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COPING STRATEGY CLASSIFICATION IN MANAGERS USING LATENT CLASS ANALYSIS

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Abstract

Managers dealing with workplace stress exhibit different coping strategies, which tend to influence their decision-making, emotional state, and organizational productivity. In a given organization, understanding how people cope with stress is essential for increasing resilience and productivity. Oftentimes, coping studies make the major mistake of relying solely on generalized coping scores, which misses the more intricate, lesser-acknowledged subpopulation patterns. This study aims to fill this gap by using Latent Class Analysis (LCA) to cluster managers based on their coping strategy profiles, thus creating an evidence-based and psychologically informed coping strategy typology. The study was performed on a more diverse sample of 312 mid- and senior- managers from different corporate, healthcare, and academic sectors. The respondents completed the Brief-COPE Inventory which captures a range of coping behaviors at the task level, an emotional level, and avoidant level. LCA was utilized to reveal underlying latent classes and the fit of the model was evaluated using AIC, BIC, and entropy metrics. A three-class model emerged as optimal. The classes were identified as: (1) Resilient Problem Solvers, characterized by active and planning-coping; (2) Avoidant Emotionals, which were characterized by denial, both behavioral and cognitive disengagement, and self-blame; and (3) Adaptive Balancers were some mix of emotional support and problem-solving style.Across class stratifications, differences in gender and industry sectors were observed alongside a greater female managerial propensity to cluster within the Adaptive group. The results of the study suggest the need for targeted mental health and management interventions, as they can be constructed to fit adaptive strategies of stress management, within a well-defined leadership role, and to the psychological breadth of coping mechanisms. Furthermore, the research illustrates the potential value of Latent Class Analysis in organizational psychology for revealing the concealed behavioral configurations.

Keywords - Coping Strategies,Latent Class Analysis (LCA),ManagerialStress,Brief-COPE Inventory,Psychological Profiling

1. INTRODUCTION

Formulating and implementing business strategies, managing staff, and maintaining organizational policies are core activities that every manager is expected to perform [5]. These functions by their very nature inflict a certain level of stress, and that, in turn, can have a negative impact on a manager's emotional health, mental wellness, ability to lead, and productivity. As stress builds, the ability to think strategically and lead well will, in all likelihood, if not already, be severely impaired, which is very detrimental to organizational resilience and performance. Thus, in the interest of fostering a constructive and functional leadership climate, it is imperative to understand the stress coping techniques that managers apply. According to a conventional definition, coping strategies are the mental and physical actions taken to reduce and manage both internal and external challenges. Managing stress can be addressed on multiple levels as a combination of: coping on a personal level, which can be either problem attributing: focusing on planning, solving, and implementing the core challenges on solving the stressors; managing on a personal level, which can entail seeking emotional, or even physical, support and can be

labeled emotionally driven support seeking; and, finally, disengagement and denial can be labeled to a more general level termed avoidant solution approach. It is of importance to consider that a manager does not tend to apply a singular approach; rather, a plethora of them tailored to the circumstances, individual, and the organization.In the past, coping strategies have been evaluated using single scores that reduce individual actions to a simplified grouping. Such aggregating approaches often overlook the individual variability and the rich detail embedded in coping strategies [1]. Focusing too much on the 'big picture' misses multiple behavioral subtypes which in turn may lead to inadequate portrayal of managerial responses to stress [2]. For this reason, there is an increasing shift to more granular psychological profiling that empirically reveals coping behavior patterns and relies on individual differences.Latent Class Analysis (LCA) is an effective approach that identifies concealed subgroups in a population based on their responses to a given set of questions [3]. Unlike coping-centric approaches that impose a one-size-fits-all model on individuals, LCA applies a person-centered model for classification which generates and distinguishes between types of coping, for example, adaptive responses, avoidance and emotionally-balanced coping. Such an approach improves precision in classification and understanding of stress management among the managerial population [6].

2. LITERATURE REVIEW

The idea of coping strategies has received attention from scholars in the field of psychology as well as organizational behavior [7]. These frameworks typically classify coping into three types: problem-focused, emotion-focused, and avoidant. Each of these contributes to the outcomes of stress in the workplace. In organizational psychology, emotional coping strategies relate to and clarify the constructs of leadership, change management, emotional intelligence, and organizational effectiveness. While there are standardized tools designed to capture subtle coping responses, most researchers seem to lean towards using summative scoring systems. Aggregated scoring systems in particular are problematic because they ignore the wide range of coping strategies and the different psychological responses to intensifying stress in the individual and organizational spheres.The most recent trends within psychological research point out the need to consider coping as an individual coping as an individual with multidensity features, as well as heterogeneity within the individual.. In response, there is an emergence of refinement for developing more sophisticated strategies to identify behavioral patterns and find hidden subgroups within populations. One of these methods is Latent Class Analysis (LCA), which allows the detection of unobserved classifications within a certain dataset as long as the patterns of responses are given priority over aggregate scores. organizational domain, there is a gap regarding the use of LCA specifically with regard to managers. However, there are a number of studies using LCA which have shown their ability to identify distinct coping profiles, which could be more effectively and specifically addressed.

3. METHODOLOGY

3.1 Participants and Sampling

The sample included 312 managers from corporate, healthcare, and academic organizations, spanning from mid to senior level. Participants were obtained from human resources and attended management training and leadership development programs. The sample was equilibrated by sex. Females and males composed 48 and 52 percent of the sample respectively. The sample had an average managerial tenure of 8.6 years.

3.2 Instrumentation

The Brief-COPE Inventory (Carver, 1997) was conducted to evaluate specific coping strategies. This coping strategy is comprised of 28 items, divided into 14 subscales, which include active coping, denial, getting emotional support, planning, and substance use. Each response was measured on a 4-point Likert scale (1 = "I haven't been doing this at all" to 4 = "I've been doing this a lot") [9].

