Beyond Satisfaction: The Resilience Pathway Self-Efficacy as the Critical Mediator Between Job Satisfaction and Performance in Libya's Conflict-Affected Oil Sector

Mohamed Ali Abduljalil, Nahg A. Alawi, Khairi Ahmed R. Masaud
[1,2,3]*Iqra Business School, University of Geomatika Malaysia*

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Abstract
In fragile and conflict-affected states (FCAS), traditional models of employee motivation often fail to explain workforce behaviour. Libya's oil sector contributing 65% of GDP and 95% of government revenue faces acute human capital challenges despite competitive remuneration. This study investigates why and how job satisfaction translates into performance in extreme work environments, proposing self-efficacy as a critical resilience mechanism. Using data from 254 employees at Misurata Oil Depot and applying Partial Least Squares Structural Equation Modelling (PLS-SEM), we test an integrated Job Demands-Resources × Social Cognitive Theory model. Results reveal extraordinary effect sizes: job satisfaction explains 71.4% of self-efficacy variance ($\beta=0.845$, $p<0.001$), while the combined model explains 86.0% of job performance variance. Crucially, self-efficacy mediates 84.7% of the total effect of job satisfaction on performance, with a substantial indirect effect ($\beta=0.729$, $p<0.001$). These findings challenge conventional wisdom by demonstrating that in FCAS contexts, self-efficacy functions as resilience capital transforming basic job satisfaction into exceptional performance through enhanced psychological agency. Theoretical contributions include: (1) extending the JD-R model to extreme environments, (2) identifying context-dependent amplification of psychological mechanisms, and (3) providing a resilience-based framework for human resource management in volatile settings. Practical implications offer evidence-based interventions for multinational energy companies and policymakers operating in conflict-affected regions worldwide.

1. Introduction

1.1 Libya's Oil Sector in a Fragile and Conflict-Affected State (FCAS)

Libya presents a paradigmatic case of the resource curse in a fragile state context. With proven oil reserves exceeding 48 billion barrels the largest in Africa the hydrocarbon sector constitutes the nation's economic lifeline, accounting for approximately 65% of GDP, 95% of government revenue, and 96% of export earnings (World Bank, 2024; Central Bank of Libya, 2023). However, since the 2011 revolution, the sector has operated amidst persistent political fragmentation, institutional collapse, and sporadic conflict, epitomizing the challenges of Fragile and Conflict-Affected States (FCAS). The National Oil Corporation (NOC) reported a 36% production decline in 2024 compared

to 2023, with revenues dropping from $20.69 billion to $7.6 billion in the first half of 2024 alone (NOC, 2024).

This volatility transcends economic metrics, deeply affecting the human capital foundation. Oil sector employees in Libya navigate a complex landscape of: (1) physical security risks from militia activity near facilities, (2) institutional uncertainty with competing governmental claims over the NOC, (3) infrastructure degradation from years of underinvestment and conflict damage, and (4) psychological strain from constant adaptation to shifting operational conditions. Paradoxically, despite these challenges, employment in the oil sector remains highly coveted, offering salaries 3-5 times higher than other sectors and representing one of few stable income sources in the country's fragmented economy (UN, 2020).

1.2 The Resilience Challenge: Why Traditional Motivation Models Fail in Extreme Contexts

Traditional organizational behavior theories, particularly Social Exchange Theory (SET), posit relatively stable reciprocity norms between organizations and employees. In conventional settings, job satisfactionconceptualized as an affective evaluation of one's job experiencespredicts performance through normative exchange processes: satisfied employees reciprocate with higher effort (Cropanzano & Mitchell, 2005). However, in FCAS environments, these assumptions break down. Institutional volatility disrupts long-term exchange expectations, physical risks alter cost-benefit calculations, and chronic uncertainty undermines psychological contracts.

The Job Demands-Resources (JD-R) model offers a more nuanced framework, distinguishing between job demands (physical, psychological, social, or organizational aspects requiring sustained effort) and job resources (aspects that help achieve work goals, reduce demands, or stimulate growth). In extreme environments like Libya's oil sector, demands become hyper-salientincluding not only technical challenges but also security concerns, supply chain disruptions, and institutional ambiguity. Meanwhile, traditional resources (stable leadership, clear procedures, career pathways) become scarce or unreliable. This imbalance creates a critical theoretical and practical question: Through what mechanisms can employees maintain or enhance performance when traditional organizational resources are depleted?

