

# Psychosocial Approach to the Effect of Stress on Performance in the Workplace

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## Abstract

Our study aimed to investigate the effect of the interaction between stress perception and its intensity on performance in a professional context. We conducted a series of analyses to determine whether the way individuals perceive stress or the level of stress intensity plays a predominant role in determining workplace performance. Following the study results, we did not observe an interaction between stress perception and its intensity. However, participants who perceived stress as a challenge to overcome displayed higher levels of performance, while those who viewed stress as a threat to avoid had significantly lower performance levels, regardless of the perceived stress intensity. This observation underscores the significance of how individuals interpret stressful situations in the workplace. These findings have significant implications for managers, employees, and human resources professionals. They suggest that stress management in the workplace should focus on promoting a positive perception of stress as a challenge, which could enhance optimal performance. Ultimately, our study contributes to shedding light on the intricate relationship between stress perception, its intensity, and workplace performance, highlighting the potential of a positive stress perception to improve professional outcomes.

**Keywords:** Transactional model, optimal functioning zone, stress, appraisal, performance.

## 1. Introduction

According to Lazarus and Folkman's transactional model (1984), stress is described as "the result of a dynamic relationship between the individual and environmental demands." The authors propose that the emergence of a state of stress is not determined by the events themselves but rather by how these events are perceived and experienced. A situation must be considered as stressful by the individual to actually be perceived as such. Various assessments lead to varied emotional reactions to an identical situation (Tomaka, Blascovich, Kibler, and Ernest, 1997). Therefore, stress is defined as the consequence of an individual perception in which the person believes that the situation exceeds their capabilities and represents a threat to their well-being in their relationship with the environment.

Lazarus and Folkman (1984) distinguish between two forms of cognitive appraisal: primary appraisal and secondary appraisal. During primary appraisal, the individual evaluates the type and significance of the situation. In other words, the individual must perceive a significance for there to be stress. Lazarus and Folkman (1984) distinguish different types of appraisal: threat, challenge, and harm/loss. In the case of a threat situation, the individual perceives the situation as a potential loss. For example, in the case of a threat of job loss or actual job loss in a company, the person may perceive this prospect as a possible financial, professional, social, and identity catastrophe. There is an anticipation of significant loss (Lazarus and Folkman, 1984).

In the second type of appraisal, the situation is perceived as a challenge by the individual. Lazarus and Folkman present the same example cases that individuals may perceive "as an opportunity to prove what they are capable of" (Folkman, 1984; Lazarus, 1993). According to these authors, job loss can allow an individual to "evaluate themselves in the job market, advance in their career, or leave a job that no longer aligns with their aspirations." Additionally, harm/loss can be envisioned by the individual as a loss or harm that has already occurred, which distinguishes it from threat. The authors provide the example of an individual losing their job, the use of their legs, or the loss of a loved one (Lazarus and Folkman, 1984).

Furthermore, when an individual perceives a situation as a threat, it can trigger fight-or-flight physiological responses and potentially disrupt concentration and task performance

quality, leading to decreased performance. On the other hand, if the situation is perceived as a challenge, the individual may experience positive excitement and increased motivation to tackle the challenge. This can enhance performance because the individual mobilizes their resources to respond adaptively to the situation. Thus, how a situation is perceived in terms of threat, challenge, or harm/loss plays a crucial role in how stress affects performance.

In addition to the transactional model, Hanin (2000) offers a distinct perspective that emphasizes the importance of stress intensity. According to his theory, each individual has a range of stress intensity where they are most likely to achieve their peak performance. This range, called the "optimal performance zone," is unique for each person and varies depending on the nature of the task. Within this optimal zone, the individual experiences an ideal balance between anxiety and focus, promoting optimal performance. Outside of this zone, excessive or insufficient anxiety can disrupt performance.

The objective of the study is to examine how stress perception interacts with its intensity.

*H1 : The effect of stress perception on performance would depend on the intensity of stress. In other words, the higher the level of challenge, the higher the performance would be, but only when the stress intensity is within the optimal zone.*

## **2. Method**

### *Participants.*

We administered our questionnaire to 85 participants, including 62 men [Mean age = 36.6; SD = 7.68] and 25 women [Mean age = 35.68; SD = 9.76], who were randomly selected.

### *Materials and procedure.*

The materials used in this study were an experimental protocol adapted under the direction of Prof. Ahmed El Bouazzaoui as part of research conducted within the team of Social and Clinical Psychology and Work (PSCT). The questionnaire was preceded by instructions indicating that it was a study aimed at investigating emotions in the workplace to better manage them. An experimental design was chosen to systematically manipulate

stress perception (threat, challenge, loss) and intensity to understand which of these factors have an effect on performance.

