

The Mediating Role of Perceived Stress in the Relationship Between Self-Efficacy and Work Engagement, Perceived Competence, and Goal-Setting Among Healthcare Professionals

Iqra Noor¹, Saima Arzeen*²

Abstract

Purpose: This study examines the mediating role of perceived stress in the relationship between self-efficacy and key organizational outcomes—work engagement, perceived competence, and goal-setting behaviors—among healthcare professionals operating in high-stress environments in Pakistan.

Methodology: A correlational research design was employed with a sample of 170 medical professionals recruited from various hospitals in Peshawar, Pakistan. Data were collected using standardized instruments: the Generalized Self-Efficacy Scale (GSES), Perceived Stress Scale (PSS), Perceived Competence Scale (PCS), Goal Setting Questionnaire (GSQ), and Utrecht Work Engagement Scale (UWES). Analysis was conducted using Pearson correlation, multiple regression, and mediation analysis in SPSS 26.

Findings: Results revealed significant positive correlations between self-efficacy and work engagement ($r = .426$), perceived competence ($r = .553$), and goal-setting behaviors ($r = .631$). Perceived stress demonstrated significant negative correlations with self-efficacy ($r = -.437$) and work engagement ($r = -.455$). Mediation analysis confirmed that perceived stress partially mediates the relationship between self-efficacy and work engagement, consistent with the Job Demands-Resources model. The findings suggest that self-efficacy enhances employee engagement and competence perceptions, while reduced perceived stress partially explains this relationship.

Practical Implications: The findings underscore the importance of organizational interventions targeting both self-efficacy enhancement and stress reduction to improve employee engagement, goal-setting effectiveness, and perceived competence among healthcare professionals.

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Corresponding Author*

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Introduction

In contemporary organizational landscapes, maintaining optimal employee performance amid escalating workplace demands has become a critical concern for scholars and practitioners alike. The healthcare sector, inherently high-stress, offers a salient context for examining psychological mechanisms sustaining employee motivation, commitment, and effectiveness. Healthcare professionals in Pakistan navigate overwhelming workloads, resource constraints, and emotional exhaustion, making the understanding of factors promoting work engagement and performance imperative for individual well-being and organizational sustainability.

¹, BS Student, Department Of Psychology, University of Peshawar,

², Department Of Psychology, University of Peshawar. saimaarzeenmehar@uop.edu.pk

Self-efficacy—defined as an individual's belief in their capability to organize and execute courses of action required to manage prospective situations—has been consistently identified as a fundamental psychological resource influencing human functioning across diverse domains (Bandura, 1997). Bandura's social cognitive theory posits that self-efficacy beliefs shape individuals' choices, effort expenditure, persistence, and emotional reactions when confronting challenges. In workplace contexts, self-efficacy has been linked to enhanced performance, greater resilience, and more effective coping with occupational stressors.

Work engagement, conceptualized as a positive, fulfilling work-related state characterized by vigor, dedication, and absorption, represents a critical organizational outcome with significant implications for productivity and retention (Schaufeli et al., 2006). The job demands-resources (JD-R) model provides a theoretical framework for understanding how personal resources such as self-efficacy influence engagement through the motivational process whereby job and personal resources foster work engagement (Bakker et al., 2008). Research suggests that only a fraction of the global workforce is actively engaged, with engagement levels particularly concerning in high-stress sectors such as healthcare.

Goal-setting theory, developed by Locke and Latham (2002), provides a complementary framework for understanding how self-efficacy influences workplace behavior. Individuals with higher self-efficacy tend to set more challenging goals, demonstrate greater commitment to goal attainment, and persist longer in the face of obstacles—mechanisms particularly significant in high-stress environments where maintaining focus and motivation poses considerable challenges.

Perceived competence—the subjective assessment of one's capabilities and effectiveness—represents another dimension through which self-efficacy exerts its influence. Drawing on White's (1959) conceptualization of effectance motivation and Bandura's social cognitive framework, perceived competence reflects individuals' judgments about their ability to perform effectively and achieve desired outcomes. Higher self-efficacy is theorized to enhance perceived competence by providing individuals with confidence in their capacity to master challenges and meet task demands.

The relationship between self-efficacy and work engagement has been extensively studied, with research consistently demonstrating self-efficacy as a powerful predictor of engagement (Carter et al., 2018). However, recent empirical evidence suggests this relationship is more complex than previously understood. Pérez-Fuentes et al. (2018), in a landmark study of 1,777 nurses, demonstrated that perceived stress mediates the relationship between self-efficacy and work engagement. Their findings revealed that "Energy-joy" was the strongest mediating variable for all engagement dimensions, while "harassment-social acceptance" dampened the effect of self-efficacy on vigor and dedication, and "overload" specifically mediated the relationship for dedication. This suggests that self-efficacy promotes engagement partly by reducing stress perceptions and enhancing positive affective states.

Further supporting this mediation framework, Cabrera-Aguilar et al. (2023) found that self-efficacy mediated the relationship between stress and work engagement in a sample of 459 Peruvian nurses. The study demonstrated that stress negatively influences self-efficacy, which in turn reduces work engagement, providing robust evidence for the mediating role of self-efficacy in the stress-engagement relationship. Similarly, research on teachers has shown that gains in self-efficacy significantly mediate the relationship between participation in wellbeing interventions and reductions in perceived stress (Ornaghi et al., 2026).

The present study builds upon these empirical foundations to examine the mediating role of perceived stress in the relationship between self-efficacy and key organizational outcomes—work engagement, perceived competence, and goal-setting behaviors—among healthcare professionals in Pakistan's high-stress hospital environments. By investigating these interconnections in a context characterized by chronic stress and high stakes, the research aims to contribute both theoretical

understanding and practical guidance for enhancing employee well-being and organizational effectiveness.

