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Research Article

Do Humble Leaders Have Resilient Followers? An Exploration

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ABSTRACT

This research examines how humble leadership affects healthcare workers' resilience in Jammu and Kashmir, India. As organizations face increasing uncertainty, they need effective leadership strategies to help employees adapt to workplace challenges. The study analyzed data from 375 healthcare workers using statistical methods including EFA, CFA, and SEM through AMOS 20.0 software. Employee resilience was found to be positively influenced by humble leadership ($\beta = 0.259$, $p < 0.001$) indicating that humble leaders create an atmosphere that improves workers' capacity to handle obstacles at work. The moderate strength of this relationship indicates that there are factors that shape resilience. Analysis of demographic variables further revealed age and gender differences, with older employees exhibiting higher resilience and men scoring higher than women, while work experience did not significantly influence resilience, challenging previous assumptions. This work advances the discipline of leadership studies by highlighting humility as a crucial leadership quality that fosters resilience. While also contributing to demographic theories by validating age and gender- based resilience differences. Practically, the findings highlight the need for leadership development programs that nurture humility and supportive workplace cultures, alongside tailored resilience-building initiatives, particularly for younger and female employees. The study's cross-sectional design precludes the establishment of distinct causal relationships. Additionally, the research's specific focus on the healthcare sector in Jammu and Kashmir restricts the ability to generalize these findings to other contexts.. Future research should employ longitudinal studies and multi-source data collection methods to explore additional determinants of resilience, such as organizational culture and job demands. Being among the first empirical studies on humble leadership and employee resilience in Jammu and Kashmir's healthcare sector, this research provides valuable insights for both academic discourse and organizational policymaking, emphasizing leadership's role in fostering employee adaptability in high-stress environments.

Keywords: Humble leadership, employee resilience, structural equation modeling, healthcare sector, India.

Introduction

In today's volatile business environment, organizations face unprecedented challenges that can rapidly escalate into crises. The healthcare sector, particularly in India, is experiencing significant growth and transformation, with a projected CAGR of 22% and an estimated e- health market size of US$ 10.6 billion by 2025. Despite progress in their performance, responsiveness, and resilience, healthcare systems in middle-low income countries continue to face significant obstacles, according to WHO's assessments of health system effectiveness and universal healthcare coverage released in 2000 and 2013. The COVID-19 epidemic has made the healthcare industry's numerous problems worse, especially in developing countries like India. While health is recognized as a fundamental human right and a global social objective, the ability to provide quality healthcare is intrinsically linked to the resilience and performance of healthcare professionals and frontline workers. Nevertheless, little study has been done on how employee resilience and leadership styles interact in the Indian healthcare industry.

Resilience is becoming more and more important to modern businesses as a foundation for comprehending

and navigating complex adaptive systems, particularly in the healthcare industry. Despite growing consensus on its significance, the operationalisation of resilience remains a subject of ongoing discussion. The Indian healthcare system, with its limited resources and large patient population, offers a special opportunity for researchers to look into the factors that would improve the sector's performance in order to meet the SDGs and other national objectives. The human side of an organisation plays a tremendous role in achieving organisational objectives

In this connection, researchers in 21st century have focused on aspects of employee performance like employee resilience. The ability to overcome impediments and adapt to unpredictable situations is known as employee resilience, and it is essential in high-stress industries like healthcare. Employee resilience enables workers to thrive amidst challenges and contributes to organizational success through enhanced adaptability, stress management, productivity, and innovation. The current study attempts to comprehend how healthcare professionals view the leadership philosophies being used. The question of whether humble leadership increases employee resilience must thus be investigated.

An increasing number of positive outcomes related to leaders have been associated with the character strength of humility. As a result, researchers and professionals have started looking for ways to help leaders become more humble. Research on leadership and leader development has found that humility is a topic that is becoming more and more popular (Norcross et al., 2019). This popularity makes sense considering all of the advantages of humble leadership. According to research, leaders who practise humility not only gain individually but also have a positive impact on subordinates and the organisations they assist in leading (Swain et al., 2019).

Social Information Processing theory

The research shows that humble leadership is rooted in two theoretical models. The first one is the SIP theory (Salancik and Pfeffer, 1978) which hypothesize that people process and internalize social cues emanating from the environment and internalize this feedback into expressed attitudes or behaviors while the second one which supports this, is the Social Exchange Theory of Blau in 1964. This theory explains the development of relationship trust and commitment through the basic rules of exchange (similar to the Sample & Jones theory) as stated by Cropanzano, & Mitchell, (2005).

This theory which proved to be very useful in researching the humble leaders as it describes the relationship between humility and the leader- follower relationship. There have been various empirical studies supporting the applications of these theories. For example, Wang et al. conducted a study in 2019 which showed that humble leadership led to reduced undesirable behaviours of the supervisors' subordinates, as increasing work reciprocity was the tune for the endogenous group. Similarly, in 2017, the Rego et al. study indicated how humble leaders build stronger social bonds with team members. An article Li et al (2018) has found that pairing humble leaders and employees leads to an increase in employee voice behavior. The results, taken together, highlight how well Social Exchange Theory can help to explain the positive follower responses to humble leadershipstyles.