*Appraisal.* The stressful situation was measured using the Appraisal of Life Events (ALE) Scale (Monroe and Kelley, 1995). We used its validated French version, which includes three dimensions: threat, challenge, and loss. Participants were required to respond to information on the scale, which included a measure of threat with 5 items, challenge with 6 items, and loss with 5 items. This scale used a 6-point scale ranging from 1 ("Not at all agree") to 6 ("Completely agree"). The reliability analysis indicated a satisfactory Cronbach's alpha for this series of items,  $\alpha = 0.72$ .

*Intensity.* Intensity was measured using a single item. It used a 6-point scale ranging from 1 ("Not at all") to 6 ("Completely"). The reliability analysis indicated a moderately satisfactory Cronbach's alpha for this series of items,  $\alpha = 0.69$ .

*Performance of Professionals.* We wanted to study the emotional process as our participants performed their professional tasks. Since it was impossible to do so, we chose to study the emotional process after the tasks were completed as they were remembered. This scale was measured using the Attainment of Sport Achievement Goals Scale (Gaudreau, Amiot, Blondin, and Blanchard, 2002), which is originally a scale designed for the sports domain but was adapted to the needs of our study. It includes three dimensions: mastery, self-referenced goals, and performance approach. Participants were required to respond to each piece of information on a 7-point scale ranging from 1 ("never") to 7 ("always"). The reliability analysis indicated a moderately satisfactory Cronbach's alpha for this series of items,  $\alpha = 0.68$ .

*Performance satisfaction.* This measurement consisted of a single item. Participants were asked to indicate on a scale from 1 ("Not at all satisfied") to 6 ("Completely satisfied") how satisfied they were with their performance in the workplace.

### **3. Results**

*Perception of Stress \* Intensity.* A linear regression analysis revealed no interaction effect between stress perception and intensity,  $b = 0.26$ ,  $t(80) = 2.70$ , ns. Similarly, for intensity, the

analysis showed no significant difference across different levels of stress intensity,  $b = 0.26$ ,  $t(80) = 2.70$ , ns.

*Threat.* The analysis indicated a significant difference in terms of performance. It can be observed that as the level of threat increases, performance decreases in mastery, self-referenced goals, and performance approach (respectively  $b = 0.13$ ,  $t(80) = 5.37$ ,  $p < .000$ ;  $b = 0.08$ ,  $t(80) = 2.68$ ,  $p < .008$ ;  $b = 0.14$ ,  $t(80) = 4.44$ ,  $p < .000$ ). However, the results did not reveal a significant effect of the threat situation on performance satisfaction,  $b = 0.02$ ,  $t(80) = 1.87$ , ns.

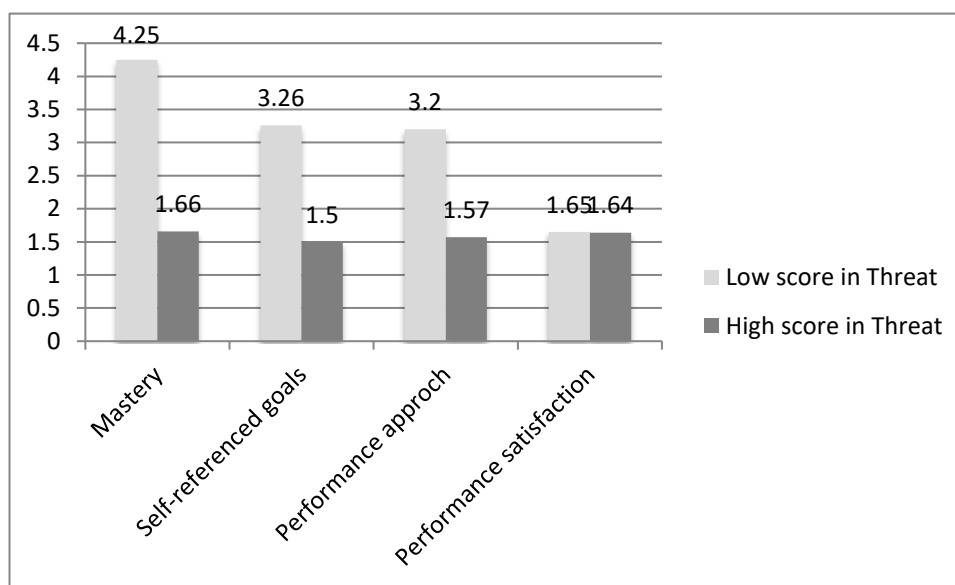


Fig 1: Graph illustrating the Effect of Threat Situation on Performance

*Challenge.* The analysis indicates a significant effect of the challenge situation on the level of performance. It can be observed that as the level of challenge increases, the level of performance also increases in mastery, self-referenced goals, and performance approach (respectively  $b = 0.16$ ,  $t(80) = 2.44$ ,  $p < .016$ ;  $b = 0.13$ ,  $t(80) = 4.47$ ,  $p < .000$ ;  $b = 0.11$ ,  $t(80) = 2.81$ ,  $p < .006$ ). However, the results did not reveal a significant effect of the challenge situation on performance satisfaction,  $b = -0.02$ ,  $t(80) = -0.36$ , ns.