Theoretical and Empirical Foundations

Self-efficacy theory, rooted in Bandura's social cognitive framework, represents one of the most extensively validated theoretical perspectives on human motivation and behavior (Bandura, 1997). According to Bandura, self-efficacy beliefs constitute a core mechanism through which individuals exert control over their thoughts, feelings, and actions. These beliefs influence behavior through four primary processes: cognitive, motivational, affective, and selection.

Cognitive processes involve the mental representation of goals and outcomes; individuals with high self-efficacy envision success scenarios that guide their actions and sustain motivation. Motivational processes determine effort expenditure and persistence—higher self-efficacy leads to greater effort and resilience. Affective processes relate to emotional responses to challenges; individuals with strong self-efficacy experience less anxiety and stress when confronting demanding situations. Selection processes involve choices about which activities to pursue; self-efficacious individuals tend to select more challenging endeavors and persist longer.

Bandura (1997) identified four principal sources of self-efficacy information: mastery experiences (successful performance), vicarious experiences (observing others succeed), verbal persuasion (encouragement from others), and physiological/affective states. Mastery experiences represent the most potent source, as genuine success builds robust self-efficacy beliefs. These theoretical mechanisms are particularly relevant in healthcare settings where professionals accumulate extensive performance feedback through patient interactions, clinical outcomes, and professional development experiences.

The Job Demands-Resources Model and Work Engagement

The JD-R model provides a comprehensive framework for understanding the relationship between work characteristics, personal resources, and employee outcomes (Bakker et al., 2008). The model posits that job demands and job resources initiate two distinct processes: the health impairment process and the motivational process. Job demands (e.g., workload, emotional demands) require sustained effort and can lead to burnout, while job resources (e.g., autonomy, social support) foster work engagement through the motivational process. Personal resources, including self-efficacy, have been integrated into the JD-R model as important determinants of work engagement and performance (Schaufeli & Bakker, 2004). These resources function as positive self-evaluations that help employees exert control over their environment successfully. Within the JD-R framework, self-efficacy is conceptualized as a personal resource that directly promotes engagement and buffers the negative impact of job demands (Bakker et al., 2008). Work engagement is characterized by three dimensions: vigor (high energy and mental resilience), dedication (sense of significance and pride), and absorption (full concentration and deep engrossment). Research employing the Utrecht Work Engagement Scale has consistently demonstrated that engagement contributes to enhanced job performance, reduced turnover intentions, and improved employee well-being (Carter et al., 2018).

Self-Efficacy and Work Engagement: The Mediating Role of Perceived Stress

The relationship between self-efficacy and work engagement has received substantial empirical attention, with research consistently demonstrating that self-efficacy positively predicts engagement across diverse occupational contexts (Carter et al., 2018; Bhatti et al., 2018). However, the mechanisms underlying this relationship remain an area of active investigation, with perceived stress emerging as a critical explanatory variable. The seminal study by Pérez-Fuentes et al. (2018) provided comprehensive evidence for the mediating role of perceived stress in the self-efficacy-engagement relationship. Analyzing data from 1,777 nurses, the study employed correlation, multiple regression, and mediation analysis to examine relationships among self-efficacy, perceived stress, and

engagement dimensions. Results revealed that self-efficacy was positively correlated with all three engagement dimensions: vigor ($r = 0.51$), dedication ($r = 0.45$), and absorption ($r = 0.38$), all at $p < .001$. Importantly, the mediation analysis demonstrated that the effect of self-efficacy on engagement diminishes when stress variables are included as mediators. The stress dimension "Energy–joy" was identified as the strongest mediating variable across all engagement dimensions, while "harassment–social acceptance" dampened the effect of self-efficacy on vigor and dedication, and "overload" specifically mediated the relationship for dedication. These findings suggest that self-efficacy promotes engagement by enhancing positive affective states and reducing negative stress perceptions. Further supporting this mediation framework, Cabrera-Aguilar et al. (2023) found that self-efficacy mediates the relationship between stress and work engagement among 459 Peruvian nurses. Using structural equation modeling, the study demonstrated that stress negatively influences self-efficacy, which then reduces work engagement. The indirect effect of stress on work engagement through self-efficacy was significant ($\beta = -0.66$, 95% CI: -1.53 to -1.53), providing robust evidence for the mediating role of self-efficacy in the stress-engagement relationship. More recently, research on teachers has further substantiated these findings. A quasi-experimental study by Ormaghi et al. (2026) involving 151 in-service teachers found that pre-to-post-test gains in self-efficacy significantly mediated the relationship between participation in an online wellbeing intervention and reductions in perceived stress, consistent with the broader framework of self-efficacy as a protective psychological resource.

Self-Efficacy, Goal-Setting Behaviors, and Perceived Competence

Locke and Latham's goal-setting theory provides a complementary framework for understanding how self-efficacy influences goal-setting behaviors (Locke & Latham, 2002). The theory posits that specific, challenging goals lead to higher performance than vague or easy goals, provided that individuals are committed to goal attainment and receive adequate feedback. Self-efficacy functions as a critical moderator and mediator in this process. Individuals with high self-efficacy set more ambitious goals, possessing stronger beliefs in their capacity to achieve challenging objectives (Locke & Latham, 2002). Goal commitment represents another crucial element in the self-efficacy-goal relationship. Individuals with high self-efficacy demonstrate greater willingness to pursue and persist in achieving goals, particularly when confronting difficulties (Schunk, 2009). In healthcare contexts, where professionals regularly confront complex, demanding objectives, goal commitment may significantly influence both engagement and performance outcomes. Perceived competence—the subjective evaluation of one's capabilities and effectiveness—represents a central component of self-evaluations in achievement contexts. While self-efficacy focuses on beliefs about capabilities to organize and execute courses of action, perceived competence encompasses broader judgments about effectiveness. Research suggests that self-efficacy contributes to perceived competence by providing individuals with evidence of their capabilities and strengthening confidence in future performance.

