Alzoubi, H. M., & Aziz, R. (2021). Does Emotional Intelligence Contribute to Quality of Strategic Decisions? The Mediating Role of Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity, 7*(2), 1-20. doi:https://doi.org/10.3390/joitmc7020130
4. Aria, M., & Cuccurullo, C. (2017). Bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics, 11*(4), 959-975. doi:https://doi.org/10.1016/j.joi.2017.08.007
5. Ashkanasy, N. M., & Kay, A. A. (2023). Mindfulness and emotion: a five-level analysis. *Journal of Management & Organization, 29*(3), 406–424. doi:https://doi.org/10.1017/jmo.2023.22
6. Bakker, A. B., & Demerouti, E. (2016). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology, 22*(3), 273-285. doi:10.1037/ocp0000056
7. Bar-On, R. (2004). The Emotional Intelligence Inventory (EQ-i): Rationale, description and summary of psychometric properties. In G. Geher, *Measuring emotional intelligence: Common ground and controversy* (pp. 115–145). Nova Science Publishers.
8. Boyatzis, R. E. (2009). A behavioral approach to emotional intelligence. *Journal of Management Development, 28*(9), 749-770. doi:10.1108/02621710910987647

9. Brand, S., Beck, J., Hatzinger, M., & et.al., (2010). Associations between satisfaction with life, burnout-related emotional and physical exhaustion, and sleep complaints. *The World Journal of Biological Psychiatry, 11*(5), 744-54. doi:10.3109/15622971003624205
10. Budhwar, P., Malik, A., Silva, M. T., & Thevisuthan, P. (2022). Artificial intelligence – challenges and opportunities for international HRM: a review and research agenda. *The International Journal of Human Resource Management, 33*(6), 1065-1097. doi:https://doi.org/10.1080/09585192.2022.2035161
11. Chen, Y.-C., Huang, Z.-L., & Chu, H.-C. (2024). Relationships between emotional labor, job burnout, and emotional intelligence: an analysis combining meta-analysis and structural equation modeling. *BMC Psychology*(12), 1-19. doi:https://doi.org/10.1186/s40359-024-02167-w
12. Cherniss, C., Extein, M., Golema, D., & Weissberg, R. P. (2010). Emotional Intelligence: What Does the Research Really Indicate? *Educational Psychologist*, 239-245. doi:https://doi.org/10.1207/s15326985ep4104_4
13. Côté, S. (2014). Emotional Intelligence in Organizations. *Annual Review of Organizational Psychology and Organizational Behavior, 1*, 459–488. doi:https://doi.org/10.1146/annurev-orgpsych-031413-091233
14. Doğru, Ç. (2022). A Meta-Analysis of the Relationships Between Emotional Intelligence and Employee Outcomes. *Frontiers in Psychology, 13*, 1-12. doi:https://doi.org/10.3389/fpsyg.2022.611348
15. Donthu, N., Kumar, S., Mukherjee, D., Pandey, N., & Lim, W. M. (2021). How to conduct a bibliometric analysis: An overview and guidelines. *Journal of Business Research, 133*, 285-296. doi:https://doi.org/10.1016/j.jbusres.2021.04.070
16. Freda, R. R. (2024, 12 19). *Finding a Correlation Between Emotional Intelligence and Burnout in Music Teachers in Southeastern Pennsylvania.* Retrieved from Liberty University: https://digitalcommons.liberty.edu/doctoral/6400/
17. Freudenberger, H. J. (1975). The Staff Burn-Out Syndrome in Alternative Institutions. *Psychotherapy: Theory, Research & Practice, 12*(1), 73-82. doi:https://doi.org/10.1037/h0086411
18. Freudenberger, H. J. (1986). The issues of staff burnout in therapeutic communities. *J Psychoactive Drugs, 18*(3), 247-51. doi:10.1080/02791072.1986.10472354
19. Ganster , D. C. (2005). Executive job demands: Suggestions from a stress and decision-making perspective. *Academy of Management Review, 30*(3), 492–502. Retrieved from https://www.jstor.org/stable/20159140
20. Glänzel, W., & Schubert, A. (2006). Analysing Scientific Networks Through Co-Authorship. In H. F. Moed, W. Glänzel, & U. Schmoch, *Handbook of Quantitative Science and Technology Research* (pp. 257-276). Dordrecht: Kluwer Academic Publisher.
21. Goleman, D. (2001). Emotional Intelligence: Issues in Paradigm Building. In D. Goleman & C. Cherniss, *The Emotionally Intelligent Workplace: How to Select for, Measure, and Improve Emotional Intelligence in Individuals, Groups, and Organizations* (pp. 13-26). San Francisco: CA: Jossey-Bass.