3.3 Procedure

Approval was obtained from the Institutional Ethics Committee, and data were gathered from an anonymous online survey. Participants consented to take part in the study and answered the Brief-COPE together with demographic questions regarding age, sex, sector, and years of experience.

3.4 Statistical Analysis

Latent Class Analysis was performed in Mplus 8.5. For class 2 to 5, the AIC, BIC, and adjusted BIC along with entropy were calculated to find best model fit [13]. Classes were interpreted with respect to coping behaviors conditional probabilities. Gender and sectoral associations were tested with chi-square tests and multinomial logistic regression.

4. RESULTS

4.1 Model Selection

To pinpoint the ideal number of latent classes indicative of coping strategy profiles, we estimated and compared several models with two to five classes, applying the following model fit criteria: AIC, BIC, aBIC, and entropy. In contrast to AIC and BIC, which improve with model fit, entropy achieving values close to 1.0 indicates better class separation and classification accuracy.The 3-class model was the most parsimonious and interpretable one, yielding an AIC of 9145.3, BIC of 9251.8, aBIC of 9182.7 and entropy of 0.81.The 2-class model had slightly higher entropy but poorer information criteria scores. In comparison, the 4- and 5-class solutions showed marginal AIC improvement but lowered interpretability and increased conceptual redundancy.The 3-class solution was also supported by balanced class proportions and distinguishable coping patterns. This was also supported by the posterior class probabilities which averaged above 0.80 for all groups.

4.2 Identified Coping Classes

The three latent classes described capture distinct psychological coping profiles among the managers:

- **Class 1: Resilient Problem-Solvers (38%)**
  Members of this class showed the highest probabilities of using adaptive coping strategies that include active coping, planning, as well as seeking instrumental support. Involvement in emotion-focused coping as well as avoidance behaviors was low. These managers seem to be task-oriented, resilient, goal-directed, and suggest an effective inner locus of control as well as effective stress management. Their coping style embodies a practical approach and focuses on resolutive coping during highly stressful periods.

- **Class 2: Avoidant Emotionals (29%)**
  As illustrated in this class, managers exhibit a profile associated with predominance of maladaptive coping strategies which includes behavioral disengagement, denial, and self-blame. The low score on active coping, along with the equally low score on planning, suggests the individual's tendency to avoid stressful situations.These coping styles are believed to be detrimental to psychological well-being and are associated with burnout, emotional exhaustion, or a disconnection from the organization.

- **Class 3: Adaptive Balancers (33%)**
  These coping styles are believed to be detrimental to psychological well-being and are associated with burnout, emotional exhaustion, or a disconnection from the organization.

Every class showed unique conditional response probabilities for all 14 Brief-COPE subscales confirming their psychological relevance.

4.3 Gender and Sector Differences

Post hoc analyses examined how demographics influence latent class membership.
A chi-square analysis confirmed that there was a significant difference between gender and class distribution ($\chi^2 = 11.32$, $p < .01$). Female managers were more likely to be categorized as Adaptive Balanced, indicating a more relational, emotionally aware coping orientation [10]. Male managers, on the other hand, were overrepresented among the Resilient Problem Solvers, which were more task-driven and solution-focused.

Comparisons based on sector showed meaningful differences as well. Managers in the healthcare sector had a significantly higher likelihood of being categorized as Avoidant Emotionals [11], likely due to the emotionally demanding work and burnout associated with clinical and administrative positions. In contrast, managers in the corporate sector were more likely to be categorized as Resilient Problem Solvers, which may be a byproduct of corporate-focused organizational cultures characterized by control, autonomy, and strategic progress-driven

planning. The academic sector showed a more balanced distribution across classes, which may be due to a blend of administrative, instructional, and research-related demands. These outcomes illustrate the relationship between organizational context, gender, identity, and coping—pointing toward the need for more tailored approaches to different managerial populations.

5. DISCUSSION

The results confirm that coping behaviors in management are distinct and occur within meaningful psychologically defined subgroups. The designation of Resilient Problem-Solvers highlights proactive coping within leadership, whereas Avoidant Emotionals may describe an unnoticed, supportive, vulnerable, mentally-at-risk manager. Adaptive Balancers demonstrate flexible coping, suggesting some degree of resilience with emotional intelligence.

The divisions of gender and sector emphasize the need for context-specific tailored comprehensive approaches.example, focusing on female managers, they may benefit from tailored and specific relational support interventions, and for healthcare managers, they may require structured stress debriefing systems.These insights shift us from the framework of generic stress management training toward advocating tailored coaching and mental health intervention alignment coping profiles. Such policies could be considered for burnout prevention and for the design of teams and succession planning [4].

6. CONCLUSION

This research utilized Latent Class Analysis to identify three distinct profiles of managerial coping strategies:Problem Solvers who are Resilient, Emotionals who are Avoidant, and Balancers who are Adaptive [14].These findings illustrate the psychological variance among managers coping with work-related stress.Such Findings support the notion that stress interventions designed with a universal framework are unlikely to be effective. Customized strategies aim to fulfill the distinct coping requirements of each managerial cluster [12]. Virtual reality simulations along with gamified training modules can offer personalized skillsdevelopment in psychological skills training, thus refining particular skills relevant to the individual's needs. Fostering adaptive and experiential learning aims to develop the ability to manage challenges through efficient learning. Psychologically informed leadership coaching together with profiling must be framed within policy structures concerning coaching and profiling integrated coaching frameworks [15].Analysis of performance indicators must be evaluated with longitudinal studies aimed at the development of coping profiles to comprehend temporal changes concerning performance indicators. The integration of physiological data may deepen the understanding of coping and resilience.

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