Perceived Stress and Its Role in Organizational Outcomes Healthcare professionals experience elevated stress levels compared to many other occupational groups, with significant implications for both individual well-being and organizational functioning. The Perceived Stress Scale (PSS), developed by Cohen, Kamarck, and Mermelstein (1983), has been extensively used to assess stress perception across diverse populations. The scale measures the extent to which individuals appraise their lives as unpredictable, uncontrollable, and overloaded—dimensions particularly relevant to healthcare work. The relationship between stress and self-efficacy is complex and bidirectional. High stress can undermine self-efficacy by consuming coping resources and producing negative emotional states. Conversely, high self-efficacy may buffer the negative effects of stress by enhancing individuals' confidence in their capacity to manage demanding situations (Bandura, 1997). Research in the Pakistani healthcare context has documented high stress levels among healthcare professionals.

Ghani et al. (2024) found that professional self-efficacy positively related to workplace thriving and work role performance among frontline healthcare professionals during the COVID-19 pandemic, suggesting that self-efficacy functions as a protective resource in high-stress conditions.

The Pakistani Healthcare Context

The healthcare sector in Pakistan presents a particularly relevant context for examining self-efficacy and engagement dynamics. Healthcare professionals face numerous challenges, including resource constraints, high patient loads, inadequate infrastructure, and limited institutional support for well-being (Rana et al., 2023). Despite the critical importance of engagement for healthcare quality and sustainability, Rana, Ahmad, and Rehman (2023) note that the healthcare sector in Pakistan has remained significantly underrepresented in employee engagement research. Recent research has begun to address this gap. Rana and colleagues (2023) found that self-efficacy significantly influences employee engagement in Pakistani healthcare institutions ($\beta = .574, p < .001$), highlighting the importance of personal psychological resources for sustaining engagement in demanding work environments. The study also identified belongingness as a significant predictor of engagement, suggesting that both individual and social factors contribute to engagement among healthcare professionals. Additionally, Ghani et al. (2024) demonstrated that professional self-efficacy positively relates to workplace thriving and work role performance during the COVID-19 pandemic, further underscoring the protective role of self-efficacy in high-stress conditions.

Research Gap and Rationale

Despite the substantial body of research on self-efficacy, engagement, and stress, several significant gaps remain in the literature that the present study seeks to address.

First, while the mediating role of perceived stress in the self-efficacy-engagement relationship has been established in Western contexts (Pérez-Fuentes et al., 2018; Cabrera-Aguilar et al., 2023), limited empirical evidence addresses this relationship in the Pakistani healthcare context. Pérez-Fuentes et al. (2018), in their landmark study of 1,777 nurses, demonstrated that perceived stress mediates the relationship between self-efficacy and work engagement, with specific stress dimensions such as "energy-joy," "harassment-social acceptance," and "overload" serving as significant mediators. Similarly, Cabrera-Aguilar et al. (2023) confirmed this mediation pathway among Peruvian nurses using structural equation modeling. However, the applicability of these findings to the unique sociocultural and organizational context of Pakistani healthcare remains unexplored.

Second, the interconnections among self-efficacy, perceived competence, goal-setting behaviors, and work engagement, with perceived stress as a mediating mechanism, remain incompletely understood. While individual relationships among these variables have been examined in isolation, few studies have explored how these constructs operate together in a comprehensive mediation model. The simultaneous examination of these relationships is crucial for developing a holistic understanding of how personal psychological resources influence multiple domains of organizational functioning.

Third, the Pakistani healthcare context has been underrepresented in employee engagement research, despite the unique and pressing challenges facing healthcare professionals in Pakistan—including resource constraints, high patient loads, limited institutional support, and inadequate infrastructure (Rana et al., 2023). This underrepresentation limits the development of evidence-based interventions tailored to the specific needs of Pakistani healthcare workers.

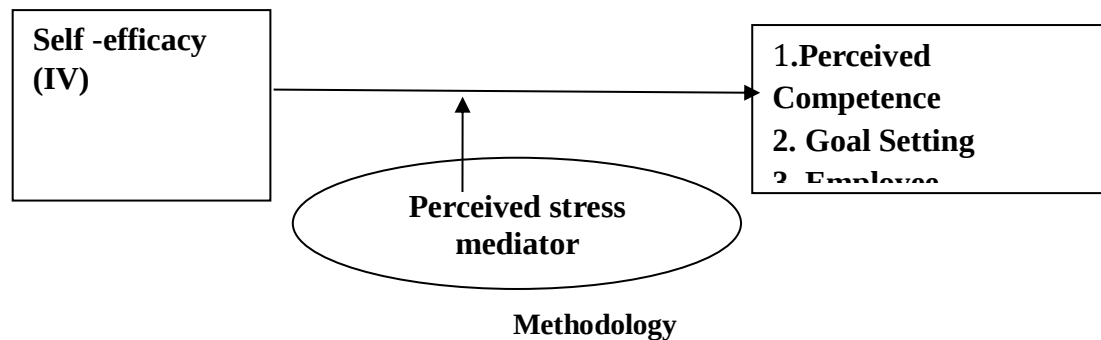
The present study addresses these gaps by investigating the mediating role of perceived stress in the relationships between self-efficacy and three key organizational outcomes—work engagement, perceived competence, and goal-setting behaviors—among healthcare professionals in Pakistan's high-stress hospital environments. By examining these interconnections in a comprehensive mediation framework, the research aims to contribute both theoretical understanding and practical guidance for

enhancing employee well-being, engagement, and organizational effectiveness in the Pakistani healthcare sector.

