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INVESTIGATING THE EFFECT OF EMOTION REGULATION ON PERFORMANCE STABILITY IN DUAL-DOMAIN JOB ROLES

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ABSTRACT
Emotion regulation is the process of controlling emotional responses to fit the context of a given situation. In relation to functions that combine two distinct areas of expertise, such as a finance-technology or healthcare-administration professional, there is a unique challenge of sustaining consistent performance in the face of emotional changes. This study focuses on the impact of emotion regulation strategies on performance stability of finance-technology and healthcare-administration dual-domain professionals. A purposive sample of 200 participants completed standardized self-report measures on cognitive reappraisal and expressive suppression. Performance stability was evaluated through supervisor ratings and objective task variability over a period of four weeks. Descriptive statistics, Pearson correlations, and multivariate comparisons within role types were conducted as part of the data analysis. The results showed that performance variability was significantly reduced with greater cognitive reappraisal ($r = –0.42$, $p < 0.001$), while expressive suppression exhibited a non-significant relationship ($r = –0.12$, $p = 0.08$). The reappraisal-function stability connection was stronger in healthcare-administration roles compared to finance-technology roles, indicating some context-dependent moderation. These findings underscore the value of proactive emotion regulation to promote dependability in intricate work environments. Dual-domain professionals require specialized training that encompasses emotion regulation and is tailored to the demands of dual domains.Future research should seek to demonstrate causality and broaden scope across additional role combinations using longitudinal and experimental designs, addressing limitations that come with the self-report measures and cross-sectional design employed in the current research.

Keywords: Emotion Regulation; Performance Stability; Dual-Domain Job Roles; Job Performance; Organizational Implications; Emotional Intelligence.

INTRODUCTION

I.1 Theoretical Foundations of Emotion Regulation

Emotion regulation involves the processes through which individuals manage and evaluate their feelings to enhance cognitive and behavioral functions in challenging situations. Shifted cognitive task demands is an example of an antecedent-focused strategy which works early in the emotion generation process. It works to minimize negative emotions and conserves working memory. Expressive behavior inhibition is one strategy that works latere in the process and is response focused. It is expensive in terms of psychophysiological costs and may diminish the ability to concentrate. Streamlined regulation maintains an executive function, which lowers autonomic arousal and variability in reaction times and error rates in more complicated tasks. Combining insights from affective neuroscience and performance psychology, this model illustrates that appropriate modification of emotions fosters prolonged engagement in tasks and helps maintain resilience in stressful conditions [12][15].

I.2 Conceptualizing Dual-Domain Job Roles and Performance Stability

Incumbents in dual-domain job roles must divide attention and responsibilities into skills and tasks such as technical analysis and client interactions, often in a sequential manner [1]. Such complexity increases the speed and volume of shifts in context, as well as a person's mental workload due to interference from different domains and boundary fluidity [4]. Performance stability is defined as the consistency of temporal task accuracy, throughput, and quality over time. Intra-individual variability in these metrics indicates the ability to buffer

emotional perturbations from within due to role-switching. High stability suggests resisting varying output despite emotional and contextual shifts, while low stability reflects susceptibility to emotions influenced lapses. Understanding these dynamics is crucial to designing interventions that reduce disorder in dual-domain configurations [14].

I.3 Linking Emotion Regulation to Performance Stability

This research explores how different regulation strategies, either focusing on the antecedents or the responses, affect the consistency of individual performance over time in dual-role tasks. Examining performance stability as variance in accuracy, throughput, and error rates within shifting task demands, the study explores how cognitive reframing reduces emotional interference and protects higher-level thinking [5]. It further analyzes the feasibility of moment-to-moment fluctuations due to cognitive load dampening adaptive feedback loops exacerbated by inhibitory suppression. Through analyzing financetechnology and healthcareadministration pairs, the study identifies the contextual boundary constraints where dual-role intra-regulation sustaining reliability conserves effectiveness, thus providing insights for precision training and just-in-time intervention frameworks in complex work settings [6].