Literature

Humble leadership emerged as a new concept in the leadership literature. Owens and Hekman have pioneered a study that brings grounded theory to interaction with leadership and humility in 2012. As described by Yuan et al. (2018) and Owens et al. (2013), humble leaders are those who, on the one hand, recognize and value the accomplishments of their followers, while on the other hand maintain an objective evaluation of themselves and their team members. Since then, organizational researchers have taken up the study of the effect of humility on organizational outcomes, as noted by Nielsen and Marrone in 2018.

Research has unveiled that Humble leadership impacts followers in several ways. Research by Mao et al.(2019) indicated that humble leadership increases follower self-efficacy as well as motivational energy. Research by Gonçalves et al. (2015) and Wang et al. (2018) supported the claim that humble leadership enhances team communication and creativity. Qian, et al. (2018) found that humility at the leadership level promotes feedback-seeking behavior whereby feedback both helps in the personal and professional development of team members, directly confirming the assertions made by Swain (2018) and Wang et al. (2018) in their studies that humble leaders create psychologically safe environments where team members can ask questions and take risks without any fear.

The ability to luge, cope with, and function effectively well in situations characterized by turbulence and change is known as employee resilience . The attribute of employee resilience can be instilled by an organization through proper leadership styles, mainly humble leadership Prayag (2018), Kuntz et al. (2017), and Nguyen et al. (2016). Luthans (2002) describes it as a developmental capacity to rebound from adversity involving setbacks and stresses to positive changes and expanding responsibilities.

Studies have unearthed many benefits of employee resilience. For example, Cooper et al. (2019) found that it leads to higher job performance whereas Masten (2001) saw it bring about greater individual competence and Youssef and Luthans (2005) indicated its contribution to improved stress management. King etal. (2016) identified it as a developmental outcome related to improved employee performance and, in turn,

performance under challenging conditions in the workplace. Rego et al. (2016, 2017) associate organizational resilience with performance above more conventional social and financial resources as a competitive edge.

As noted by several researchers (Nilakant and colleagues, 2014; Ou and colleagues, 2015; Cooper et al., 2019), resilient employees typically display positive responses, persistence, openness to change, and continuous development in today's dynamic business environment. Employee resilience, according to Näswall et al. (2015), is a transformative journey rather than simple adaptation.This ultimately enables organizations to better manage increasing uncertainty through their resilient workforce.

Because of its vital significance, organizations have implemented a number of measures to improve employee resilience. According to Qian et al. (2018), leadership plays a crucial part in determining how people feel their jobs, and social and environmental factors influence this influence. According to Harland et al. (2005) and Nguyen et al. (2016), leadership is very important for building employee resilience.
According to existing research, employees view humble leadership as a means of fostering personal development. Rego et al. (2017) and Owens & Hekman (2012), although there is still a lack of research on this viewpoint in the scholarly literature. In order to bridge this gap, the study looks at situational factors that affect employee resilience.

Humble Leadership and Employee Resilience

Research over the past two decades has emphasized leadership's role in improving employee adaptability, as highlighted by Harland et al. (2005) and Nguyen et al. (2016). Studies suggest humble leadership serves as an effective framework for guiding employee development, enabling individuals to chart their own growth trajectories (Owens & Hekman, 2012; Rego et al., 2017). Bullough et al. (2014) demonstrated that leaders' responses to workplace challenges directly influence employee resilience. Similarly, humble leaders reframe crises as opportunities for learning and skill development, encouraging employees to adopt flexible problem-solving strategies (Owens et al., 2013).
By fostering supportive environments (Ou et al., 2014) and prioritizing continuous learning and recognition of employee achievements (Owens & Hekman, 2012), humble leadership contributes to a healthier organizational culture. Evidence further indicates that this leadership style strengthens organizational trust (Elrod, 2013; Cooper et al., 2019), enhances psychological safety (Walters & Diab, 2016), and promotes transparent communication— critical factors in building employee resilience

Hypotheses Development

Research consistently highlights the adverse effects of low employee resilience on psychological well-being and workplace productivity. Employees with diminished resilience face heightened risks of stress, burnout, depression, and sleep disturbances (Shatté et al., 2017), with studies indicating a 10–20% increased likelihood of depressive symptoms in this group. These outcomes are amplified in high-stress sectors such as healthcare, where Kwok et al. (2014) identified a cyclical relationship between low resilience, escalating psychological strain, and reduced productivity. At an organizational level, consequences manifest as lower job satisfaction, higher turnover intentions, increased absenteeism, and diminished output.
Emerging evidence suggests humble leadership may counteract these trends by fostering positive employee outcomes. For instance, Chiu et al. (2022) link humble leadership to enhanced productivity through improved employee engagement and reduced negative workplace behaviors. Brian (2022) emphasizes how humble leaders cultivate supportive environments by actively recognizing contributions, soliciting feedback, and addressing challenges collaboratively. Wu et al. (2022) further argue that such environments may mitigate burnout by reducing emotional exhaustion and fosteringresilience.
In healthcare contexts, humble leadership strategies—such as empowering employees, involving them in decision-making, and promoting a constructive work climate—have been shown to strengthen leader-employee relationships (Owens et al., 2013). These practices correlate with heightened job satisfaction, authenticity, and reduced burnout. Central to building resilience, humble leaders encourage adaptive coping mechanisms by reframing challenges as growth opportunities (Owens et al., 2013; Owens & Hekman, 2012). This aligns with research demonstrating that humble leadership enhances psychological safety (Walters & Diab, 2016), builds organizational trust (Elrod, 2013; Cooper et al., 2019), and improves communication—critical factors for resilience. Cooper et al. (2019) synthesize these findings, proposing that trust, psychological safety, and adaptive strategies collectively underpin resilient workforces.
Based on this evidence, we hypothesize that humble leadership directly strengthens employee resilience by fostering supportive environments, enhancing psychological resources, and enabling adaptive responses to workplace challenges.