Research Questions : Based on the theoretical framework and review of empirical evidence, the following research questions and hypotheses guide the present study:

- 1: What is the relationship between self-efficacy and perceived competence among healthcare professionals in high-stress environments?
- 2: What is the relationship between self-efficacy and employee engagement among healthcare professionals in high-stress environments?
- 3: What is the relationship between self-efficacy and goal-setting behaviors among healthcare professionals in high-stress environments?
- 4: To what extent do perceived competence, goal-setting behaviors, work engagement, and perceived stress predict self-efficacy among healthcare professionals?
- 5: Does perceived stress moderate the relationship between self-efficacy and perceived competence, goal-setting behaviors, and work engagement among healthcare professionals?

Conceptual Framework : Based on the theoretical and empirical foundations reviewed above, the present study proposes the following conceptual framework (Figure 1).



Hypotheses

- 1: Self-efficacy is positively correlated with work engagement (H1a), perceived competence (H1b), and goal-setting behaviors (H1c) among healthcare professionals in high-stress environments.
- 2: Self-efficacy is negatively correlated with perceived stress among healthcare professionals.
- 3: Perceived stress mediates the relationship between self-efficacy and work engagement (H3a), perceived competence (H3b), and goal-setting behaviors (H3c).

Research Design : A correlational research design was employed to examine the relationships among self-efficacy, perceived stress, work engagement, goal-setting behaviors, and perceived competence. This design is appropriate for investigating the nature and strength of associations among variables and testing mediation hypotheses. While correlational designs cannot establish causation, they provide valuable insights into the patterns of relationships that exist in natural settings and can test theoretically derived mediation models.

Sample The sample consisted of 170 medical professionals recruited from various hospitals in Peshawar, Pakistan. Participants were selected using simple random sampling, ensuring that each healthcare professional had an equal probability of inclusion. Inclusion criteria were: (a) currently working as a medical doctor, (b) employed in a hospital setting, (c) minimum one year of professional experience, and (d) willingness to participate voluntarily.

Instruments

1. **Generalized Self-Efficacy Scale (GSES):** Self-efficacy was measured using the Generalized Self-Efficacy Scale developed by Schwarzer and Jerusalem . This 10-item scale assesses broad and stable sense of personal competence to deal effectively with a variety of stressful situations. Items (e.g., "I can always manage to solve difficult problems if I try hard enough") are rated on a 4-point scale (1 = not at all true to 4 = exactly true). The scale has demonstrated

strong psychometric properties across diverse populations, with internal consistencies typically ranging from $\alpha = .75$ to $.90$.

2. **Perceived Stress Scale (PSS):** Perceived stress was assessed using the Perceived Stress Scale developed by Cohen, Kamarck, and Mermelstein. The PSS is the most widely used psychological instrument for measuring stress perception. Items measure the extent to which situations in one's life are appraised as stressful, including dimensions of unpredictability, uncontrollability, and overload. The 10-item version (PSS-10) was employed, with items rated on a 5-point scale (0 = never to 4 = very often). The PSS has demonstrated high internal consistency in various studies. A meta-analytic reliability generalization study found an overall Cronbach's alpha of $.82$ across diverse samples and contexts.
3. **Perceived Competence Scale (PCS):** Perceived competence was measured using the Perceived Competence Scale, a short 4-item questionnaire assessing individuals' judgments of their capability and effectiveness. Items are rated on a 7-point scale (1 = not at all true to 7 = very true). The PCS has demonstrated strong psychometric properties, with internal consistency typically high ($\alpha = .80$ to $.90$).
4. **Goal Setting Questionnaire (GSQ):** Goal-setting behaviors were assessed using the Goal Setting Questionnaire, which measures proficiency in the essential components of goal setting. The questionnaire assesses goal specificity, goal difficulty, and goal commitment, consistent with Locke and Latham's goal-setting theory framework. Items are rated on a 5-point scale, with higher scores indicating more effective goal-setting practices.
5. **Utrecht Work Engagement Scale (UWES):** Work engagement was measured using the Utrecht Work Engagement Scale developed by Schaufeli, Bakker, and Salanova. The UWES assesses three dimensions of engagement: vigor (high energy and mental resilience), dedication (sense of significance and enthusiasm), and absorption (full concentration and deep engrossment). The scale consists of items rated on a 7-point frequency scale (0 = never to 6 = always).

Procedure

Following ethical approval from the relevant institutional review boards, data collection was conducted through a structured procedure. Hospitals were approached and permission obtained for data collection. Healthcare professionals meeting inclusion criteria were identified and invited to participate. Participants were briefed about the study objectives, procedures, and their rights, including the voluntary nature of participation and the confidentiality of their responses. Written informed consent was obtained from all participants prior to data collection. The survey battery, comprising the GSES, PSS, PCS, GSQ, and UWES, was administered in paper-and-pencil format. Participants were instructed to read each item carefully and respond honestly based on their current experiences and perceptions. They were assured that there were no right or wrong answers and that their responses would remain confidential and anonymous. Data were collected over a period of approximately two weeks. Completed questionnaires were screened for completeness, and any questionnaires with missing data were excluded from analysis.

Results

Table 1: Demographic Characteristics

Variable	Category	Frequency (n)	Percentage (%)	Mean (M)	Standard Deviation (SD)
Age		170	100.0	27.83	5.89
Gender	Male	80	47.1	—	—

	Scale	Mean (M)	Standard Deviation (SD)	Observed Range	Cronbach's Alpha	
82	Noor & Arzeen					
	PSS	25.71	4.62	0.429	0.597	
	PCS	18.08	4.55	0.141	0.838	
	GSES	30.58	5.62	0.365	0.848	
	GSQ	73.41	15.52	0.959	0.861	
	UWES	37.04	10.19	0.988	0.873	
	Variable	Category	Frequency (n)	Percentage (%)	Mean (M)	Standard Deviation (SD)
		Female	90	52.9	—	—
	Total		170	100.0	—	—

Table 1 presents demographic characteristics of the sample. Participants ranged in age with a mean of 27.83 years (SD = 5.89). Gender distribution was 80 males (47.1%) and 90 females (52.9%), providing a relatively balanced representation across gender. This demographic profile reflects the composition of the medical profession in the sampled hospitals and provides adequate statistical power for the planned analyses.