22. Gupta, P. K., & et.al. (2022). The Effect of Heartfulness Meditation Program on Burnout and Satisfaction With Life Among Accounting Professionals. *Global Advances in Health and Medicine, 11*, 1–9. doi:10.1177/2164957X221123559
23. Hafinaz, Hariharan, R., & Kumar, R. S. (2025). A case study on recent research in management, accounting and economics. In Hafinaz, R. Hariharan, & R. S. Kumar, *Recent Research in Management, Accounting and Economics (RRMAE).* Routledge.
24. Hambrick, D. C., Finkelstein, S., & Mooney, C. A. (2005). Executive Job Demands: New Insights for Explaining Strategic Decisions and Leader Behaviors. *The Academy of Management Review, 30*(3), 472-491. Retrieved from https://www.jstor.org/stable/20159139
25. Istianingsih, N., Masnun, A., & Pratiwi, W. (2020). Managerial performance models through decision making and emotional intelligence in public sector. *Administratie si Management Public, 35*, 153-166. doi:10.24818/amp/2020.35-10
26. Maslach, C., & Jackson, S. E. (1981). The Measurement of Experienced Burnout. *Journal of Organizational Behavior, 2*(2), 99–113. doi:http://dx.doi.org/10.1002/job.4030020205
27. Maslach, C., & Leiter, M. P. (2016). Understanding the burnout experience: recent research and its implications for psychiatry. *World Psychiatry, 15*(2), 103–111. doi: https://doi.org/10.1002/wps.20311
28. Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter, *Emotional development and emotional intelligence: Educational implications* (pp. 3–34). New York, NY. Basic Books. Retrieved from https://www.scirp.org/reference/referencespapers?referenceid=672339
29. Mayer, J. D., Salovey, P., & Caruso, D. R. (2004). Emotional intelligence: Theory, findings, and Implications. *Psychological Inquiry, 15*(3), 197–215. doi:https://doi.org/10.1207/s15327965pli1503_02
30. McCarthy, A., Darcy, D. C., & Grady, G. (2010). Work-Life Balance Policy and Practice: Understanding Line Manager Attitudes and Behaviors. *Human Resource Management Review, 20*(2), 158–167. doi:10.1016/j.hrmr.2009.12.001
31. Mete, M., Ünal, Ö. F., & Bilen, A. (2014). Impact of Work-Family Conflict and Burnout on Performance of Accounting Professionals. *Procedia - Social and Behavioral Sciences, 131*, 264–270. doi:10.1016/j.sbspro.2014.04.115
32. Miao, C., Humphrey, H. R., & Qian, S. (2017). A meta-analysis of emotional intelligence and work attitudes. *Journal of Occupational and Organizational Psychology, 90*(2), 177–202. doi:https://doi.org/10.1111/joop.12167
33. Miao, C., Humphrey, R. H., & Qian, S. (2016). A meta-analysis of emotional intelligence and work attitudes. *Journal of Occupational and Organizational Psychology, 90*(2), 177–202. doi:https://doi.org/10.1111/joop.12167
34. Müller, M., & Kubátová, J. (2025). A systematic review of managerial burnout and personal crisis: Navigating the interplay of individual, organizational, and environmental factors. *German Journal of*