H1 : Humble Leadership style positively influences Employee resilience

Healthcare workers face a variety of challenges at work, such as handling challenging medical cases, organizational problems, and patient interactions (Robertson et al., 2016). These challenges may negatively impact their physical and mental health (McCann et al.,

2013; Clark et al., 2016). In 2016 Aburn and his colleagues demonstrate that resilience serves as a crucial protective element, with more resilient workers experiencing better mental health and reduced psychological challenges.

High resilience makes medical personnel less prone to burnout, weariness, and work-related stress, according to a number of studies done between 2013 and 2018 (Lebares et al., 2018; Mealer et al., 2017; Shatté et al., 2017; Winwood et al., 2013). Additionally, resilient employees exhibit improved physical well-being (Ezeamama et al., 2016).and fewer workplace injuries (Siu et al., 2009).On an organizational level, Andolo (2013) found that greater resilience results in reduced absenteeism, while Waddimba et al. (2016) linked it to higher job satisfaction among healthcare employees. These findings highlight resilience's dual impact on both individual well-being and overall organizational effectiveness in healthcare settings.

A comprehensive Cochrane review conducted in 2020 examined various strategies for strengthening resilience and supporting mental wellbeing among frontline healthcare and social care workers, covering multiple health crises over an 18-year period from 2002 up to and including the COVID-19 pandemic. The review examined different support methods, from institutional policy adjustments to personal resilience strategies and mental health support systems, designed to help frontline workers cope during health crises. While the findings highlighted a lack of awareness and resources as major barriers to enhancing clinicians' resilience and well-being, the review found limited definitive evidence supporting the effectiveness of workplace interventions.

However, more recent research identified by Akinnusotu et al. (2023) revealed new studies exploring various solutions. These included structural workplace support through well-being centers and peer support networks (Saqib & Rampal, 2020; Goh et al., 2021), resilience- building tools like simulation training and wellness applications (Barzilay et al., 2020; Golden et al., 2021), and enhanced mental health awareness and support through educational modules and diverse counseling approaches (Luceño-Moreno et al., 2020; Gupta et al., 2021).

Extensive research has consistently emphasized the inherently stressful nature of healthcare professions, with mounting evidence underscoring the critical importance of employee resilience, particularly for healthcare personnel. The COVID-19 pandemic prompted numerous researches that exposed significant vulnerabilities in India's public health emergency response and overall healthcare system. These post-pandemic investigations have not only highlighted systemic weaknesses but also strongly recommended developing robust mechanisms to enhance healthcare worker resilience. These strategies serve two primary goals: maintaining excellent patient care standards and enhancing the ability of the healthcare system to endure and adjust to new difficulties. Research suggests the importance of comprehensive approaches that build resilience at both individual and organizational levels in India's healthcare system. This leads us to propose the following hypothesis.

H_2: Healthcare workers in north India would score low on employee resilience

According to research by Hombrados-Mendieta and de las Olas Palma-García (2014), social workers with greater professional experience tend to demonstrate higher resilience levels. Research indicates that resilience and professional seniority are positively correlated. Particularly in two key areas: social workers' self-acceptance and life satisfaction, as well as their ability to handle workplace challenges and adversity. These findings suggest that resilience capabilities in social workers strengthen over time as they accumulate professional experience.

Monteiro and Almeida's (2015) research revealed that students who worked during college developed stronger career adaptability skills. Working students demonstrated higher personal control than non-working students, and those with work experience showed enhanced professional curiosity compared to those without work exposure. These differences likely stem from the nature of work engagement: student worker roles typically involve more sustained professional involvement, whereas general work experiences tend to be more exploratory and transient. The elevated curiosity observed among those with workplace exposure aligns with scholarly insights from Mortimer & Zimmer-Gembeck (2007), Smith & Green (2005), and Billett & Ovens (2007), which suggest that workplace interactions facilitate identity and role exploration.

Furthermore, research by Creed & Patton (2003) and Creed et al. (2007, 2005) supports the increased control displayed by student workers, which helps them navigate professional obstacles.These studies demonstrate the developmental potential of professional experiences during educational times by connecting part-time job to enhanced career maturity and more complex decision-making abilities.