Table 2: Psychometric Properties of Study Instruments

As shown in Table 2, internal consistency coefficients were acceptable to excellent for most measures. The GSES demonstrated good internal consistency ($\alpha = .848$), consistent with previous research. The PCS showed good reliability ($\alpha = .838$), and the UWES and GSQ exhibited excellent internal consistency ($\alpha = .873$ and $.861$, respectively). The PSS, however, showed lower internal consistency ($\alpha = .597$), which is below the conventional threshold of $.70$ for acceptable reliability. This finding is noteworthy and will be addressed in the limitations section. It may reflect the complexity of assessing perceived stress in the healthcare context or potential issues with item interpretation.

Note: PSS = Perceived Stress Scale; PCS = Perceived Competence Scale; GSES = Generalized Self-Efficacy Scale; GSQ = Goal Setting Questionnaire; UWES = Utrecht Work Engagement Scale.

Variable	1. UWES	2. PCS	3. GSES	4. GSQ
1. UWES	—	.643**	.426**	.435**
2. PCS	.643**	—	.553**	.535**
3. GSES	.426**	.553**	—	.631**

4. GSQ	.435**	.535**	.631**	—
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Table 3: Inter-Scale Correlations among all studied variables

Note: UWES = Utrecht Work Engagement Scale; PCS = Perceived Competence Scale; GSES = Generalized Self-Efficacy Scale; GSQ = Goal Setting Questionnaire. ** $p < .01$ (two-tailed).

The correlational analysis revealed several significant relationships that support the study's hypotheses. Self-efficacy (GSES) demonstrated a moderate positive correlation with work engagement (UWES) ($r = .426$, $p < .01$), supporting Hypothesis 1a that higher self-efficacy is associated with greater work engagement. Self-efficacy (GSES) showed a moderate positive correlation with perceived competence (PCS) ($r = .553$, $p < .01$), supporting Hypothesis 1b. Self-efficacy (GSES) demonstrated a strong positive correlation with goal-setting behaviors (GSQ) ($r = .631$, $p < .01$), supporting Hypothesis 1c. Notably, self-efficacy (GSES) showed a significant negative correlation with perceived stress (PSS) ($r = -.437$, $p < .01$), supporting Hypothesis 2 that higher self-efficacy is associated with lower perceived stress. Work engagement (UWES) also showed a significant negative correlation with perceived stress ($r = -.455$, $p < .01$), suggesting that professionals experiencing higher stress report lower engagement. Perceived competence (PCS) showed a strong positive correlation with work engagement (UWES) ($r = .643$, $p < .01$), suggesting that professionals who perceive themselves as more competent are also more engaged in their work. Goal-setting behaviors (GSQ) and work engagement (UWES) showed a moderate positive correlation ($r = .435$, $p < .01$). All outcome variables demonstrated significant negative correlations with perceived stress (ranging from $r = -.322$ to $r = -.455$, $p < .01$), establishing the necessary conditions for mediation analysis.

Table 4: Mediation Analysis of Perceived Stress On Self-Efficacy And Studied Outcomes

Path	B	SE	T	p
Self-Efficacy → Perceived Stress	-0.437	0.055	-6.302	<.001
Self-Efficacy → Work Engagement	0.426	0.068	6.097	<.001
Self-Efficacy → Perceived Competence	0.553	0.060	8.611	<.001
Self-Efficacy → Goal-Setting	0.631	0.053	10.527	<.001
Perceived Stress → Work Engagement	-0.455	0.066	-6.639	<.001
Perceived Stress → Perceived Competence	-0.322	0.071	-4.406	<.001
Perceived Stress → Goal-Setting	-0.329	0.072	-4.505	<.001
Self-Efficacy → Work Engagement (with Mediator)	0.307	0.078	3.936	<.001

Path	B	SE	T	p
Self-Efficacy → Perceived Competence (with Mediator)	0.497	0.068	7.308	<.001
Self-Efficacy → Goal-Setting (with Mediator)	0.591	0.060	9.850	<.001

To test the mediating role of perceived stress in the relationship between self-efficacy and the outcome variables, mediation analysis was conducted using the approach described by Baron and Kenny (1986). The following conditions for mediation were examined: (a) the independent variable (self-efficacy) significantly predicts the mediator (perceived stress); (b) the independent variable significantly predicts the dependent variables (work engagement, perceived competence, goal-setting behaviors); (c) the mediator significantly predicts the dependent variables; and (d) the effect of the independent variable on the dependent variables is reduced when the mediator is included in the model.