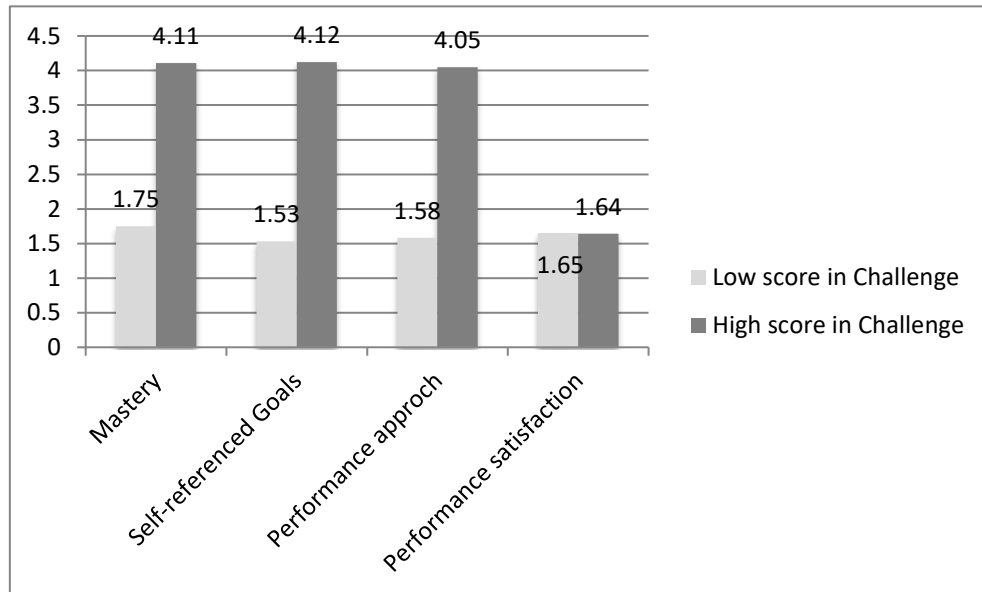


Fig 2: Graph illustrating the Effect of Challenge Situation on Performance

Loss. The results did not reveal any significant effect of the loss situation on performance. The level of performance is not influenced by the level of loss. Specifically,  $b = 0.01$ ,  $t(80) = 0.06$ , ns;  $b = 0.11$ ,  $t(80) = 0.45$ , ns;  $b = -0.09$ ,  $t(80) = -0.36$ , ns;  $b = -0.04$ ,  $t(80) = -0.49$ , ns for mastery, self-referenced goals, performance approach, and performance satisfaction, respectively.