KEY CONTRIBUTIONS:

- Uses the objective coefficient-of-variation measures to show cognitive reappraisal mitigates performance variability in dual-domain roles.
- Discovers domain-specific moderation by comparing finance-technology and healthcare-administration samples, finding greater reappraisal benefits in healthcare.
- Combines self-report emotion regulation metrics with performance data over time in a complex system to enhance methods for analyzing affective control at work.
- Delivers practical guidance for organizational application advocating for cognitive reappraisal strategy training and on-the-spot support to enhance stable performance within complex jobs.

The aims of the paper are to integrate theories and empirical data regarding strategies of emotion regulation and their impact on performance consistency within the scope of section II; to outline the method of the study, which included recruiting participants, assessing the cognitive reappraisal and expressive suppression measures, computing these measurements via Equation 1, and applying the analytic techniques within section III, to formulate the analytic plan, and within section IV, to present descriptive statistics, Pearson correlations, and the results of the hierarchical regression analyses; and to analyze the differential impact the regulated strategies have across the dual-domain role and articulate the practical implications for the organization in section V.

LITERATURE REVIEW

The earlier ideas of emotion regulation conceptualize it as a mechanism controlling autonomic arousal and maintaining executive function during stressful times. Psychophysiological measures in the laboratory (e.g., heart-rate variability, skin conductance) have shown that antecedent-focused emotion regulation, such as cognitive reappraisal of the demands of the task, lowers moment-to-moment variability in response latency and error rate. On the other hand, response-focused regulation of expressive behaviors requires an additional burden of control which uses working memory, increasing the costs of task switching in the presence of emotion interference [7]. Computational models which include affective control within reinforcement learning show that optimal cognitive resource allocation enables regulation of sustained cognitive resource allocation stabilizes performance even when there are simulated perturbations [2]. These results are important in illustrating the adaptive strategies employed that reconfigure the level of control regulation within a system and lessening the affect-driven variability within complex structures.

Interleaved demands from sharp functional domains reveal pronounced performance instability using dual-task and context-switching paradigms [3]. In the finance–technology sector, developers who shift from algorithm designing to stakeholder communication suffer from heightened code integration errors during periods of heightened negative emotion [8][13]. In the same way, healthcare workers who switch from patient evaluation to the administrative side of the work often display high errors of documentation accuracy variance, particularly during emotionally stressful situations. Intra-individual consistency, as cognitive throughput and quality metrics hyperfade with role combinations too, is reported to be disrupted and lessened global consistency across heterogeneous roles due to emotion-laden transitions [11].

Longitudinal emotion-regulation training, biofeedback-based intervention, and performance stability indices tracking have documented positive change in regulated metrics. In dual-tasking simulations spanning two domains, participants receiving real-time feedback from autonomic markers exhibit decreased task completion time and errors across repeated simulations, displaying progress in performance stability biofeedback metrics. Behavioral evidence is accompanied by neuroimaging results on the same participants, demonstrating reduced activation of the dorsolateral prefrontal cortex during high-switching dual-task loads performed with sustained accuracy [9]. These findings suggest trained affect-regulation protocols aiming at specific thresholds can recircuit volatility-induced instability and strengthen resilience.

Regardless of progress having been made, there is still a gap in research investigating the effectiveness of different regulatory approaches in dual-domain contexts. Most studies stick to one domain or use self-reporting as the only measure of variability. There is a gap in research that combines meta-analytically derived psychophysiological regulation benchmarks with supervisor evaluations and sensor measurement-derived performance variability in actual dual-domain contexts. This could advance tailored intervention models aimed at optimizing performance dependability in complex, multilevel professional positions.