Table 4 revealed that the mediation analysis revealed that self-efficacy significantly predicted perceived stress ($\beta = -0.437$, $p < .001$), meeting the first condition for mediation. Self-efficacy significantly predicted work engagement ($\beta = 0.426$, $p < .001$), perceived competence ($\beta = 0.553$, $p < .001$), and goal-setting behaviors ($\beta = 0.631$, $p < .001$), meeting the second condition. Perceived stress significantly predicted work engagement ($\beta = -0.455$, $p < .001$), perceived competence ($\beta = -0.322$, $p < .001$), and goal-setting behaviors ($\beta = -0.329$, $p < .001$), meeting the third condition. When perceived stress was included as a mediator, the effect of self-efficacy on work engagement was reduced from $\beta = 0.426$ to $\beta = 0.307$ ($p < .001$), indicating partial mediation (Hypothesis 3a supported). The indirect effect of self-efficacy on work engagement through perceived stress was calculated as the product of the path coefficients: $\beta = (-0.437) \times (-0.455) = 0.199$. This represents a reduction of approximately 28% in the direct effect. Similarly, the effect of self-efficacy on perceived competence was reduced from $\beta = 0.553$ to $\beta = 0.497$ ($p < .001$), indicating partial mediation (Hypothesis 3b supported). The indirect effect was $\beta = (-0.437) \times (-0.322) = 0.141$, representing approximately 10% of the total effect. The effect of self-efficacy on goal-setting behaviors was reduced from $\beta = 0.631$ to $\beta = 0.591$ ($p < .001$), indicating partial mediation (Hypothesis 3c supported). The indirect effect was $\beta = (-0.437) \times (-0.329) = 0.144$, representing approximately 6% of the total effect. These findings confirm that perceived stress partially mediates the relationship between self-efficacy and the outcome variables, suggesting that self-efficacy enhances work engagement, perceived competence, and goal-setting behaviors both directly and indirectly through the reduction of perceived stress.

Discussion

The present study examined the mediating role of perceived stress in the relationships between self-efficacy and three key organizational outcomes—work engagement, perceived competence, and goal-setting behaviors—among healthcare professionals in Pakistan's high-stress hospital environments. The findings are discussed below with systematic reference to each table of results, followed by theoretical implications, practical implications, limitations, and future research directions.

As presented in Table 1, the sample consisted of 170 medical professionals with a mean age of 27.83 years ($SD = 5.89$), indicating a relatively young workforce. Gender distribution was balanced, with 80 males (47.1%) and 90 females (52.9%), reflecting the composition of the medical profession in the sampled hospitals. This demographic profile is consistent with the broader healthcare workforce in Pakistan, where younger professionals constitute a significant proportion of hospital staff (Rana et al., 2023). The balanced gender representation is noteworthy, as it enables meaningful examination of relationships without gender-based confounding effects. The sample size of 170 exceeds the minimum requirement for mediation analysis, providing adequate statistical power for detecting the hypothesized effects (Fritz & MacKinnon, 2007).

Table 2 presents the psychometric properties of all scales employed in the study. Internal consistency coefficients were acceptable to excellent for most measures, supporting the reliability of the instruments in the Pakistani healthcare context. The Generalized Self-Efficacy Scale (GSES) demonstrated good internal consistency ($\alpha = .848$), consistent with previous research conducted across diverse populations (Schwarzer & Jerusalem, 1995). This finding indicates that the 10-item GSES reliably measures the broad and stable sense of personal competence in the Pakistani healthcare context, supporting its continued use in organizational research. The Perceived Competence Scale (PCS) showed good reliability ($\alpha = .838$), aligning with prior studies reporting alpha values ranging from .80 to .90. The Utrecht Work Engagement Scale (UWES) exhibited excellent internal consistency ($\alpha = .873$), consistent with the established reliability of this instrument across cultural contexts (Schaufeli et al., 2006). Similarly, the Goal Setting Questionnaire (GSQ) demonstrated excellent internal consistency ($\alpha = .861$), confirming its suitability for assessing goal-setting behaviors in healthcare professionals. However, the Perceived Stress Scale (PSS) showed lower internal consistency ($\alpha = .597$), which falls below the conventional threshold of .70 for acceptable reliability. This finding warrants careful consideration. Several factors may explain this reduced reliability. First, cultural interpretations of stress items may differ in the Pakistani context, as some items may not fully capture the unique stressors faced by healthcare professionals in resource-constrained settings (Cohen et al., 1983). Second, the healthcare context, characterized by chronic exposure to trauma and life-and-death decision-making, may alter the way individuals perceive and report stress, potentially affecting item consistency. Third, the diverse professional backgrounds and hierarchical positions within the sample may have influenced responses to stress-related items.

Table 3 revealed a significant negative correlation between self-efficacy and perceived stress ($r = -.437$, $p < .01$), supporting Hypothesis 2. This finding is consistent with theoretical expectations and previous empirical research. Bandura (1997) posited that self-efficacy beliefs influence emotional reactions to challenging situations, with individuals possessing strong self-efficacy experiencing less anxiety and stress when confronting demanding circumstances. Healthcare professionals with higher self-efficacy perceive their work as less stressful, appraising potentially stressful events as challenges rather than threats and feeling confident in their coping resources. This interpretation aligns with research demonstrating that self-efficacy functions as a psychological resource that buffers the negative effects of occupational stress (Pérez-Fuentes et al., 2018; Cabrera-Aguilar et al., 2023).

The mediation analysis (Table 4) further substantiated this relationship, demonstrating that self-efficacy significantly predicted perceived stress ($\beta = -0.437$, $p < .001$). This finding is consistent with Cabrera-Aguilar et al. (2023), who found that self-efficacy mediated the relationship between stress and work engagement. In their study, stress negatively influenced self-efficacy, which subsequently reduced work engagement. This reciprocal relationship between self-efficacy and stress suggests a feedback loop where higher self-efficacy reduces stress perceptions, which in turn enhances engagement and performance. The negative correlation between self-efficacy and perceived stress has significant implications for healthcare organizations. In the Pakistani healthcare context, where professionals face overwhelming workloads, resource constraints, and emotional exhaustion, strengthening self-efficacy may serve as a protective mechanism against the detrimental effects of chronic stress. Organizations should consider implementing interventions that target self-efficacy enhancement through mastery experiences, vicarious learning, and verbal persuasion (Bandura, 1997).