Human Resource Management, 1-41. doi:10.1177/23970022251315650

35. Petrides, K. V., & Furnham, A. (2001). Trait emotional intelligence: psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*(6), 425–448. doi: https://doi.org/10.1002/per.416
36. Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2012). Sources of Method Bias in Social Science Research and Recommendations on How to Control It. *Annual Review of Psychology, 63*, 539–569. doi:https://doi.org/10.1146/annurev-psych-120710-100452
37. Restubog, S. D., Ocampo, A. G., & Wang, L. (2020). Taking control amidst the chaos: Emotion regulation during the COVID-19 pandemic. *Journal of Vocational Behavior, 119*, 1-6. doi:https://doi.org/10.1016/j.jvb.2020.103440
38. Salari, N., & et.al. (2020). Prevalence of stress, anxiety, depression among the general population during the COVID-19 pandemic: a systematic review and meta-analysis. *Globalization and Health, 57*(16), 1-11. doi:https://doi.org/10.1186/s12992-020-00589-w
39. Salovey, P., & Mayer, J. D. (1990). Emotional Intelligence. *Imagination, Cognition and Personality, 9*(3). doi:https://doi.org/10.2190/DUGG-P24E-52WK-6CDG
40. Sariraei, S. A., Shkoler, O., Giamos, D., Chênevert, D., Vandenberghe, C., Tziner, A., & Vasiliu, C. (2024). From burnout to behavior: the dark side of emotional intelligence on optimal functioning across three managerial levels. *Frontiers in Psychology*, 1-24. doi:https://doi.org/10.3389/fpsyg.2024.1338691
41. Serrat, O. (2017). Understanding and Developing Emotional Intelligence. In *Knowledge Solutions Tools, Methods, and Approaches to Drive Organizational Performance* (pp. 329–339). Springer Open. doi:https://doi.org/10.1007/978-981-10-0983-9_37
42. Shkoler, O., & Tziner, A. (2017). The mediating and moderating role of burnout and emotional intelligence in the relationship between organizational justice and work misbehavior. *journal of work and organizational psychology, 33*(2), 157-164. doi:https://doi.org/10.1016/j.rpto.2017.05.002
43. Sooryamoorthy, R. (2017). Do types of collaboration change citation? A scientometric analysis of social science publications in South Africa. *Scientometrics, 111*(1), 379-400. doi:10.1007/s11192-017-2265-6
44. Wagner, C., Whetsell, T. A., & Leydesdorff, L. (2017). Growth of international collaboration in science: revisiting six specialties. *Scientometrics, 110*(3), 1633-1652. doi:10.1007/s11192-016-2230-9
45. Walter, O., Fitzsimmons, P., Kasler, J., & Routray, S. (2023). *Breaking the Silos: Exploring the Multiple Perspectives of Positive Psychology.* Singapore: Springer Science and Business Media LLC.
46. Wechsler, D. (1958). The Measurement and Appraisal of Adult Intelligence. *The Williams & Wilkins Company*. doi:http://dx.doi.org/10.1037/11167-000
47. Zhang, L., Yao, Y., & Yiu, K. T. (2020). Job Burnout of Construction Project Managers: Exploring the Consequences of Regulating Emotions in Workplace. *Journal of Construction Engineering and Management, 146*(10). doi:10.1061/(ASCE)CO.1943-7862.0001913

48. Zupic, I., & Čater, T. (2014). Bibliometric Methods in Management and Organization. *Organizational Research Methods, 18*(3), 429-472. doi:https://doi.org/10.1177/1094428114562629

