

WORK-RELATED STRESS AND COMPANY SIZE – IT INDUSTRY IN CROATIA

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Work-related stress is an inevitable aspect of the business environment, making studies in this field crucial for both scientific and practical contributions. This paper examines the causes and levels of stress among employees in Croatia's IT industry. The study aims to define stress levels in the IT sector and investigate how company size impacts stress. The stress levels were assessed through a questionnaire using the PSS-10 scale for measurement. The research sample comprised 121 respondents, and the data was statistically analyzed through ANOVA. The results did not indicate any significant differences in stress levels based on company size, suggesting that company size does not impact stress levels. The study identified that the most common causes of stress in the Croatian IT industry were: the number of job tasks, interpersonal relationships among coworkers, and limited promotion opportunities. Recommendations for reducing stress levels in the Croatian IT industry include managing work-life balance and providing continuous management support.

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1 Introduction

In today's world, individuals often experience stress due to various sources, with work being one of the most significant. Workplace stress can profoundly impact employees and, consequently, the overall performance of a company. The IT industry has experienced substantial growth in Croatia and globally in recent years. However, this expansion often leads to significant changes in the workplace, which can induce stress among employees. The demand for IT professionals remains stable, making this industry one of the safest for employment (Rouse, 2024). The IT sector in Croatia is growing at a rate faster than the national economy (Croatian Chamber of Economy, 2024). According to the National Classification of IT Industry Activities, there were 9,143 registered IT companies in Croatia in 2025, comprising 19 large companies, 84 medium-sized companies, and 9,040 small and micro companies (FINA, 2025). Therefore, it is essential to identify the stress factors affecting employees in the IT industry to minimize stress within these companies.

The literature review identified a gap in existing research regarding the examination of how company size affects employee stress levels in the IT industry. The current study has explored the effect of company size on stress levels in the IT sector in Croatia for the first time. This study aims to investigate whether company size impacts stress levels among employees in this sector. The following research questions were defined:

RQ1: What is the average stress level of employees in IT companies in Croatia?

RQ2: Is there a difference in employee stress levels depending on the size of the company? RQ3: What are the main factors contributing to stress among employees in the IT industry?

Primary research was conducted to collect data on the stress levels of employees in the IT industry. The stress scale developed by Cohen et al. (1983) was employed to ensure the validity of the research. This study has significant scientific and practical contributions in examining the impact of company size on stress levels and emphasizing the most critical stress factors for employees, respectively. The paper is structured as: introduction, literature review, methodology description, research results, and a conclusion summarizing the key findings.

2 Literature review

Previous studies have encountered challenges when formulating a general theoretical conception of stress, and numerous definitions have been presented (Mihailović, 2003). Mihailović (2003) defined stress as, "a psychophysical state in which a person finds themselves in difficult circumstances and situations." In a medical or biological context, stress is a physical, mental, or emotional factor that induces tension (Davis, 2021). Stress denotes the physiological, psychological, and social reactions of the organism to various stressors, which can be internal or external and possess both positive and negative aspects (Matulović, Rončević, and Sindik, 2012). Aslan et al. (2025) asserted that work stress negatively impacts employees' physical and mental health, potentially leading to conditions such as burnout, anxiety, depression, and reduced productivity. Stress can be described as a condition in which individuals face workplace demands that they cannot meet, making success feel unattainable (Helia et al., 2025). Depending on each employee's mindset and perspective, stress can hinder their achievements and work performance (Helia et al., 2025). Kumar et al. (2021) defined job stress as, "the pressure that an employee feels due to employment-related factors." According to Lučanin (2014), stress factors can be events or circumstances that individuals react to and can be categorized into three main groups: physical, psychological, and social.

Kavivarshini and Harihara Sudhan (2023) examined factors influencing employee stress levels with a sample of 100 IT employees from Chennai, India. The results indicated that work-related stress affects all employees regardless of age, and there is a statistically significant difference between employees' age and the amount of stress they experience (Kavivarshini and Harihara Sudhan, 2023). A study by Ahmad et al. (2018) examined the stress levels of 125 managers in the textile industry in Pakistan, using the Perceived Stress Scale (PSS-10). The results showed that 86.4% of respondents experienced work-related stress, with 46.3% classified as severely stressed, with an average PSS score of 15.98 (Ahmad et al., 2018). Chaillet et al. (2025) conducted research with a target population of 358 medical interns from a French university hospital. The results indicated an average stress level of 19.86, with agreeableness, neuroticism, and the risk of workaholism associated with higher perceived stress levels (Chaillet et al., 2025). Conversely, having time for hobbies and conscientiousness were linked to lower perceived stress levels. Colato et al. (2025) researched 388 IT professionals in the US, revealing an average level of 15.1,

classified as moderate stress. Lee (2023) investigated construction employees and revealed that employees from both large and small construction companies experienced similar stresses. This study identified a lack of research related to stress levels and whether firm size impacts stress levels based on different organizational characteristics. However, Lai et al. (2013) examined the direct association between firm size and employees' experiences of job stress, finding no supporting evidence for a side effect. Based on the literature review and research questions, the research hypothesis is as follows:

H1 Company size does not impact employee stress levels.