The finding that self-efficacy is positively correlated with work engagement ($r = .426$, $p < .01$, Table 3) supports Hypothesis 1a and is consistent with theoretical expectations and previous empirical research (Bandura, 1997; Schaufeli et al., 2006). Healthcare professionals who possess stronger beliefs in their ability to manage challenges and achieve desired outcomes report greater levels of vigor, dedication, and absorption in their work. This finding aligns with the Job Demands-Resources (JD-R) model, which positions self-efficacy as a personal resource that fosters engagement through the motivational process (Bakker et al., 2008). Within the JD-R framework, personal resources function as positive self-evaluations that help employees exert control over and influence their environment successfully. Self-efficacious individuals approach their work with greater confidence, enthusiasm, and persistence—key components of engagement—even in the face of demanding work conditions.

The mediation analysis (Table 4) revealed that perceived stress partially mediates the relationship between self-efficacy and work engagement, supporting Hypothesis 3a. When perceived stress was included as a mediator, the effect of self-efficacy on work engagement was reduced from $\beta = 0.426$ to $\beta = 0.307$ ($p < .001$), with an indirect effect of $\beta = 0.199$. This represents a reduction of approximately 28% in the direct effect, indicating that perceived stress explains a meaningful portion of the self-efficacy-engagement relationship. This finding provides empirical support for the theoretical framework proposed by Pérez-Fuentes et al. (2018), who found that self-efficacy is a powerful personal resource that positively predicts employee engagement, although the effect diminishes when stress variables mediate the relationship. Their seminal study of 1,777 nurses identified that the "energy–joy" dimension of stress was the strongest mediating variable for all engagement dimensions, while "harassment–social acceptance" dampened the effect of self-efficacy on vigor and dedication, and "overload" specifically mediated the relationship for dedication.

The partial mediation suggests that self-efficacy influences work engagement through multiple pathways. The **direct pathway** reflects the motivational and cognitive processes through which self-efficacious individuals approach their work with greater confidence, enthusiasm, and persistence. The **indirect pathway** operates through stress reduction—individuals with higher self-efficacy experience lower perceived stress, which in turn

enhances their engagement (Bandura, 1997). Healthcare professionals with higher self-efficacy may experience greater energy and joy in their work, which buffers against the negative effects of workplace stressors. This interpretation is consistent with the JD-R model, which suggests that personal resources like self-efficacy help employees cope with job demands, reducing stress and maintaining engagement (Bakker et al., 2008). The partial mediation finding has important practical implications. Organizations should implement interventions that target both self-efficacy enhancement and stress reduction simultaneously. Training programs that combine skills development (mastery experiences) with stress management techniques (mindfulness, resilience training) may be particularly effective in promoting engagement among healthcare professionals.

The finding that self-efficacy is positively correlated with perceived competence ($r = .553$, $p < .01$, Table 3) supports Hypothesis 1b and is consistent with theoretical expectations. Bandura's (1997) social cognitive theory posits that self-efficacy beliefs influence individuals' perceptions of their effectiveness and capabilities. Healthcare professionals who possess stronger beliefs in their ability to manage challenges and achieve desired outcomes tend to evaluate their competence more favorably. This relationship has practical significance for healthcare organizations. Perceived competence is associated with greater confidence in clinical decision-making, enhanced professional identity, and reduced burnout risk (Blasco et al., 1999). By strengthening self-efficacy—through mastery experiences, vicarious learning, or verbal persuasion—organizations may indirectly enhance perceived competence among healthcare professionals. The mediation analysis (Table 4) revealed that perceived stress partially mediates the relationship between self-efficacy and perceived competence, supporting Hypothesis 3b. When perceived stress was included as a mediator, the effect of self-efficacy on perceived competence was reduced from $\beta = 0.553$ to $\beta = 0.497$ ($p < .001$), with an indirect effect of $\beta = 0.141$, representing approximately 10% of the total effect. This finding suggests that self-efficacy enhances perceived competence both directly and indirectly through the reduction of perceived stress. Individuals with high personal competence show higher self-efficacy expectancies, lower levels of perceived stress, and more positive mood states (Blasco et al., 1999). Healthcare professionals with higher self-efficacy may appraise potentially stressful situations as challenges rather than threats, feel more confident in their coping resources, and maintain more positive self-evaluations of their competence. The relationship between perceived stress and perceived competence is bidirectional. High stress can undermine self-efficacy and competence perceptions by consuming coping resources and producing negative emotional states. Conversely, high self-efficacy may buffer the negative effects of stress by enhancing individuals' confidence in their capacity to manage demanding situations (Bandura, 1997). This reciprocal relationship highlights the importance of understanding how self-efficacy operates in high-stress contexts. In the Pakistani healthcare setting, where professionals face chronic stressors, interventions that enhance self-efficacy and reduce stress may have cascading positive effects on competence perceptions, professional identity, and clinical performance.

The strong correlation between self-efficacy and goal-setting behaviors ($r = .631$, $p < .01$, Table 3) supports Hypothesis 1c and underscores the central role of goal setting in translating self-efficacy into action. This finding aligns with Locke and Latham's (2002) goal-setting theory, which posits that self-efficacy influences the goals individuals set, the