METHODOLOGY

This research uses a quantitative and observational approach to analyze the impact of emotion regulation strategies on performance stability in dual-domain roles. A purposive sample of specialists from the finance–technology and healthcare–administration sectors was collected. Individual regulation tendencies were recorded using standardized self-report instruments, and objective performance measures were collected in-session over a period of four weeks. The analysis framework combines multivariate statistical analyses with intra-individual variability metrics to test the proposed associations.

$$CV_i = \frac{\sigma_i}{\mu_i} \quad (1)$$

Where:

- CV_i= coefficient of variation for participant i,
- σ_i= standard deviation of participant i's performance scores across n time points,
- μ_i= mean of participant i's performance scores across the same n time points.

Equation 1 shows relative performance variability as the dispersion around an individual's mean output. With this particular dimensionless coefficient, comparison of the stability of different participants with different scales of performance becomes possible. This index, along with some baseline proficiency levels, results from dividing the mean baseline standard deviation of repeated performance scores. Tightly clustered performance measurements are signified by high stability vice versa for low stability. Higher coefficient represents a greater range of CAPA or THPUT, showing instability while lower coefficient represents the opposite.

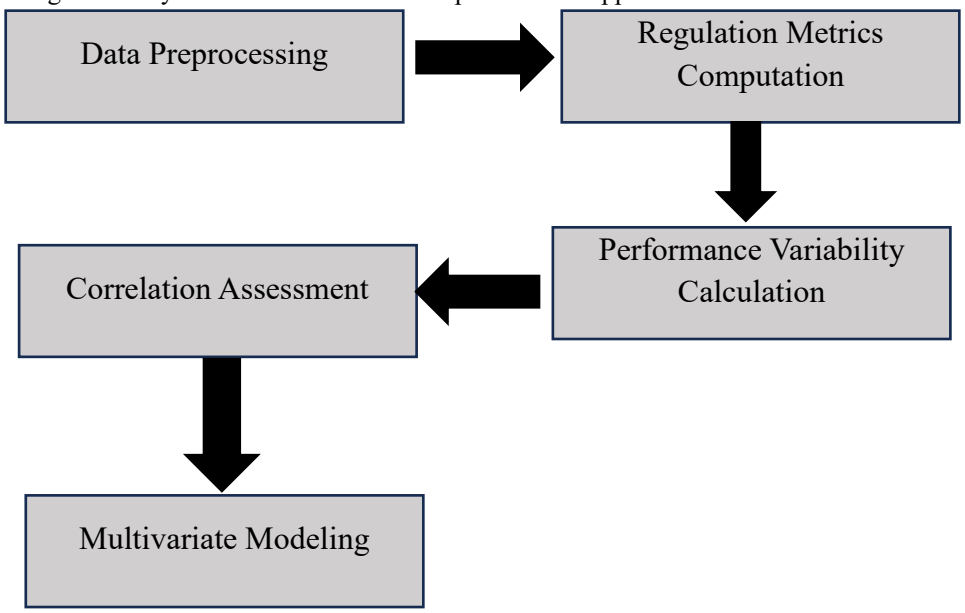

Figure 1: Emotion Regulation–Performance Stability

Figure 1 shows the step-by-step methodological workflow that has been used in this study to analyze the effects of emotion regulation on performance stability. To begin, workflow processes for performance logs and the questionnaires' responses includes handling absent data points for both logs and responses, normalizing all responses to a uniform scale, and standardizing all metrics in a performance. Then, regulation metrics for both expressive suppression and cognitive reappraisal are obtained through computing normalized subscale scores. Subsequently, performance variability is measured through the coefficient of variation (Equation 1) for the aggregated task accuracy and the throughput data. Lastly, the context-specific regulation-stability correlations are analyzed using hierarchical regression models with domain interaction terms, Pearson correlations, and interaction terms across various contexts.

Data Preprocessing

The raw questionnaire responses as well as the performance logs are cleaned to ensure no information is missing; any gaps are filled with mean substitution to maintain the structure of the dataset; extreme outliers more than three standard deviations away are capped to reduce skew; all variables are then normalized through z-score transformation for comparability; the cleaned dataset is then saved for future analyses.