Figures

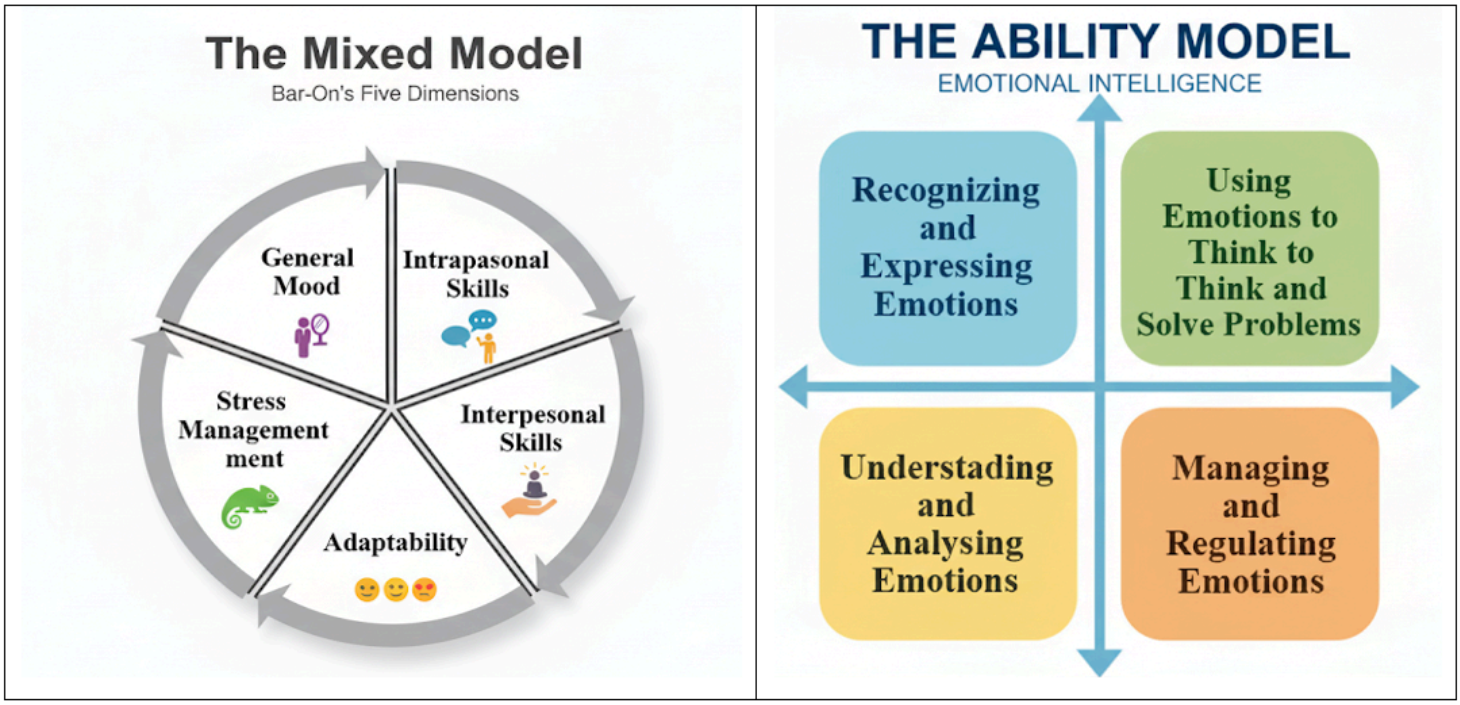


Figure 1

Ability Model and the Mixed Model

Source: Author Creation, 2024

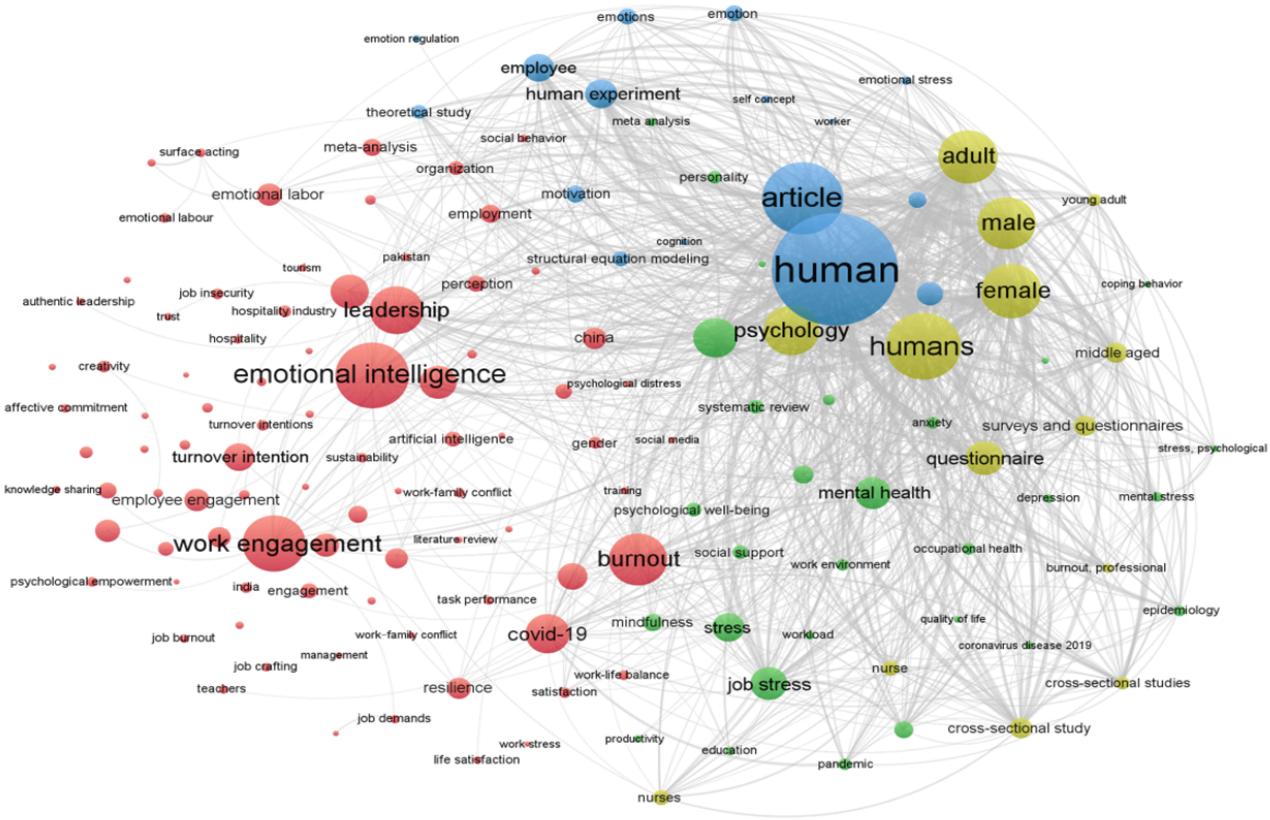