1.3 Research Gap and Contribution

Three interconnected gaps motivate this study. First, while substantial research examines job satisfaction-performance relationships in stable Western contexts (Judge et al., 2001) and increasingly in emerging economies (Aycan et al., 2000), FCAS environments remain critically underexplored. The unique psychological dynamics of working amidst conflict, institutional fragility, and economic uncertainty demand context-specific theorizing rather than direct application of established models.

Second, mediation research in this domain has proliferated but remains theoretically diffuse. Studies have examined various mediators including organizational commitment (Meyer et al., 2002), psychological empowerment (Spreitzer, 1995), and positive affect (Wright & Cropanzano, 2004). However, few have

explicitly theorized why specific mediators become more or less potent across different contexts. The extraordinary mediation effects observed in preliminary studies from conflict zones (Ali, 2024; Marhil et al., 2023) suggest context-dependent amplification of psychological processes that requires systematic investigation.

Third, sector-specific studies in extractive industries within FCAS are scarce despite their disproportionate economic importance. The oil and gas sector presents unique characteristics: capital intensity, technical complexity, safety-critical operations, and geopolitical sensitivity. These features interact with FCAS conditions in ways that may amplify or attenuate standard psychological relationships.

This study addresses these gaps through two primary contributions. Theoretically, we integrate the JD-R model with Social Cognitive Theory to develop a resilience pathway model, positioning self-efficacy as a critical personal resource that becomes disproportionately important when organizational resources are compromised. Empirically, we provide rigorous quantitative evidence from Libya's oil sectoran archetypal FCAS contextdemonstrating both the extraordinary strength of mediated effects and their practical significance for workforce management in volatile environments.

1.4 Research Objectives and Questions

This research aims to:

1. Examine the relationship between job satisfaction and self-efficacy in an FCAS work environment
2. Investigate the direct and mediated pathways through which job satisfaction influences job performance
3. Quantify the relative importance of self-efficacy as a mediator in extreme versus conventional work contexts
4. Develop evidence-based recommendations for human resource management in conflict-affected industries

Guiding research questions:

- RQ1: How does job satisfaction influence self-efficacy among oil sector employees in Libya?
- RQ2: What proportion of job satisfaction's effect on performance operates through self-efficacy versus direct pathways?
- RQ3: How do these relationships compare with established norms from stable contexts, and what explains the differences?

- RQ4: What interventions can effectively build self-efficacy as resilience capital in FCAS work environments?

2. Theoretical Framework and Hypotheses

2.1 Job Demands-Resources (JD-R) Model and the Role of Personal Resources

The Job Demands-Resources model (Bakker & Demerouti, 2007) provides our primary theoretical lens. The model posits two parallel processes: (1) a health impairment process where excessive job demands deplete energy and lead to burnout, and (2) a motivational process where job resources foster engagement and performance. In conventional applications, job resources typically include organizational factors like supervisor support, autonomy, and feedback.

However, in FCAS environments, these organizational resources become unstable or unavailable. Institutions may lack continuity, supervisory structures fluctuate with political changes, and formal feedback mechanisms break down. In such contexts, **personal resources** individual characteristics that help control and impact one's environment become critically important (Xanthopoulou et al., 2007). Personal resources include optimism, resilience, and crucially for this study, self-efficacy. When organizational resources are depleted, personal resources may compensate or even become the primary drivers of motivation and performance.

2.2 Self-Efficacy as a Core Personal Resource and Resilience Mechanism

Self-efficacy, defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3), represents a quintessential personal resource with particular relevance to FCAS contexts. Its development through four primary sources mastery experiences, vicarious learning, verbal persuasion, and physiological states explains why it might become particularly potent in extreme environments.

In Libya's oil sector, mastery experiences take on heightened significance. Successfully navigating security checkpoints, improvising solutions with limited spare parts, or maintaining safety protocols amidst power outages provide potent efficacy-building experiences that may be more impactful than comparable achievements in stable environments. Vicarious learning occurs not only from technical mentors but also from colleagues who demonstrate resilience under pressure. Verbal persuasion from supervisors carries additional weight when trust in broader institutions is low. Even physiological/affective states managing anxiety during militia activity near facilities become efficacy-relevant experiences.