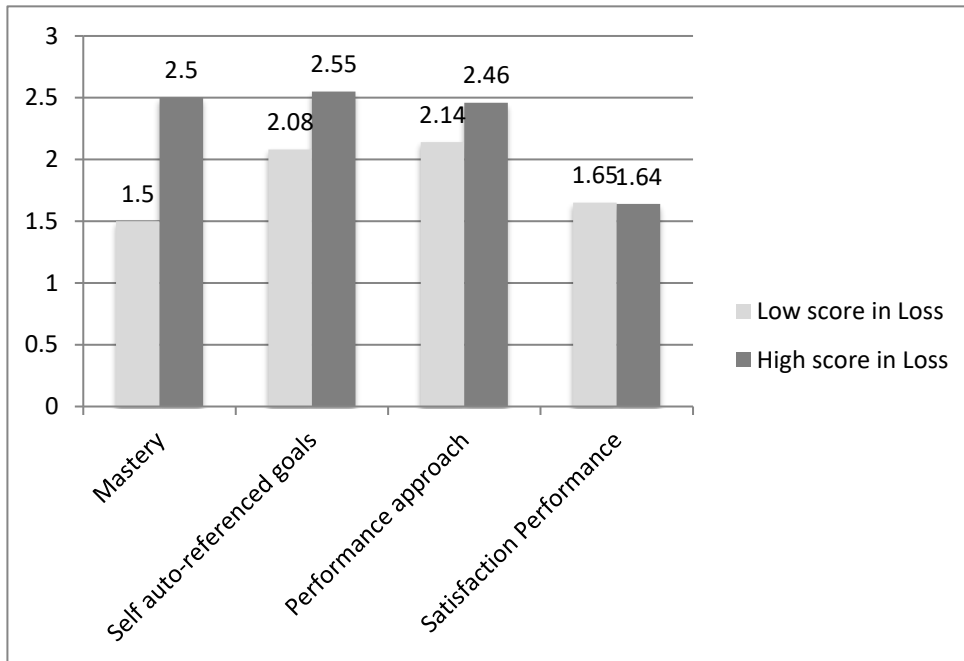


Figure 3: Graph illustrating the Effect of Loss Situation on Performance

#### 4. Discussion

The aim of the study was to examine the interaction effect between stress perception and its intensity. We predicted that the effect of stress perception on performance would depend on the intensity of stress and that a positive perception of stress would enhance performance only when stress intensity falls within the optimal zone. Our hypothesis was not supported, as we observed no interaction effect between stress perception and its intensity.

The results indicated that the more participants perceived their stress as a threat, the lower their performance, and conversely, the more they perceived their stress as a challenge, the better their performance, irrespective of stress intensity. However, we did not observe an effect of the threat situation on satisfaction with performance. This is in line with the contributions of Lazarus and Folkman regarding the appraisal approach. According to these authors (1984), the way a person appraises a stressful situation can influence their emotional and behavioral response. We can suggest that when individuals positively assess their ability to cope with work demands, they are more likely to feel competent and perform at a high

level. In contrast, those who negatively assess their ability to handle workplace stress are more inclined to have lower performance levels.

For example, if a person evaluates a stressful situation as a challenge they can overcome with their resources, they are more likely to cope with stress constructively. On the other hand, if they perceive the situation as threatening and beyond their control, they may be more prone to negative stress responses, which can affect their performance. This can also be explained by the concept of perceived demand and perceived resources proposed by Lazarus and Folkman (1984). In a challenging situation, individuals would have sufficient resources to meet the demand or task at hand. In contrast, in a threatening or loss situation, the demand would exceed the resources available to individuals.

Furthermore, a study conducted by Blascovich (1999) in the laboratory at the University of Santa Barbara examined the effect of threat and challenge on physiological activation and observed that each of these states (threat and challenge) triggers specific cardiovascular activation, which could explain the difference in performance observed. The author adds that the perception of the situation would also depend on whether the task at hand is complex or simple. In other words, in the case of a complex task, physiological activation would correspond to a threat. In the second case, it would be a challenge (Blascovich et al., 1999). While both situations increase heart rate, in the case of challenge, the increase in heart rate would be characterized by "a decrease in vascular resistance." According to Blascovich (1999), this would make it much more effective for task performance. When it comes to the threat, the increase in heart rate would not be characterized by this decrease in vascular resistance. The increase in heart rate would, therefore, result in an increase in blood pressure, which would not allow for sufficient energy activation for optimal task performance.

As for performance satisfaction, we observed that even in cases where participants had better performance, they were not satisfied with their performance. One possible explanation for this finding lies in the high expectations of some participants. Individuals who consistently strive to meet high standards may be more self-critical, even when their performance is excellent. This tendency has been studied by Hamachek (1978) under the name "positive



perfectionism," where individuals have very high performance expectations, which can lead to perpetual dissatisfaction even in the case of success.

This study has highlighted the effect of stress on performance. However, one limitation of this study concerns the measurement of performance, which was limited to the subjective perception that subjects had of their own performance. These results should also be considered in light of the fact that they rely on self-report measures. Many studies have questioned the James-Lange theory, which was dominant in the field of emotions for a long time and suggested that emotions would be consciously perceived by individuals. Therefore, in future research on this topic, it would be wise to address the various aforementioned limitations when conducting experiments. For example, researchers could combine self-reported and physiological measures to better account for emotional reactions, implement tools that include objective performance measures rather than relying solely on subjective measures. Video recordings could also be used to track the evolution of emotions for a better understanding throughout task completion.

It goes without saying that no two workers are identical, but that does not mean they do not share common characteristics. Employers or supervisors should keep in mind that how an individual perceives a situation would influence their level of mastery and goal attainment. Superiors could also consider which situations are more likely to create a challenge rather than a threat. Presenting a task as difficult would allow the worker to perceive the situation as a challenge, setting clear and concrete goals would reduce the degree of uncertainty, and consequently, the level of threat.

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