Figure 2

Keyword Co-Occurrence Analys

Source: Created by VOSviewer software, 2024

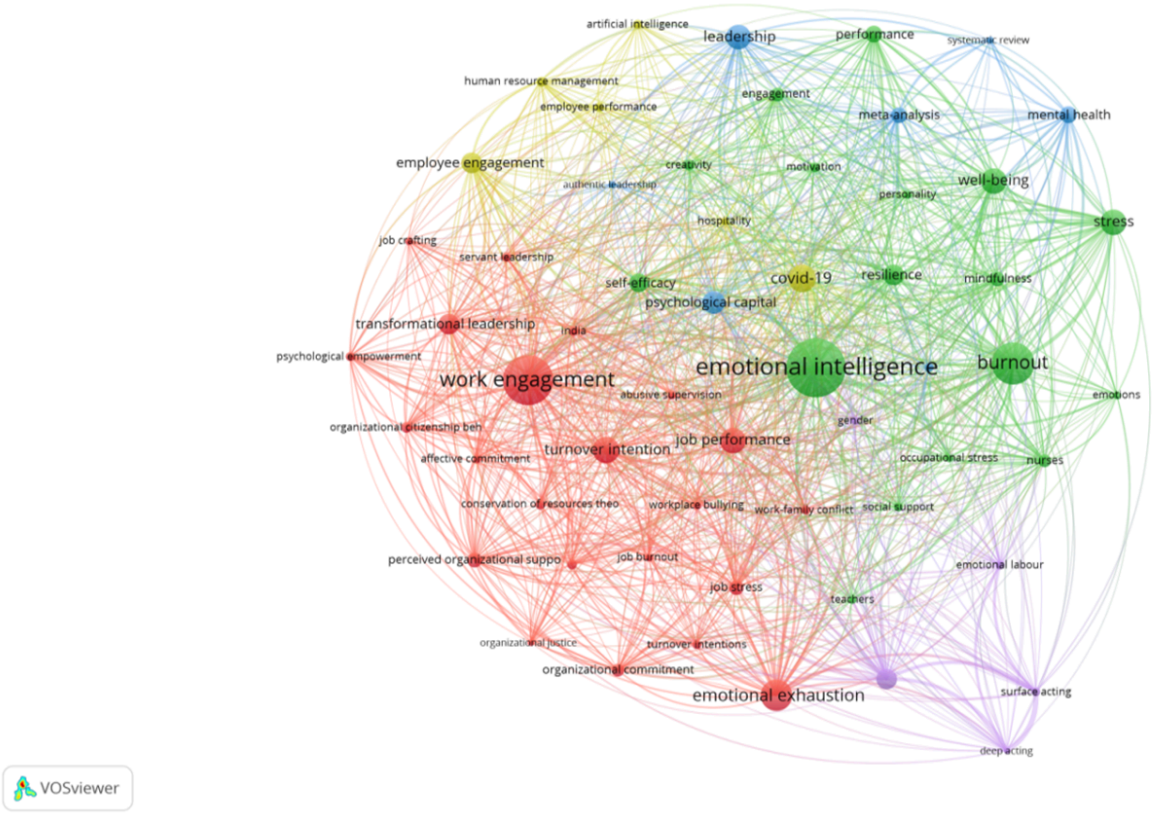


Figure 3