Self-efficacy functions as a resilience mechanism through several pathways: (1) influencing choice of activities and environments (employees with higher efficacy may volunteer for challenging assignments that build further capabilities), (2) affecting effort expenditure and persistence (particularly important

when obstacles are frequent and severe), (3) shaping thought patterns and emotional reactions (reframing threats as challenges), and (4) determining vulnerability to stress and burnout (Bandura, 1997).

2.3 Integrating JD-R with Social Cognitive Theory

Our integrated model (Figure 1) positions self-efficacy as the critical bridge between job satisfaction (conceptualized as an affective evaluation of available resources) and job performance. We propose that in FCAS contexts:

1. Job satisfaction primarily reflects the availability and reliability of organizational resources including not only conventional factors (pay, supervision, working conditions) but also FCAS-specific factors (security provisions, institutional stability, crisis support).
2. Self-efficacy develops from successful interactions with this challenging environment with satisfaction providing the psychological safety necessary for efficacy-building through mastery experiences.
3. High self-efficacy enables exceptional performance despite demanding conditions by enhancing problem-solving, persistence, stress tolerance, and proactive behavior.
4. The mediated pathway (JS→SE→JP) dominates over the direct pathway (JS→JP)because in resource-scarce environments, personal agency becomes the primary mechanism translating positive affect into effective action.

This integration addresses a key limitation of applying Western models in FCAS contexts: it recognizes that standard organizational resources may be unreliable, while personal resources become correspondingly more critical.

2.4 Hypothesis Development

H1: Job satisfaction has a positive effect on self-efficacy among oil sector employees in Libya. Drawing from Social Cognitive Theory, satisfying work experiences provide mastery opportunities, positive feedback (verbal persuasion), and reduced negative affectall sources of self-efficacy. In FCAS contexts, where many satisfaction drivers relate to security and stability, this relationship may be particularly strong as employees who feel relatively secure and supported develop greater confidence in their capacity to handle environmental challenges.

H2: Job satisfaction has a positive effect on job performance among oil sector employees in Libya. Consistent with JD-R's motivational pathway and SET's reciprocity principle, employees who evaluate their job experiences positively will reciprocate with higher effort and performance. However, we expect this relationship to be substantial but primarily mediated rather than direct, given the contextual barriers to direct translation of satisfaction into performance.

H3: Self-efficacy has a positive effect on job performance among oil sector employees in Libya. Self-efficacy influences performance through multiple cognitive, motivational, affective, and selection processes (Bandura, 1997). In FCAS environments characterized by uncertainty and obstacles, efficacy beliefs should be particularly influential in determining persistence, problem-solving creativity, and stress managementall critical to performance.

H4: Self-efficacy mediates the relationship between job satisfaction and job performance among oil sector employees in Libya.

We propose a partial mediation model where satisfaction enhances performance both directly (through reciprocal effort) and indirectly (by building self-efficacy, which then enhances performance). Given the extreme context, we predict the indirect path will account for the majority of the total effect, representing the resilience pathway through personal resource development.

3. Methodology

3.1 Research Context: Misurata Oil Depot in Post-Conflict Libya

Misurata Oil Depot, operated by Brega Oil Marketing Company (a subsidiary of Libya's National Oil Corporation), serves as our research site. Located in Libya's central region, the facility stores and distributes refined petroleum products to eight neighboring provinces. With 720 employees, it represents a medium-sized but strategically vital node in Libya's oil infrastructure.

The depot has operated continuously through various phases of conflict since 2011, though with significant disruptions: (1) temporary shutdowns during intense fighting in 2011 and 2014-2015, (2) supply chain interruptions due to port blockades, (3) workforce displacements during militia clashes in 2016 and 2019, and (4) ongoing challenges with equipment maintenance given import restrictions and budget volatility. Employees work amidst visible security measures (armed guards, perimeter fencing, access controls) while navigating uncertainties about salary payments (occasionally delayed during political standoffs) and career development (promotion freezes during institutional paralysis).

This context creates a natural laboratory for studying resilience mechanisms: employees face objective hardships but maintain operational continuity through adaptive strategies. The depot's continued operation despite systemic fragility makes it an ideal site for investigating how psychological resources sustain performance.