Additionally, a 2021 study by Afshari et al. discovered a high correlation between the resilience levels of nurses and their demographic characteristics. They found that age, work experience, and educational achievement all significantly impacted resilience, with higher levels of these factors being linked to greater resilience. In their study on operating room nurses, Gillespie et al. (2009) further corroborated this finding

by coming to the same conclusion: nurses with more education, experience, and age were more resilient. These findings suggest that resilience development is influenced by both formal education and gained work experience, possibly as a result of increasing exposure to stressful situations and the gradual development of more complex coping strategies.

Research has repeatedly demonstrated that resilience levels vary by gender, with women often reporting lower resilience scores than males across a variety of assessment techniques (Campbell-Sills et al., 2009; Bonanno et al., 2007). According to research on associated personality traits, especially neuroticism, where women tend to score higher than males (Schmitt et al., 2008), this trend is consistent with known gender differences in stress- related mental illnesses, such as PTSD (Craske, 2003).Resilience is inversely correlated with neuroticism, which is a reflection of susceptibility to stress and unpleasant emotions. These results have been nuanced by more recent study, which shows that male participants in particular showed more resilience solely in terms of positive life attitudes and the capacity to cope with difficult circumstances (Lasota et al., 2020).

Multiple research investigations (Tamres et al., 2002; Park et al., 2015; Peng et al., 2012) align with Yalcin-Siedentopf et al.'s (2021) conclusions regarding gender-based differences in stress and resilience: compared to male participants, females consistently reported higher levels of perceived stress and greater use of social support, while exhibiting lower resilience scores.

Importantly, despite statistically significant variations in Resilience Scale scores, both genders maintained moderate resilience levels according to Wagnild's (2009) established criteria. The observed gender differences might be explained by women's potentially greater biological predisposition toward emotional sensitivity and empathy, as suggested by Park et al. (2015). This heightened emotional sensitivity could amplify stress perception and motivate women to seek more extensive social support compared to men, as noted by Adamczyk (2016).Therefore, we assume that;

H_3: Demographic variables like gender, experience and education is positively associated with employee resilience

Research Methodology:

This study utilized quantitative to look into the connection between resilient employees and humble leadership in Jammu and Kashmir's healthcare sector. The study gathered data through a structured questionnaire comprising three distinct sections: demographic information about respondents, an assessment of humble leadership characteristics, and an evaluation of employee resilience levels. The target population comprised healthcare professionals, including doctors, nurses, and other frontline employees. A probability sampling technique was utilized to ensure equal representation and enhance the generalizability of findings. After data collection, we scrutinised and carefully checked the data, but there was no data found with the same number response. Therefore, we did not exclude any data from the analysis. The findings showed the demographic breakdown revealed a significant gender imbalance, with males representing 87.7% of the respondents and females accounting for 12.3%. In terms of age distribution, a small proportion (18.9%) fell within the 18-30 age group, while the majority (67.5%) were between 30-40 years old. The majority of respondents (82.4%) held graduate-level qualifications, and an overwhelming 93.6% occupied operational positions within their organizations. In terms of professional experience, 50.9 percent of the participants had worked in the health sector for 5–10 years.

This comprehensive survey provided insights into the professional characteristics of healthcare workers in the region, highlighting the demographic composition and professional background of the study participants.

Measurment Scales

The study measured variables using standardized scales, using a five-point Likert scale to score comments, with one representing "strongly disagree" and five representing "strongly agree."Here are the specific scales used to measure each research construct.:

Humble Leadership (HL)

The study measured humble leadership using Owens et al.'s (2013) 9-item scale, which included items like "My leader actively seeks feedback, even if it is critical." The scale demonstrated high reliability with a Cronbach's alpha of 0.867.

Employee Resilience (ER)

Employee Resilience was measured using Näswall et al.'s (2015) 9-item scale, featuring statements such as "I use change at work as an opportunity for growth" to measure workplace adaptability. The scale showed excellent reliability with a Cronbach's alpha of 0.989

Overview of Analysis

The study evaluated data reliability and validity through SPSS and AMOS software. Statistical measures—including average variance extracted (AVE), maximum shared variance (MSV), composite reliability (CR), and Cronbach's alpha—were applied to verify construct validity and item-factor relationships. Confirmatory factor analysis (CFA) further tested the measurement model's accuracy, ensuring robust factor loadings and distinct construct definitions.

Model-data fit was assessed using established benchmarks. Key fit indices (GFI = 0.92, NFI = 0.95, AGFI = 0.91) exceeded the recommended threshold of 0.9, confirming strong alignment between the model and dataset. These results demonstrate the model's reliability and validity, consistent with methodological standards outlined by MacCallum et al. (1996) and Browne and Cudeck (1992).

RESULTS

Preliminary Analysis

We used Harmon's single-factor test to address the possibility of common method bias (CMB) brought on by data collection from a single source (Podsakoff et al., 2003). Excellent sampling adequacy was indicated by the statistical analysis, which showed a Kaiser Meyer- Olkin (KMO) sampling adequacy index of 0.898. The explanatory strength of the research variables was revealed by the discovery that the single-factor items accounted for 48.92% of the dataset's total variance. This outcome successfully addressed any CMB problems by confirming that no single-factor variable surpassed 50% (Podsakoff et al., 2003).