Co-occurrence of Author Keywords

Source: Created by VOSviewer software, 2024

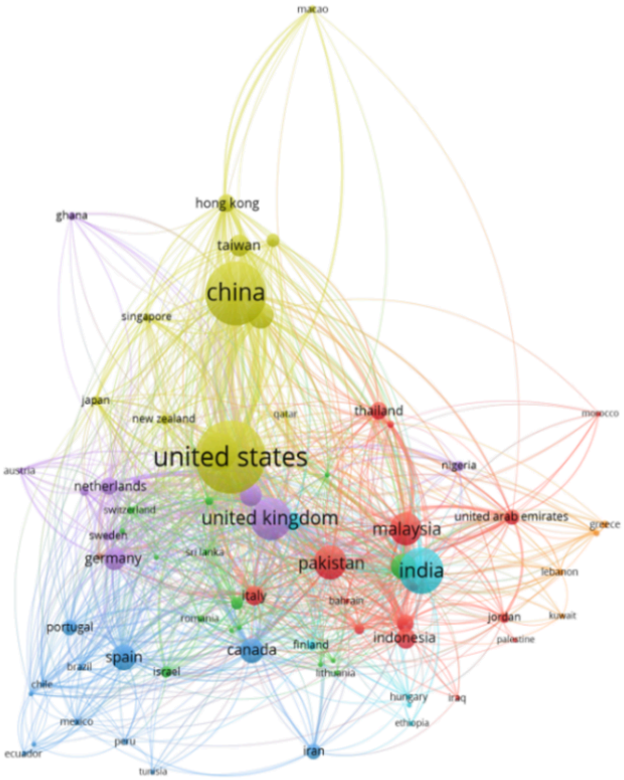


Figure 4

Co-Authorship of countries