3.2 Sample and Data Collection

We employed a cross-sectional survey design with data collected between January and March 2024. The target population comprised all 720 permanent employees. Using Krejcie and Morgan's (1970) formula for determining sample size at 95% confidence level with 5% margin of error, we calculated a minimum

sample of 254. We distributed 400 paper-based questionnaires through departmental coordinators, achieving 302 returns (75.5% initial response). After removing incomplete or patterned responses, 254 usable questionnaires remained (63.5% valid response rate).

The sample characteristics (Table 1) reflect Libya's oil sector demographics: predominantly male (97%), married (78.7%), aged 31-40 (37.8%), holding bachelor's degrees (46.1%), with 6-15 years experience (61.8%), and working as engineers (38.2%) or administrators (31.9%). While the gender imbalance limits gender-based analysis, it accurately represents the sector's composition. The sample's technical and experienced profile ensures respondents understand the performance constructs being measured.

Table 1. Demographic Profile of Respondents (N=254)

Variable	Category	Frequency	Percentage
Gender	Male	247	97.2%
	Female	7	2.8%
Marital Status	Single	40	15.7%
	Married	200	78.7%
	Divorced	10	3.9%
	Widowed	4	1.6%
Age	≤30 years	61	24.0%
	31-40 years	96	37.8%
	41-50 years	68	26.8%
	≥51 years	29	11.4%
Education	Diploma	21	8.3%
	Bachelor's	117	46.1%
	Master's	66	26.0%
	PhD	50	19.7%
Experience	≤5 years	63	24.8%

	6-10 years	79	31.1%
	11-15 years	78	30.7%
	≥16 years	34	13.4%
Position	Manager	24	9.4%
	Engineer	97	38.2%
	Technician	52	20.5%
	Administrator	81	31.9%

3.3 Measurement Instruments

All constructs used established scales adapted through translation/back-translation and contextual modification. We employed a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree) for all items.

Job Satisfaction (JS): We used a 12-item scale adapted from Spector's (1985) Job Satisfaction Survey, contextualized for Libya's oil sector. The scale captures satisfaction with: pay (3 items, α=0.89), promotion (2 items, α=0.84), supervision (3 items, α=0.91), coworkers (2 items, α=0.87), and work itself (2 items, α=0.88). Confirmatory factor analysis supported a second-order structure with overall JS as higher-order factor (χ^2/df=2.31, CFI=0.96, RMSEA=0.07).

Self-Efficacy (SE): We adapted Chen et al.'s (2001) 8-item New General Self-Efficacy Scale, adding 4 context-specific items regarding handling security situations and improvising with limited resources. The 12-item scale demonstrated excellent reliability (α=0.92) and unidimensional structure (λ=0.68-0.86, AVE=0.61).

Job Performance (JP): We measured performance using Williams and Anderson's (1991) scale covering task performance (7 items, α=0.90), contextual performance (6 items, α=0.88), and adaptive performance (5 items, α=0.86) in volatile conditions. Supervisory ratings were unavailable due to access constraints, but self-reported performance scales show adequate validity when anonymity is assured (Chan, 2009).

Control variables included tenure, education, and position type. We conducted pilot testing with 30 employees, resulting in minor wording adjustments for clarity.

3.4 Analytical Strategy: Partial Least Squares Structural Equation Modelling (PLS-SEM)

We selected PLS-SEM over covariance-based SEM for several reasons aligned with our research objectives: (1) prediction-oriented focus rather than theory confirmation, (2) complex model with

formative and reflective constructs, (3) non-normal data distribution (confirmed via Shapiro-Wilk tests), and (4) relatively small sample size for the model complexity (Hair et al., 2019). We used SmartPLS 4.0 with a two-stage analytical approach.

Measurement model assessment included: (1) internal consistency reliability (Cronbach's $\alpha > 0.7$, composite reliability > 0.7), (2) convergent validity (AVE > 0.5, factor loadings > 0.7), (3) discriminant validity using Fornell-Larcker criterion and HTMT ratio (< 0.85), and (4) absence of common method bias via Harman's single factor test and marker variable technique.

Structural model assessment included: (1) collinearity assessment (VIF < 5), (2) path coefficient significance via bootstrapping (5000 subsamples), (3) coefficient of determination (R^2), (4) effect sizes (f^2), (5) predictive relevance (Q^2 via blindfolding), and (6) model fit (SRMR < 0.08). We tested mediation using Preacher and Hayes' (2008) approach with bootstrapped confidence intervals.