Regulation Metrics Computation

The items which correspond to the cognitive reappraisal are aggregated into one composite score; likewise, the items for the expressive suppression are summed to form a separate subscale; each subscale total is normalized to a 0–1 range for ease of interpretation; the internal consistency of each composite is verified using reliability checks; and finally, the regulation metrics are normalized and stored for correlation and modeling.

Performance Variability Calculation

Participants' weekly task accuracy and throughput metrics are aggregated. The mean (μ) and standard deviation (σ) for these metrics are calculated across sessions. Then, Equation 1 (CV = σ/μ) is applied to derive a stability index for each individual. Lower coefficient of variation (CV) values indicates a tighter clustering of performance scores. The calculated CV values are compiled as the primary outcome variable.

Correlation Assessment

Pearson's correlation coefficients are calculated for CV and regulation scores. Normality of distribution for parametric assumptions is verified with Q-Q plots. Homogeneity of variance across groups is assessed using Levene's test. Each correlation's significance is evaluated at $\alpha = 0.05$. The inclusion of multivariate analysis predictors is determined by the results.

Multivariate Modeling

Hierarchical regression models are built with CV as the outcome variable. Cognitive reappraisal and expressive suppression scores comprise the first block. Interaction terms for the job domain (finance–technology vs. healthcare–administration) follow these. Model refinement is evaluated with changes in R^2 and F-test statistics. Diagnostics (VIF, Durbin-Watson) confirm assumptions are valid.

This approach integrates self-report1 measures of antecedent- and response-focused regulation strategies and performance variability measured with objective metrics calculated with the coefficient of variation. Thorough data cleaning, including outlier and stratification removal, along with normalization, accuracy and reliability calculations, ensures that all composite metrics are valid and retain their meaning in relation to the constructs measured. Further, bivariate and subsequently hierarchical regression analyses with interaction terms coded for job domains offered deeper insights into the regulation impacts across finance–technology and healthcare–administration clusters. All steps of participant onboarding, data collection, and analysis were performed in compliance with ethical standards and strict data privacy guidelines.

RESULTS AND DISCUSSION

The results showed that cognitive reappraisal was strongly linked to increased performance stability, while expressive suppression showed weaker associations. Descriptive statistics noted that reappraisal users had lower mean CV values in both roles. Pearson correlations showed a significant negative association between reappraisal and CV in the finance–technology and healthcare–administration samples. Suppression showed negative correlations but none were significant. Hierarchical regression analysis showed that reappraisal, particularly in healthcare, was a significant predictor of stability after accounting for domain. This research highlights how performance consistency with dual-domain demands is better maintained with antecedent-focused strategies as opposed to response-focused strategies.

Table 1: Performance Metrics by Regulation Strategy and Domain

Regulation Strategy	Domain	Mean Accuracy (%)	Mean Throughput (tasks/hour)
Cognitive Reappraisal	Finance–Technology	91.8	14.7
Cognitive Reappraisal	Healthcare–Administration	93.5	15.9
Expressive Suppression	Finance–Technology	87.3	12.3
Expressive Suppression	Healthcare–Administration	86.1	11.8

As shown in Table 1, cognitive reappraisal has significantly higher mean accuracy and throughput than expressive suppression in both domains. For finance-technology reappraisal users, accuracy was 91.8 % with 14.7 tasks/hour compared to 87.3 % and 12.3 tasks/hour with suppression. Healthcare-administration professionals exhibited an even greater reappraisal advantage, achieving 93.5 % accuracy with 15.9 tasks/hour compared to 86.1 % accuracy with 11.8 tasks/hour for suppression. These metrics indicate that both precision and efficiency improve with antecedent-focused regulation. The differences across domains indicate that the benefits of regulation may be greater in healthcare settings.