The correlation matrix, presented in Table 1, explored the relationships between demographic variables and employee resilience. The correlation coefficient indicate significant correlations

Table 1 Means, SD's and Correlations.

VARIABLES	MEAN	SD	GENDE	AGE	MARITALS	QUALIFI	POSITIO	SERVIC	HUL	EMPRE
GENDER	1.12	.328	1							
AGE	1.97	.617	-.585**	1						
MARITALST	1.59	.492	.310**	-	1					
QUALIFICATI	1.97	.419	.043	.182**	.064	1				
POSITION	1.94	.245	.098	-	.160**	-.173**	1			
SERVICE	1.52	.556	-.350**	.575**	-.141**	.266**	-.403**	1		
HUL	33.642	6.01427	-.312**	.216**	-.200**	-.027	-.084	-.007	1	
EMPRES	32.346	10.4854	-.226**	.167**	-.214**	-.063	-.085	.030	.259*1	

between demographic varaibles (age, gender, and experience) and employee resilience. Notably, Age emerged as the sole demographic variable positively associated with employee resilience, while gender and marital status demonstrated negative associatons and Experience was insignificant with the construct.

Confirmatory Factor Analysis

Using AMOS, discriminant validity was conducted across four constructs (HL, AL, KL, and ER), demonstrating an excellent model fit with key indicators: $\chi 2/DF = 2.916$, GFI = .913, AGFI = .877, NFI = .901, RMSEA = .061, CFI = .912.

Reliability, assessed via Cronbach's alpha, showed all variables exceeding the 0.70 threshold, with construct reliability ranging from 0.891 (HL) to 0.989 (ER). Convergent validity was confirmed through statistically significant standardized factor loadings across constructs: HL (0.827-0.920), AL (0.809-0.944), KL (0.821-0.928), and ER (0.895-0.982).

Average Variance Extracted (AVE) values surpassing 0.50 provided additional evidence of convergent validity, aligning with recommendations from Hair et al. (2010) and validation methods proposed by Anderson & Gerbing (1988) and Bagozzi & Yi (1988).

Table2: Factor Loadings, Cronbach Alpha and AVE:

Constructs	Indicators	Factor Loadings	AVE	MSV	CR	Cronbach Alpha
HL	HL1	0.821	**0.735**	**0.146**	**0.892**	**.891**
	HL2	0.920				
	HL3	0.827				
AL	AL1	0.809	**0.808**	**0.166**	**0.926**	**.923**
	AL2	0.937				
	AL3	0.944				
KL	KL1	0.821	**0.798**	**0.166**	**0.922**	**.921**
	KL2	0.928				
	KL3	0.927				
ER	ER1	0.962	**0.905**	**0.051**	**0.988**	**.989**
	ER2	0.981				
	ER3	0.972				
	ER4	0.942				
	ER5	0.945				
	ER6	0.919				
	ER7	0.895				
	ER8	0.982				
	ER9	0.962				

Table 3.Discriminant validity Analysis

Constructs	HL	AL	KL	ER
HL	**0.857**			
AL	0.382	**0.899**		
KL	0.376	0.408	**0.893**	
ER	0.158	0.234	0.215	**0.952**

We assessed construct distinctiveness through a comparative analysis of AVE values. As shown in Table 3, each construct's AVE value exceeded its squared AVE when compared with other constructs, meeting the criteria established by Fornell & Larcker (1981). The study confirmed discriminant validity through diagonal elements as presented in table 3. The study model's discriminant validity was confirmed by the bolded-displayed square root of AVE values exceeding corresponding correlation construct values in both rows and columns, in line with the standards set forth by Fornell & Larcker (1981).

Additionally, we examined multicollinearity using mean-centered methods. After mean- centering, it was found that the Variance Inflation Factor (VIF) values were low enough.,: HL at 1.186, AL at 1.272, and KL at 1.247, indicating the absence of multicollinearity concerns. The comprehensive battery of statistical tests - encompassing reliability, convergent and discriminant validity, common method bias, and collinearity assessments - provided a solid foundation for subsequent analysis, as supported by Anderson & Gerbing (1988).

Hypotheses Testing

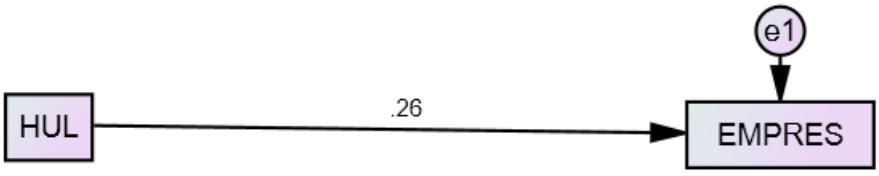

Figure: Path testing from HUL (Humble Leadership) to EMPRES (Employee Resilience)

Using AMOS 20.0 software for structural equation modeling, we found that humble leadership strongly influences employee resilience. The analysis revealed a positive relationship between these variables (B = 0.259) .