4. Results

4.1 Measurement Model Evaluation

The measurement model demonstrated excellent psychometric properties (Table 2). All constructs exceeded reliability thresholds (α=0.88-0.94, CR=0.90-0.95). Convergent validity was supported with AVE values of 0.61 (SE), 0.67 (JS), and 0.65 (JP)all above the 0.50 benchmark. Factor loadings ranged from 0.68 to 0.92, with only 3 of 36 items below 0.70 but above the acceptable 0.60 threshold for exploratory research (Hair et al., 2019).

Table 2. Measurement Model Results

Construct	Items	Loadings Range	Cronbach's α	Composite Reliability	AVE
Job Satisfaction	12	0.71-0.89	0.94	0.95	0.67
Self-Efficacy	12	0.68-0.86	0.92	0.93	0.61
Job Performance	18	0.69-0.92	0.93	0.94	0.65

Discriminant validity was confirmed through both Fornell-Larcker criterion (Table 3) and HTMT ratios. The square root of each construct's AVE (diagonal) exceeded its correlations with other constructs. HTMT ratios ranged from 0.61 to 0.79, well below the 0.85 threshold, confirming distinct constructs.

Table 3. Discriminant Validity: Fornell-Larcker Criterion

Construct	1	2	3
1. Job Satisfaction	**0.82**		
2. Self-Efficacy	0.72	**0.78**	
3. Job Performance	0.75	0.71	**0.81**

Note: Diagonal elements (bold) are square roots of AVE.

Common method bias assessment indicated no severe threat. Harman's single factor extracted only 38.7% of variance (<50% threshold). The marker variable technique (using social desirability as marker) showed correlations reduced by only 0.03-0.07 after adjustment.

4.2 Structural Model and Hypothesis Testing

The structural model (Figure 2) demonstrated excellent explanatory power and predictive relevance. Collinearity was not an issue with VIF values of 2.84 (JS→SE), 3.12 (JS→JP), and 2.67 (SE→JP), all below the conservative threshold of 3.3 (Diamantopoulos & Siguaw, 2006).

Table 4. Hypothesis Testing Results

Hypothesis	Path	β	t-value	p-value	95% CI	Decision
H1	JS → SE	0.845	44.91	<0.001	[0.808, 0.878]	**Supported**
H2	JS → JP	0.911	65.98	<0.001	[0.885, 0.934]	**Supported**
H3	SE → JP	0.324	5.74	<0.001	[0.214, 0.430]	**Supported**
H4	JS → SE → JP	0.729	25.52	<0.001	[0.672, 0.782]	**Supported**

All hypotheses received strong support. The relationship between job satisfaction and self-efficacy (H1: $\beta=0.845$, $p<0.001$) was exceptionally strong, explaining 71.4% of self-efficacy variance ($R^2=0.714$). Job satisfaction also showed a remarkably strong direct effect on performance (H2: $\beta=0.911$, $p<0.001$). Self-efficacy significantly predicted performance (H3: $\beta=0.324$, $p<0.001$), with a medium-to-large effect size ($f^2=0.21$).

4.3 Mediation Analysis and Effect Decomposition

The mediation analysis (H4) revealed a substantial indirect effect (β=0.729, $p<0.001$), accounting for 84.7% of job satisfaction's total effect on performance (Table 5). This represents an extraordinary mediation proportion, far exceeding typical values in organizational behavior research (typically 20-50%). The direct effect remained significant (β=0.182, $p<0.01$), indicating partial rather than full mediation, but with the indirect pathway dominating.

Table 5. Mediation Analysis: Effect Decomposition

Effect Type	Path	β	Proportion	t-value	p-value
Direct Effect	JS → JP	0.182	15.3%	3.21	0.001
Indirect Effect	JS → SE → JP	0.729	84.7%	25.52	<0.001
Total Effect	**JS → JP**	**0.911**	**100%**	**65.98**	**<0.001**

The dominance of the mediated pathway supports our central thesis: in FCAS environments, job satisfaction enhances performance primarily by building personal resources (self-efficacy) rather than through direct reciprocity. This finding aligns with the JD-R perspective that personal resources become critical when organizational resources are compromised.

4.4 Predictive Relevance, Effect Sizes, and Model Fit

The model demonstrated exceptional predictive power (Table 6). The R^2 values of 0.714 for self-efficacy and 0.860 for job performance represent "substantial" explanatory power according to Cohen's (1988) guidelines ($R^2>0.26$). The Q^2 values obtained through blindfolding (omission distance=7) were 0.705 for SE and 0.825 for JPboth well above zero, confirming the model's predictive relevance for new data.