Source: Created by VOSviewer software, 2024

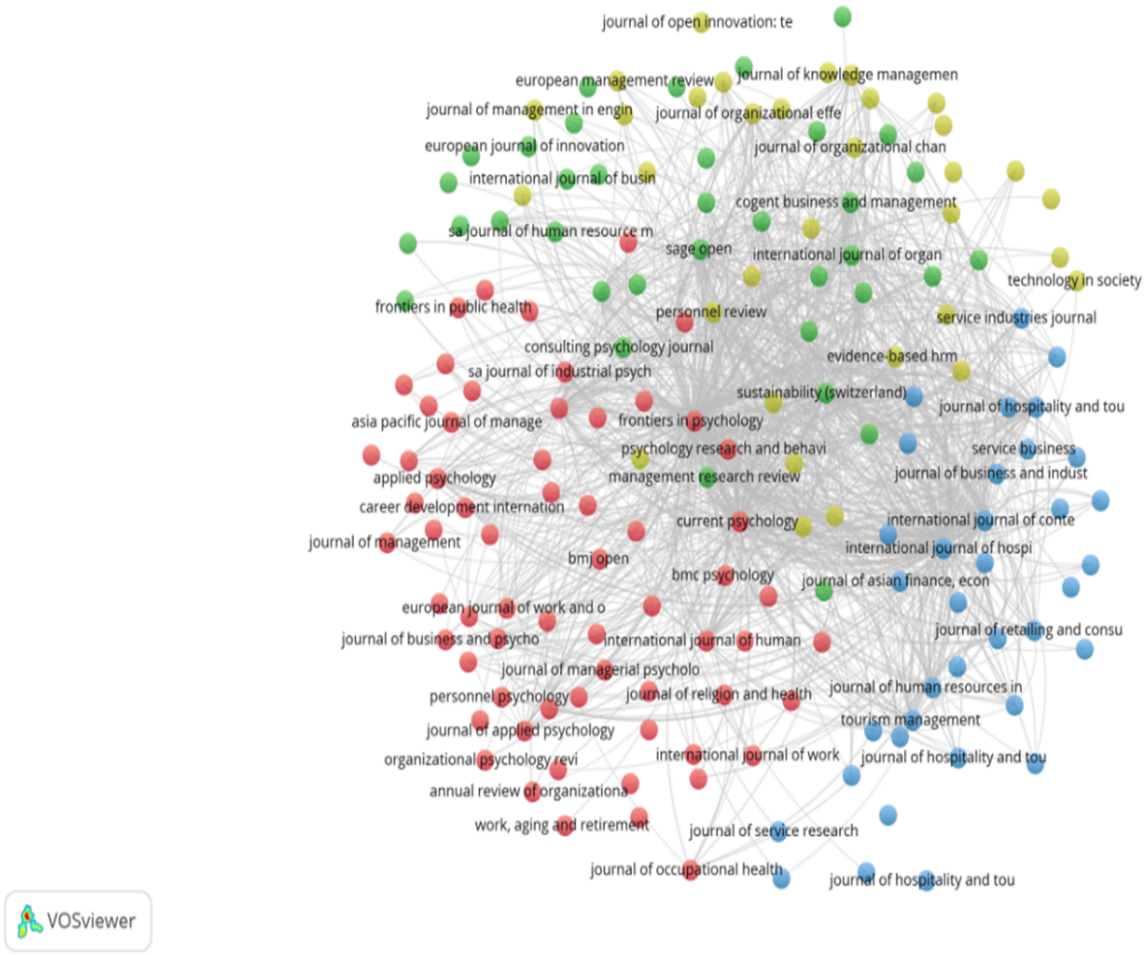


Figure 5

Bibliographic coupling

Source: Created by VOSviewer software, 2024