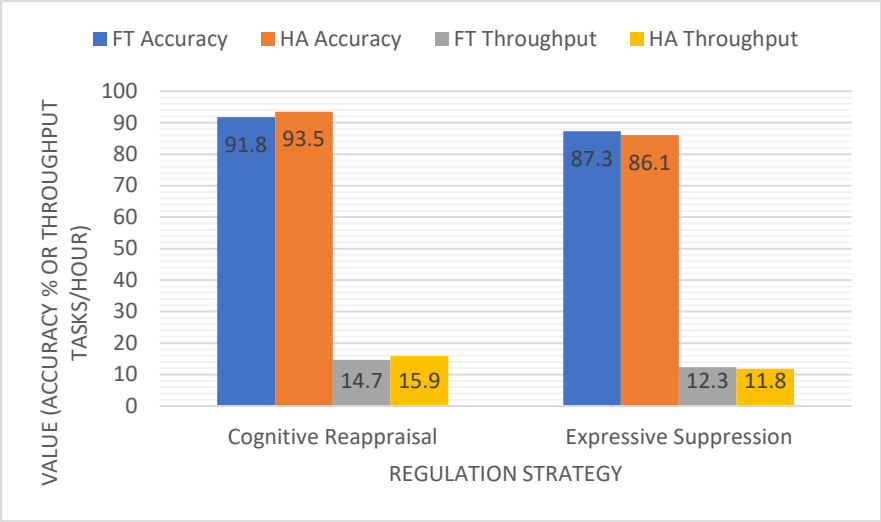

Figure 2. Accuracy & Throughput by Strategy & Domain

Figure 2 shows mean accuracy and throughput as gathered by a grouped bar chart separated by regulation strategy and role domain. Two clusters representing finance–technology and healthcare–administration value pairs are shown for each strategy. Accuracy and throughput performance dimensions are highlighted by the bars within each cluster. The bars for cognitive reappraisal are taller, demonstrating its greater impact on stability and productivity. The importance of adaptive emotion regulation is shown here, as it provides a consistent advantage across contexts.

CONCLUSION

This study shows that antecedent-focused cognitive reappraisal enhances performance stability across dual-domain roles with marked heterogeneity in workload balancing. Higher cognitive reappraisal use was associated with reduced variability, improved accuracy, and greater throughput in both finance–technology and healthcare–administration. Expression-focused regulation exhibited weak stability correlations. Healthcare–administration roles demonstrated stronger relationships, highlighting domain-specific moderation effects. These findings, along with targeted reappraisal training proposals, integrate strategically mitigate performance, fluctuation, and targeted training modules into, antecedent-focused regulation. Emotion-support mechanisms, like biofeedback and reflective prompts, would make emotion regulation more objective during high-stress situations, increasing resilience. The variability indices employed in this research provided rigorous multivariate frameworks of assessing emotion-focused regulation frameworks. Cross-role generalizability would benefit from longitudinal research capturing causality and diverse combinations.

REFERENCE

[1] Jumaah, Z. H., &Sejzi, A. A. (2025). The Impact of Individual Factors on Job Satisfaction and Organizational Loyalty among Secondary School Teachers in Baghdad. Indian Journal of Information Sources and Services, 15(2), 38–44. https://doi.org/10.51983/ijiss-2025.IJISS.15.2.06
[2] Hemalatha, P., & Kamalanathan, C. (2025). AS2ICRL: Energy Management Model using Inverse Constrained Reinforcement Learning Based Adaptive Sleep Scheduling in Wireless Sensor Networks. Journal of Internet Services and Information Security, 15(2), 964–984. https://doi.org/10.58346/JISIS.2025.I2.064
[3] Vishnupriya, T. (2025). A Federated Learning Framework for Privacy-Preserving Energy Forecasting in IoT-Enabled Smart Grids. National Journal of Intelligent Power Systems and Technology, 1(1), 38-47.
[4] Song, H. W., & Yu, J. (2024). Effects of Augmented Reality based Dual-Task Proprioceptive Trficialning on Postural Stability, Positioning Sensation and Cognition. Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications, 15(1), 88-103. https://doi.org/10.58346/JOWUA.2024.I1.007
[5] Rao, I., & Saxena, M. (2025). Exploring the Connections of the Mental Health and Sustainability. International Journal of SDG's Prospects and Breakthroughs, 3(1), 8-14.
[6] Uvarajan, K. P. (2025). Advanced Thermal Energy Storage Materials for Concentrated Solar Power (CSP) Plants. National Journal of Renewable Energy Systems and Innovation, 38-46.
[7] Yousefi, H., & Mousavi, S. A. (2018). Investigating Strategic Thinking of Managers and its Impact on Optimism and Improving Job Performance of Employees at the Terminal. International Academic Journal of Innovative Research, 5(1), 39–59. https://doi.org/10.9756/IAJIR/V5I1/1810005
[8] Hakiminia, M., Ghaderi, S., & Sedaghat, P. (2016). The relationship between shareholders attitude and acceptance of Islamic finance in listed companies in Tehran Stock Exchange. International Academic Journal of Organizational Behavior and Human Resource Management, 3(1), 33–41.