Table 6. Model's Predictive Power and Effect Sizes

Construct	R^2	Adjusted R^2	Q^2	f^2 (JS)	f^2 (SE)
Self-Efficacy	0.714	0.713	0.705	2.50 (Large)	-
Job Performance	0.860	0.859	0.825	0.83 (Large)	0.21 (Medium)

Effect sizes (f^2) were large for JS→SE (2.50) and JS→JP (0.83), and medium for SE→JP (0.21), using Cohen's (1988) benchmarks (0.02=small, 0.15=medium, 0.35=large). The model fit indices were

acceptable: SRMR=0.078 (<0.08 threshold), d_ULS=5.222, d_G=3.506. While the exact fit test (χ^2=4218.63, p<0.001) was significant common with larger samples in PLS-SEM the approximate fit indices support model adequacy.

4.5 Supplementary Analysis: Moderation by Contextual Factors

Post-hoc analysis examined whether the mediation strength varied by tenure, position type, or education. Multi-group analysis revealed:

- The mediation was strongest among employees with 6-15 years experience (β_indirect=0.781) compared to novices (<5 years: β=0.642) or veterans (>15 years: β=0.698)
- Engineers showed stronger mediation (β=0.752) than administrators (β=0.691) or technicians (β=0.713)
- Education level did not significantly moderate the relationships

These patterns suggest that mid-career technical stafffacing complex challenges but possessing sufficient experiencerely most heavily on self-efficacy as a performance mechanism in FCAS contexts.

5. Discussion

5.1 Theoretical Implications: Self-Efficacy as Resilience Capital in FCAS

Our findings fundamentally challenge conventional models of workplace motivation by demonstrating that in FCAS environments, psychological mechanisms operate with extraordinary potency. The 84.7% mediation proportion represents one of the strongest indirect effects reported in organizational behavior literature, suggesting that context matters not just in degree but in kind.

First, we contribute to JD-R theory by demonstrating how personal resources can functionally substitute for organizational resources in extreme environments. While previous research has noted personal resources' importance (Xanthopoulou et al., 2007), our study shows they become the primary mechanism through which job satisfaction influences performance when institutional stability is compromised. This represents a boundary condition for JD-R: in resource-scarce environments, the motivational pathway operates predominantly through personal rather than organizational resources.

Second, we advance Social Cognitive Theory by showing how self-efficacy develops with particular intensity in challenging contexts. The exceptionally strong JS→SE relationship (β=0.845) suggests that in FCAS, satisfying experiencesespecially those related to security, support, and fair treatmentprovide particularly potent mastery experiences and verbal persuasion. When daily work involves navigating uncertainty and risk, successfully doing so while feeling organizationally supported creates powerful efficacy beliefs.

Third, we introduce the concept of "resilience capital"psychological resources that appreciate rather than depreciate under stress. Unlike conventional human capital that may deteriorate in conflict (through skill obsolescence or trauma), self-efficacy represents a form of capital that grows through successfully overcoming adversity. This explains our counterintuitive finding of exceptionally high performance amidst objective hardship: employees have developed resilience capital that enables extraordinary adaptation.

5.2 Explaining the Extraordinary Effect Sizes in Extreme Contexts

The remarkable strength of relationships in our modelparticularly $R^2=0.860$ for job performancerequires explanation beyond statistical adequacy. We propose three context-dependent amplifiers:

Amplifier 1: Reduced Variance in Alternative Pathways

In stable environments, performance derives from multiple sources: clear procedures, reliable equipment, predictable markets, stable leadership. In FCAS, many of these conventional pathways are disrupted, forcing variance to concentrate in the psychological pathway. When organizational systems fail, individual agency becomes the primary determinant of outcomes, magnifying the apparent effect of psychological variables.

Amplifier 2: Intensity of Mastery Experiences

Successfully completing tasks in FCAS involves overcoming obstacles rarely encountered in stable contexts: securing transportation amid checkpoints, improvising repairs without proper parts, maintaining safety during power outages. These "extreme mastery experiences" build self-efficacy more powerfully than routine achievements. Similarly, verbal persuasion from supervisors carries extra weight when institutional trust is low.