Table 4: Hypothesis Testing

Hypothesis	Path	Standardised Beta & Sig.	C.R.	Result
H1	HUL ☐ EMPRES	0.259***	5.192	*Supported*

Note: HUL- Humble leadership; EMPRES- Employee resilience
**** indicate significance level is 0.001 (two-tailed)*

The results for H1 reveal that humble leadership predicts employee resilience (.26%), however, the beta values are not robust enough, indicating a moderate influence for the present study. The beta values indicate that humble leadership explains around 26 percent variance in employee resilience. In other words we can attribute the contribution of humble leadership only to the extent of 26 percent and there are other factors which contribute to employee resilience.
In this backdrop we had assumed that demographic variables would also explain some amount of variance. To test this assumption, we employed descriptive statistics to test hypothesis 2 which proposes low resilience among healthcare workers in north India.

Table 5: Descriptive Statistics

N		Minimum	Maximum	Mean	SD
EMPRES	375	1	5	3.59	1.165
Valid N (listwise)	375				

Note: EMPRES means employee resilience

Table 5 shows that mean value for employee resilience among the studied sample is more than 3 which is obviously not low or weak. The study utilized a five-point Likert scale to gather and quantify comments from respondents. Therefore, the mean values indicate that resilience among healthcare workers in north India is not low as assumed by the present study therefore hypothesis *H2 is not supported*.
In addition, we used Pearson's correlation t- test and Anova to test the hypothesis, H3 which proposes positive association between demographic variables and employee resilience.

TABLE 6 : CORRELATIONS

		GENDE	AGE	MARITAL	QUALIFICA	POSITI	INCO	SERVICE	EMPRE
GENDER	Pearson	1	-	.310**	.043	.098	-.214**	-.350**	-.226**
	Sig. (2-tailed)		.000	.000	.404	.059	.000	.000	.000
	N	375	375	375	375	375	375	375	375
AGE	Pearson	-.585**	1	-.452**	.182**	-.492**	.349**	.575**	.167**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.001
	N	375	375	375	375	375	375	375	375
MARITALST	Pearson	.310**	-	1	.064	.160**	.038	-.141**	-.214**
	Sig. (2-tailed)	.000	.000		.218	.002	.459	.006	.000
	N	375	375	375	375	375	375	375	375
QUALIFICAT	Pearson	.043	.182**	.064	1	-.173**	.423**	.266**	-.063
	Sig. (2-tailed)	.404	.000	.218		.001	.000	.000	.224
	N	375	375	375	375	375	375	375	375
POSITION	Pearson	.098	-	.160**	-.173**	1	-.590**	-.403**	-.085
	Sig. (2-tailed)	.059	.000	.002	.001		.000	.000	.100
	N	375	375	375	375	375	375	375	375
INCOME	Pearson	-.214**	.349**	.038	.423**	-.590**	1	.537**	.054
	Sig. (2-tailed)	.000	.000	.459	.000	.000		.000	.298
	N	375	375	375	375	375	375	375	375
SERVICE	Pearson	-.350**	.575**	-.141**	.266**	-.403**	.537**	1	.030
	Sig. (2-tailed)	.000	.000	.006	.000	.000	.000		.563
	N	375	375	375	375	375	375	375	375
EMPRES	Pearson	-.226**	.167**	-.214**	-.063	-.085	.054	.030	1
	Sig. (2-tailed)	.000	.001	.000	.224	.100	.298	.563	
	N	375	375	375	375	375	375	375	375

**. Correlation is significant at the

The demographic analysis showed that age, gender and marital status were significantly correlated with employee resilience, with Age being the only demographic variable positively associated with resilience. However, other demographic variables like Gender and Marital Status was found negatively associated with employee resilience. Furthermore, qualification, income and experience had no association with employee resilience for the present study. Therefore, hypothesis, *H3*, was partially supported.

Table 9
EMPRES

N	MEAN	SD	Std. error	95% confidence interval for		Minimu	Maximum

Gender and Employee Resilience

Table 7: Group Statistics

	Gender	N	Mean	SD	Std. Error mean
EMPRES	Male	329	3.69	1.063	.059
	Female	46	2.89	1.569	.231

Table 8 : Independent Sample Test

		Levene's test for Equality of variances		T-test for equality of means						
									95% Confidence interval of the difference	
		F	Sig.	T	df	Sig (2-tailed)	Mean difference	Std.Error Difference	Lower	Upper
EMPRE	Equal variances assumed	39.107	.000	4.478	373	.000	.801	.179	.449	1.153
	Equal variances not assumed			3.357	50.938	.001	.801	.239	.322	1.280

Research consistently reveals gender-based differences in resilience, with women typically reporting lower resilience scores. Studies by Campbell-Sills et al. (2009) and Bonanno et al. (2007) established this pattern, which was further confirmed by Sardella et al. (2022), who found women scored significantly lower on resilience across multiple domains. The findings of the present study align with prior research, demonstrating that men scored higher on employee resilience compared to women.