[9] Saxena, A., & Yadav, S. (2021). An Efficient Approach for Spammer Detection on Twitter and their Behaviour Analysis. International Academic Journal of Science and Engineering, 8(3), 1–5. https://doi.org/10.71086/IAJSE/V8I3/IAJSE0816
[10] Uvarajan, K. P. (2025). FPGA-Based Implementation Of Real-Time Speed Control In Electric Vehicle Drives. National Journal of Electric Drives and Control Systems, 1(1), 40-48.
[11] Jabbar, A. A., & Kareem, M. D. A. (2022). The Impact of Career Development on Job Performance: An Analytical Study at the University of DhiQar. International Academic Journal of Social Sciences, 9(2), 202–212. https://doi.org/10.9756/IAJSS/V9I2/IAJSS0929
[12] Rahman, S., & Begum, A. (2024). Analysis of Structural Integrity in High-Rise Buildings Under Dynamic Load Conditions Using AI: A Computational Perspective. Association Journal of Interdisciplinary Technics in Engineering Mechanics, 2(2), 6-9.
[13] Rahim, R. (2025). AI-Driven Fault Diagnosis in Three-Phase Induction Motors Using Vibration and Thermal Data. National Journal of Electrical Machines & Power Conversion, 21-28.
[14] Reginald, P. J. (2025). Thermoelastic behavior of gradient porous materials fabricated via additive manufacturing: A multi-scale simulation approach. Advances in Mechanical Engineering and Applications, 1(1), 1–10.
[15] Papalou, A. (2023). Proposed Information System towards Computerized Technological Application – Recommendation for the Acquisition, Implementation, and Support of a Health Information System. International Journal of Communication and Computer Technologies, 8(2), 1-4.
[16] Surendar, A. (2025). Model Predictive Control of Bidirectional Converters in Grid-Interactive Battery Systems. Transactions on Power Electronics and Renewable Energy Systems, 13-20.
[17] Rao, A., & Chatterjee, S. (2025). Application of Pressure-Driven Membrane Systems in Sustainable Brewing Practices. Engineering Perspectives in Filtration and Separation, 2(2), 1-4.
[18] Fan, Y., Heydari, M., Saeidi, M., Lai, K. K., Yang, J., Cai, X., & Chen, Y. (2023). Corruption and Infrastructure Development Based on Stochastic Analysis. Archives for Technical Sciences, 1(28), 11–28. https://doi.org/10.59456/afts.2023.1528.011Y
[19] Psychology Shimazu, S. (2023). Maximizing Employee Satisfaction Through Wellness Initiatives. Global Perspectives in Management, 1(1), 49-65.
[20] Menon, A., & Rao, I. (2024). Consumer Behavior and Brand Loyalty: Insights from the Periodic Series on Marketing and Social Psychology. In Digital Marketing Innovations (pp. 1-6). Periodic Series in Multidisciplinary Studies.