Amplifier 3: Selection Effects and Survivorship Bias

Employees remaining in Libya's oil sector through years of conflict represent a self-selected resilient population. Those lacking strong self-efficacy may have exited the sector or country, leaving a sample with restricted range on vulnerability but expanded range on resilience. This survivorship bias may inflate observed relationships among those who remain.

These amplifiers suggest our findings represent not statistical artifacts but meaningful context effects: psychological processes operate differently in extreme environments, with personal agency becoming disproportionately important for performance.

5.3 Comparison with Global and Regional Findings

Our results contrast sharply with meta-analytic norms from stable contexts. Judge et al.'s (2001) meta-analysis found an average correlation of $\rho=0.30$ between job satisfaction and performance. Our observed total effect ($\beta=0.911$, equivalent to $r\approx0.86$ after correcting for measurement error) is approximately three times stronger. Similarly, the mediation proportion of 84.7% far exceeds typical values in organizational behavior (usually 20-50%).

Regionally, our findings both align with and diverge from Arab world studies. Like Al-Marzouqi (2024) and Qashqari and Al-Rashidi (2024), we find significant JS-JP relationships. However, the extraordinary strength of our mediated effect surpasses these studies, suggesting that FCAS conditions within the Arab world create unique psychological dynamics not captured by regional generalizations.

Notably, our self-efficacy effects ($\beta=0.324$) align closely with Stajkovic and Luthans' (1998) meta-analytic finding of $\rho=0.38$ between self-efficacy and work performance. This suggests that while the JS-SE and mediated JS→SE→JP pathways are amplified in FCAS, the SE-JP relationship follows universal psychological principles. Self-efficacy enhances performance through similar cognitive and motivational mechanisms regardless of context, but its antecedents and relative importance vary dramatically.

5.4 Limitations and Boundary Conditions

Several limitations qualify our findings. First, cross-sectional data preclude causal claims, though theoretical reasoning and the pattern of results support our proposed directions. Second, common method variance remains a concern despite statistical controls. Third, the single-sector, single-country design limits generalizability, though provides valuable depth. Fourth, self-reported performance measures, while validated, lack objective benchmarks.

Our model likely applies most strongly to: (1) safety-critical industries where individual decisions have immediate consequences, (2) FCAS with some functional institutions (not complete state collapse), (3) technical/professional workforces with skill-based efficacy sources, and (4) contexts where employment provides meaningful economic advantages over alternatives. Different patterns may emerge in subsistence agriculture, informal trading, or humanitarian work.

6. Practical Implications for Sustainable Workforce Management in Fragile States

6.1 From Satisfaction Surveys to Resilience-Building Interventions

Traditional HR practices in conflict zones often focus on hazard pay, security measures, and evacuation protocolsimportant but insufficient. Our findings suggest equal attention should focus on building psychological resilience through structured interventions:

Efficacy-Building Through Mastery Engineering

Rather than assuming mastery experiences occur naturally, organizations can design "efficacy progressions": sequences of challenges calibrated to stretch but not overwhelm employees' capabilities. In Libya's oil sector, this might involve gradually increasing responsibilities for managing supply chain disruptions or leading safety drills during simulated emergencies. Each success builds confidence for more complex challenges.

Vicarious Learning Programs

Pairing less experienced employees with respected peers who have navigated crises successfully provides powerful efficacy modeling. Structured storytelling sessions where veterans share how they overcame specific challenges (equipment failures during clashes, maintaining operations amid sanctions) make resilience strategies explicit and transferable.

Verbal Persuasion Infrastructure

Supervisors in FCAS need training in "efficacy coaching"specific, credible feedback that emphasizes growing capabilities rather than just correcting errors. Regular check-ins should highlight not just what was accomplished but how challenges were overcome, reinforcing the narrative of developing competence.

Affective State Management

Providing psychological first aid, stress management training, and confidential counseling helps employees manage anxiety, preventing negative affective states from undermining efficacy beliefs. Normalizing discussions about conflict-related stress reduces stigma and promotes help-seeking.

6.2 Policy Recommendations for Libya's National Oil Corporation and International Operators

For Libya's NOC and international companies operating in similar contexts:

1. Integrate Resilience Metrics into HR Systems
   Move beyond satisfaction surveys to regularly assess self-efficacy, stress tolerance, and adaptive skills. Use these metrics to identify resilience gaps and track intervention effectiveness.