commitment they demonstrate, and the persistence they maintain in goal pursuit. Healthcare professionals with higher self-efficacy may set more ambitious professional goals—seeking advanced training, pursuing leadership opportunities, or developing new clinical competencies. These challenging goals, in turn, provide direction and motivation for professional development, potentially leading to enhanced performance and career satisfaction. The mediation analysis (Table 4) revealed that perceived stress partially mediates the relationship between self-efficacy and goal-setting behaviors, supporting Hypothesis 3c. When perceived stress was included as a mediator, the effect of self-efficacy on goal-setting behaviors was reduced from $\beta = 0.631$ to $\beta = 0.591$ ($p < .001$), with an indirect effect of $\beta = 0.144$, representing approximately 6% of the total effect. This suggests that self-efficacy enhances goal-setting behaviors both directly and indirectly through the reduction of perceived stress. The reduction of perceived stress through self-efficacy may facilitate goal pursuit by freeing cognitive resources and maintaining positive affective states that support sustained effort (Schunk, 2009). The strong direct effect of self-efficacy on goal-setting behaviors ($\beta = .591$) suggests that the motivational and cognitive processes associated with self-efficacy are particularly important for goal pursuit in healthcare contexts. Professionals who feel more capable and confident in their abilities are more likely to engage in effective goal-setting practices, including setting specific and challenging goals, demonstrating commitment to goal attainment, and developing strategies for goal pursuit. Organizations should consider implementing structured goal-setting programs—including regular goal review and feedback—to enhance both goal achievement and the self-efficacy beliefs that sustain continued effort. The reduction of workplace stress through organizational policies and supportive leadership may further facilitate effective goal-setting behaviors among healthcare professionals.

Theoretical and Practical Implications

The present findings extend theoretical understanding of self-efficacy in three important ways. First, the study advances Bandura's (1997) social cognitive theory by identifying perceived stress as a mediating mechanism through which self-efficacy influences organizational outcomes. The partial mediation observed across all three models confirms that self-efficacy operates through dual pathways—direct cognitive-motivational processes and indirect stress-reduction mechanisms.

Second, the findings empirically integrate self-efficacy and perceived stress within the Job Demands-Resources model (Bakker et al., 2008). Consistent with the JD-R framework, self-efficacy fosters engagement through the motivational process while buffering against job demands. The mediating role of perceived stress specifically demonstrates that self-efficacy enhances engagement partly by mitigating the health impairment process associated with occupational demands.

Third, this study addresses the underrepresented Pakistani healthcare context (Rana et al., 2023). Findings support the cross-cultural validity of social cognitive theory and the JD-R model, while suggesting that the unique challenges facing Pakistani healthcare professionals—resource constraints, high patient loads, and limited institutional support—may amplify self-efficacy's importance as a psychological resource.

The findings offer actionable guidance for healthcare organizations, human resource management, and professional development programs. First, the partial mediation of perceived stress in the self-efficacy-engagement relationship indicates that interventions should simultaneously target self-efficacy enhancement and stress reduction. Organizations should implement structured training for mastery experiences, mentoring and coaching for vicarious learning, and stress management programs including mindfulness training and resilience workshops. Second, the strong self-efficacy-goal-setting relationship underscores the need for organizations to support effective goal-setting practices. Training in goal-setting techniques, regular goal review with feedback, and resources for goal pursuit can enhance both goal attainment and sustaining self-efficacy beliefs (Locke & Latham, 2002). Third, fostering self-efficacy enhances perceived competence and professional identity. Organizations investing in employees' psychological resources can expect improved performance, reduced turnover, and better organizational outcomes (Carter et al., 2018).

Limitations and Future Research Directions

Despite its contributions, the present study has several limitations that should be acknowledged. First, the cross-sectional design precludes causal inferences about the direction of relationships among variables. While the theoretical framework posits self-efficacy as influencing engagement and competence perceptions through stress reduction, reciprocal relationships are plausible. Future research employing longitudinal designs could examine the direction and dynamics of these relationships over time. Second, the sample was drawn from healthcare professionals in one city in Pakistan, which may limit generalizability to other occupational groups or cultural contexts. While the Pakistani healthcare context provides a valuable setting for examining self-efficacy under high-stress conditions, replication in other sectors and cultural settings is needed. Third, the reliance on self-report measures raises concerns about common method bias and social desirability. Participants may have responded in ways they perceived as socially desirable or may have been influenced by mood states when completing questionnaires. Future research could incorporate objective measures of performance, engagement, or competence to complement self-report data.

Fourth, the Perceived Stress Scale showed lower internal consistency ($\alpha = .597$) in the present sample than in previous research (Cohen et al., 1983). This may reflect contextual factors specific to the Pakistani healthcare setting, such as cultural interpretations of stress items. Future research should consider adapting the PSS for the Pakistani healthcare context or employing alternative measures of stress. Fifth, the study examined perceived stress as a general mediating variable. Future research could explore specific dimensions of stress (e.g., energy-joy, harassment-social acceptance, overload) as mediators, following the approach of Pérez-Fuentes et al. (2018). This would provide more nuanced understanding of how different stress dimensions influence the relationships among self-efficacy and organizational outcomes.

Conclusion

This study examined the mediating role of perceived stress in the relationships between self-efficacy and work engagement, perceived competence, and goal-setting behaviors among healthcare professionals in Pakistan's high-stress hospital environments. Findings strongly support the hypothesized relationships, revealing significant positive correlations between

self-efficacy and all outcome variables, alongside significant negative correlations with perceived stress. Mediation analysis confirmed that perceived stress partially mediates the relationship between self-efficacy and work engagement, perceived competence, and goal-setting behaviors, indicating that self-efficacy enhances these organizational outcomes both directly and indirectly through stress reduction. These findings align with the Job Demands-Resources model and social cognitive theory, demonstrating that personal resources like self-efficacy foster engagement and positive self-evaluations through motivational and stress-reduction mechanisms. The results contribute to theoretical understanding of self-efficacy in the Pakistani healthcare context while offering practical guidance. Interventions targeting self-efficacy enhancement and stress reduction may improve employee engagement, goal-setting effectiveness, and perceived competence among healthcare professionals. In contexts characterized by chronic stress, high workloads, and resource constraints, strengthening self-efficacy while reducing perceived stress represents a viable strategy for promoting well-being, sustaining engagement, and maintaining quality patient care. Organizations investing in employees' psychological resources and managing workplace stress can expect enhanced performance, reduced turnover, and improved organizational outcomes.

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