3 Methodology and results

The primary research was conducted using a survey questionnaire among participants working in the IT industry. The survey was created using Google Forms and consisted of five demographic questions, six general questions about stress, and a stress measurement scale to assess the stress level variable. The PSS-10, adapted from Cohen et al. (1983), has also been previously used by Ahmad et al. (2018), Chaillet et al. (2025), and Colato et al. (2025). The PSS-10 is a 10-question scale designed to determine the extent to which participants perceive their lives as unpredictable, uncontrollable, and overloaded. The scale includes questions about the current level of stress experienced by the participants. The total PSS-10 score ranges from 0 to 40, with higher scores indicating higher stress levels (Chaillet et al., 2025). The survey was anonymous and conducted in September 2024. It was distributed via social networks using purposive and chain sampling. To ensure the validity of this sampling method, two elimination questions were included to exclude the unemployed individuals and those not working in the IT industry.

Of the 125 questionnaires collected, 121 were included in the analysis, as four did not meet the requirement for employment in the IT industry. Among the 121 participants, 61.2% identified as male, 38% as female, and one participant identified as neither male nor female. These results reflect the underrepresentation of women in the IT sector. The majority of responses came from participants aged 18 to 30, accounting for 47.9%, followed by 43.8% aged 31 to 40, and 5% aged 41 to 50. The smallest group consisted of participants aged 51 to 60, at 3.3%. When asked, "Have you faced stress at work?", 83.5% of the participants answered positively, 9.1%

answered negatively, while the remaining 7.4% were uncertain. Regarding sources of stress, 60.3% of the participants indicated that excessive workload was the primary source of stress. Additionally, 57.9% of participants pointed to interpersonal relationships as a significant source of stress, while 21.5% identified low salary as a stress factor.

The most common causes of stress included: high work intensity, tight deadlines, and high task responsibility. According to participants, 60.3% cited excessive workload as a key stress factor, while interpersonal relationships and overtime were also identified as significant contributors. Furthermore, 36.4% of participants highlighted the lack of flexibility in work as problematic, while 26.4% believed that the absence of clear opportunities for professional development increased their stress levels.

ANOVA was employed to test the hypothesis H1. The stress level and company size served as the dependent and independent variables, respectively. The results of the PSS stress level according to company size are presented in Table 1. Cohen et al. (1983) defined three levels of stress: low (scores from 0 to 13), moderate (scores from 14 to 26), and high (scores from 27 to 40). The results revealed an average PSS-10 score of above 20, indicating a moderate level of stress among the participants.

Table 1: PSS-10 score

	Micro companies (SD)	Small companies (SD)	Medium companies (SD)	Large companies (SD)
PSS score	22.382 (4.930)	22.514 (2.241)	21.806 (4.153)	23.500 (4.733)

ANOVA was not conducted for large companies due to the insufficient number of responses (fewer than 30). A single-factor ANOVA was chosen because we have one independent variable. Table 2 presents the ANOVA results. The p-value exceeded the usual significance threshold of 0.05 (0.895860082). These results confirm insufficient evidence of statistically significant differences between the average values for micro, small and medium-sized companies. The findings are in line with a previous study by Goodin (2020). Conclusively, no significant differences in stress levels were found among companies of different sizes, indicating that stress levels do not depend on company size, confirming the hypothesis H1.

Table 2: ANOVA Test Results

Summary						
Groups	Count		Sum	Average	Variance	
Micro	10		761	76.1	184.76	
Small	10		788	78.8	154.62	
Medium	10		785	78.5	255.61	
ANOVA						
Source of Variation	SS	df	MS	F	p-value	F-crit
Between Groups	43.8	2	21.9	0.110420168	0,895860082	3.354130829
Within Groups	5355	27	198.3333333			
	5398.8	29				

4 Conclusion

The findings of this study concluded that company size does not affect the level of stress among employees in IT companies. However, the current level of stress experienced by participants may vary depending on specific questions. The results indicated that employees in the IT industry are significantly exposed to stress. Excessive workloads and interpersonal relationships were identified as the most significant sources of stress for employees in IT companies. These findings suggest that IT companies should focus on developing effective human resource management strategies that emphasize these factors. Rapid changes within the workplace and a competitive environment undoubtedly contribute to stress. Additionally, the shift toward remote work and increased reliance on digital tools have become defining features of modern organizational life, particularly in the IT sector. For IT professionals, the cognitive load is high due to the need to manage and process complex information, and individuals are frequently required to learn and adapt to new digital tools or systems, leading to diminished performance and increased stress (Xie and Yang, 2025). However, activities related to human resource management can help maintain stress levels at an acceptable level, preventing stress from reducing employee satisfaction, impairing their health, and ultimately negatively affecting company performance. These insights provide valuable recommendations for the professional community. Additionally, Aslan et al. (2025) suggest that company leaders and human resources professionals should consider

adopting leadership styles, such as democratic leadership, which foster positive workplace climates to mitigate stress.

The results did not indicate a difference in stress level in micro, small, and medium-sized companies, aligning with findings from Lee (2023) in the construction industry. However, these findings could not be compared due to the lack of similar studies. The insignificant results could be explained by other factors that may influence stress levels, including organizational culture, HR practices, and individual factors like age, position, or personality. This area represents a area for future research, and these results provide intriguing scientific insight. Therefore, the PSS-10 score indicated a higher average level of stress in the Croatian IT industry, compared to studies by Ahmad et al. (2018), Colato et al. (2025), and Chaillet et al. (2025). These the importance of validating and monitoring stress levels in the IT industry.

It is essential to consider the limitations of the study when interpreting the results. The insufficient number of employees from large companies precluded conducting the ANOVA test for this group. Additionally, expanding the research sample would be necessary to obtain more reliable results and ensure a high level of representativeness. Furthermore, this study is also limited by a lack of control variables (e.g., job role, experience level). When interpreting the results, it is crucial to consider the stated limitations and how they relate to the studied population.

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