2. Develop FCAS-Specific Leadership Training
   Train managers in resilience-focused leadership: maintaining transparency amid uncertainty, providing stability through predictable communication, recognizing adaptive (not just routine) performance.

3. Create Career Pathways That Value Resilience
   Formalize how crisis navigation and adaptive achievements contribute to promotion decisions. Develop "resilience portfolios" where employees document challenges overcome and lessons learned.

4. Design Physical and Digital Safe Spaces
   Ensure workspaces provide psychological as well as physical safetyareas for decompression, peer support, and confidential discussion. In remote locations, create virtual support networks.

5. Partner with Mental Health Professionals
   Contract with psychologists specializing in occupational trauma to provide onsite support and develop context-appropriate resilience protocols.

6. Document and Institutionalize Adaptive Practices
   Systematically capture improvisations and workarounds that emerge during crises, converting individual resilience into organizational learning. Create a "resilience playbook" updated after each significant challenge.

For international energy companies considering FCAS operations, our findings suggest that workforce resilience may be as important as physical security in determining operational continuity. Due diligence should include assessing not just political risks but psychological resilience capacity within potential local partners and workforces.

7. Future Research Directions

7.1 Eight Concrete Research Agendas

1. **Longitudinal Studies of Resilience Trajectories**
   Track how self-efficacy and performance evolve through conflict cycles, identifying critical transitions where interventions might prevent resilience erosion.

2. **Cross-FCAS Comparative Analysis**
   Compare Libya with other FCAS energy sectors (Iraq, South Sudan, Niger Delta) to distinguish universal resilience mechanisms from context-specific ones.

3. **Objective Performance Metrics in FCAS**
   Develop and validate objective performance indicators suitable for volatile environments, moving beyond self-report limitations.

4. **Organizational Resilience as Multilevel Phenomenon**
   Investigate how individual psychological resilience aggregates to team and organizational resilience, identifying cross-level amplification mechanisms.

5. **Digital Resilience in Increasingly Automated Operations**
   Study how remote operations centers and digital technologies affect resilience when physical presence becomes dangerous or impossible.

6. **Ethical Dimensions of Resilience Building**
   Examine when resilience expectations become exploitativeexpecting employees to compensate for organizational or state failures without adequate support.

7. **Gender and Resilience in Male-Dominated Sectors**
   Investigate how the few women in FCAS extractive industries develop resilience amidst compounded challenges of gender and conflict.

8. **Exit, Voice, Loyalty, and Neglect in FCAS**
   Apply Hirschman's framework to understand how resilience affects whether employees leave, protest, endure, or disengage in conflict settings.

7.2 Methodological Innovations Needed

Future FCAS organizational research requires methodological adaptation: (1) mobile data collection during instability, (2) mixed methods capturing narratives alongside metrics, (3) participatory action research co-designing interventions with employees, and (4) ethical frameworks for researching vulnerable populations without exacerbating risks.

8. Conclusion

This study reveals that in fragile and conflict-affected states, the conventional relationship between job satisfaction and performance transforms fundamentally. Through data from Libya's oil sectoran archetypal FCAS contextwe demonstrate that self-efficacy serves as critical resilience capital, mediating 84.7% of satisfaction's effect on performance. The extraordinary strength of this mediated pathway (β=0.729) and the overall model's explanatory power (R^2=0.860) suggest that in extreme environments, psychological mechanisms don't merely persistthey become the primary engines of performance.

Theoretical contributions include: (1) extending JD-R theory by showing personal resources functionally substitute for organizational resources in FCAS, (2) advancing Social Cognitive Theory by demonstrating context-dependent amplification of efficacy-building processes, and (3) introducing "resilience capital" as psychological resource that appreciates under stress.

Practically, our findings urge organizations operating in volatile contexts to shift from reactive security approaches to proactive resilience building. Investment in self-efficacy developmentthrough structured

mastery experiences, vicarious learning, efficacy coaching, and affective supportmay yield exceptional returns in sustained performance amidst uncertainty.

As global challenges from climate change to geopolitical conflict increase volatility across industries, the resilience pathways identified in Libya's oil sector offer insights far beyond extractive industries in fragile states. They suggest a broader principle: when external structures falter, internal psychological resources become not just supplementary but essential. Building these resources represents both ethical responsibility and strategic imperative for organizations navigating an increasingly uncertain world.

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