Age and Employee Resilience

					Lower bound	Upper bound		
18-30 Years	71	3.16	1.438	.171	2.82	3.50	1	5
30-40 Years	253	3.67	1.087	.068	3.53	3.80	1	5
40-50 Years	44	3.83	.980	.148	3.53	4.13	2	5
50-60 Years	7	3.89	1.042	.394	2.92	4.85	2	5
Total	375	3.59	1.165	.060	3.48	3.71	1	5

Table 10
EMPRES

	Sum of squares	df	Mean square	F	Sig.
Between Groups	17.473	3	5.824	4.408	.005
Within Groups	490.169	371	1.321		
Total	507.641	374			

A one-way ANOVA showed that age had a substantial impact on employee resilience with F (3,371) = 4.408 and p = 0.005. The p-value is below the traditional significance limit of 0.05, the observed differences in resilience between age groups are statistically unlikely to have occurred by chance. Descriptive statistics further illustrate a clear upward trend in resilience scores with increasing age. The youngest age group (18–30 years) reported the lowest mean resilience score (M=3.16, SD=1.438M = 3.16, SD = 1.438M=3.16, SD=1.438), while the oldest group (50–60 years) exhibited the highest resilience (M=3.89, SD=1.042M = 3.89, SD = 1.042M=3.89, SD=1.042). Intermediate age groups showed a progressive increase, with the 30–40 years group averaging M=3.67, SD=1.087M = 3.67, SD = 1.087M=3.67, SD=1.087
and the 40–50 years group averaging M=3.83, SD=0.980M = 3.83, SD = 0.980M=3.83, SD=0.980.

The hypothesis is supported with these results that resilience, a crucial component of psychological and workplace well-being, increases with age. Research suggests that this growth stems from lifelong experiences, which help individuals build stronger coping strategies, refine their problem-solving abilities, and develop greater emotional resilience as they age. Recent findings support this idea, emphasizing how emotional regulation improves with time. For example, a 2021 study by Scheibe and Zacher revealed that older workers tend to use more effective emotional management techniques, contributing to higher job satisfaction and workplace well-being. Similarly, Allard and Kensinger's 2014 research highlighted that older adults display increased brain connectivity during tasks requiring emotional control, pointing to sharper skills in navigating complex feelings. These insights reinforce the connection between aging and improved emotional competence.

Furthermore, Suzuki and Tanaka (2021) highlighted the stability of the ventromedial prefrontal cortex in older adults, which plays a critical role in maintaining emotional regulation under stress. Together, these findings substantiate the idea that resilience increases with age due to the interplay of biological, psychological, and experiential factors, enabling older individuals to better adapt to workplace challenges and stressors.

Experience and Employee Resilience

Table 11 Descriptives

EMPRES

					95% confidence interval for Mean			
	N	MEAN	SD	Std. error	Lower bound	Upper bound	Minimum	Maximum
Upto 5 Years	191	3.57	1.251	.091	3.39	3.75	1	5
5-10 Years	173	3.61	1.080	.082	3.45	3.77	1	5
10-35 Years	11	3.80	.941	.284	3.17	4.43	2	5
Total	375	3.59	1.165	.060	3.48	3.71	1	5

Table 12

EMPRES

	Sum of squares	Df	Mean square	F	Sig.
Between groups	.634	2	.317	.233	.793
Within groups	507.007	372	1.363		
Total	507.641	374			

Gillespie etal. (2009) concluded that older, more experienced, and better-educated nurses exhibited greater resilience. The research indicates that resilience develops through a combination of professional experience and educational background, perhaps as a result of being exposed to more stressful events and gradually developing increasingly complex coping mechanisms over time. In this backdrop we compared the respondents based on work experience and age. The results indicate an insignificant mean difference between employee experience and employee resilience. Therefore, in contradiction to some previous studies the present study found that experience has no influence on employee resilience. However, the outcomes of the present are in tune with earlier studies reporting a significant impact of age on employee resilience. The present and previous studies have found that older and experienced employees scored high on employee resilience compared to their young and less experienced counterparts.

Discussion

The study examined the link between employee resilience and humble leadership with due consideration for demographic factors. Through rigorous statistical analysis using SPSS and AMOS, the research validated and evaluated the findings, offering a thorough insight into these interrelated factors.

Humble Leadership and Employee Resilience

The research found that humble leadership helps build employee resilience, shown by a positive relationship ($\beta = 0.259$, $p < 0.001$). While this connection exists – likely because humble leaders create safe and supportive work environments as noted by Owens et al. (2013) and Wang et al. (2018) – the moderate strength of this relationship suggests that employee resilience is also influenced by other factors that warrant additional study.

Demographic Variables and Employee Resilience

The study found that among demographic variables, Age was positively associated with employee resilience, while gender showed negative associations. Research findings showed that men had greater resilience scores than women, which supports earlier studies by Bonanno et al. (2007) and Sardella et al. (2022). These gender differences in resilience levels are attributed to distinct ways of coping and different societal expectations between men and women.

The age-based analysis confirmed a substantial impact of age on resilience ($F(3,371) = 4.408$, $p = 0.005$), with older employees showing higher resilience levels. This finding supports existing literature suggesting that life experiences, improved emotional regulation, and developed coping mechanisms contribute to greater resilience with age (Scheibe & Zacher, 2021; Suzuki & Tanaka, 202 Earlier research by Gillespie et al. (2009) proposed that workplace experience **is** crucial to the development of resilience. But our research didn't reveal a meaningful connection between how long employees had worked and their resilience levels ($p = 0.793$).This contradicts the idea that professional experience alone determines resilience, indicating that workplace culture, leadership style, and personal attributes may more prominently shape resilience.

Implications ;

Theoretical implications

From the standpoint of theory, our findings emphasize the importance of humble leadership in building resilience, which adds to the expanding corpus of research on leadership and employee well-being. While earlier research has focused on servant and transformational leadership styles (Avolio, B. J., & Bass, B. M. 2004; Van Dierendonck, D., & Patterson, K. 2018: Kobayashi, Y et al 2020), our research adds to the research by demonstrating that resilient workers also require humble leadership. This study expands leadership theories by emphasizing the unique contribution of humble leadership in enhancing employees' psychological resources, reinforcing its relevance in contemporary workplace environments.

Secondly, the study makes substantial contributions to demographic theories of resilience by validating gender-based variations in resilience levels, providing empirical support for age- related psychological development theories, and importantly, challenging conventional assumptions about experience-based resilience development. The finding that experience alone does not significantly influence resilience levels suggests a need to revise theoretical models that assume a direct relationship between professional experience and resilience development. Finally, by examining these relationships within the North Indian healthcare context, the study enriches cross-cultural understanding of resilience patterns, adding to the expanding corpus of literature on cultural variations in psychological resource development in organizational settings.

Practical Implications

Our study's conclusions provide management professionals and healthcare organizations with a number of useful insights. At the organizational level, the results strongly suggest the need for a comprehensive approach to resilience development that encompasses leadership training, demographic considerations, and supportive organizational policies. By implementing focused training programs that stress staff support, active listening, and humility, healthcare organizations should place a high priority on developing humble leadership traits. Organizations should put in place gender-specific support mechanisms, such as mentoring programs and resilience-building initiatives created especially for female healthcare workers, in light of the notable gender disparities in resilience levels. The results of the study on age-related resilience patterns point to the importance of age-based interventions, such as targeted support programs for younger healthcare professionals and the deliberate use of older, more resilient staff members as mentors in official development initiatives. While establishing work environments that actively support resilience development across all age groups through structured programs, frequent assessment, and focused interventions, organizations should also create and implement policies that specifically acknowledge and address gender-based resilience differences.

Limitations and Future Directions

The results would be able to induct valuable insight but, for that matter, one must also place in proper perspective the limitations of this research when it comes to interpreting the results and planning newer studies. The geographical limitation restricting the study to the healthcare sector in North India alone further limits generalizability across different cultural contexts or healthcare systems ,since patterns of resilience and leadership efficiency vary manifoldly according to the organizational and cultural setting. This research, being cross-sectional, can only frame resilience at a single point in time not providing an insight into the definite cause- and-effect relationship that would help understand change over time Additionally, even if common technique bias was addressed, the use of self-reported data from a single source at one specific time raises questions regarding the overall validity of the results as well as the possible impact of response biases. Furthermore, even though the study looked at a number of important demographic factors and humble leadership, it may have overlooked other important factors that affect employee resilience, like organizational culture, work-life balance, particular job demands, or available support systems. This suggests that future research should look at more comprehensive models. . While humble leadership was the main concept of this study, research in the future could analyze how other leadership styles impact employee resilience. Our understanding of how resilience is generated may be enhanced by researching psychological concepts such as self-efficacy, emotional intelligence, and occupational stress tolerance. Future research should include multi-source data gathering techniques, like peer and supervisor assessments, to improve study validity and reduce potential biases.

Conclusion

This study sheds light on the process of creating employee resilience in healthcare environments. At that, humble leadership and demographic factors are major indicators. Resilience in healthcare is positively affected by humble leadership; however, it explains only moderate variability, which indicates that much more influencing factors are yet to be found. Meanwhile, gender and age seem to be the most important demographic factors related to resilience. The findings highlight elder employees as more resilient. This builds upon the earlier expectation of the role of working experience in resilience, which turned out insignificant. It challenges most of the current assumptions, reinforcing a few, especially those that relate to gender and age-related resilience patterns. The paper, therefore, stresses the complexity of the task of making an employee resilient and emphasizes the need for organizations to develop employee resilience through multiple approaches, taking into account more than just leadership style but also demographic factors; there is, of course, very little that can be achieved by leadership intervention alone, given modest evidence from the humble effect, but large evidence from effects related to demographics. Future studies should look at more variables and take a longitudinal perspective towards understanding the development of resilience among healthcare workers. These findings contribute to both theoretical understanding and practical applications in healthcare management while also highlighting areas for further research and organizational development.

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