



# Leisure activities and feelings of stress in the workplace. The mediating role of emotional reactivity and activity<sup>1</sup>

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**Abstract:** The purpose of the research was to verify the relationship between experiencing stress while in the workplace and leisure activities, and to see whether selected temperament traits in line with Strelau's Regulatory Theory of Temperament – emotional reactivity and activity – significantly affect the link between these variables. The survey included 124 economically active people, with a minimum of one year of work experience, in the age range of 18 to 65. It was conducted using the paper-and-pencil method in a stationary mode with three tools: Formal Characteristics of Behaviour – Temperament Inventory Revised Version, Subjective Work Assessment Questionnaire, and Free Time Spending Questionnaire. The results showed that as the level of stress experienced in the workplace goes up, relaxation and physical activity and activity decrease, while emotional reactivity increases. At the same time, the higher the relaxation and physical activity, the higher the activity level and the lower the emotional reactivity. Moreover, these two temperament traits may modify the relationship between leisure activities and feelings of stress in the workplace.

**Keywords:** activity, leisure time, emotional reactivity, stress, temperament

## Introduction

In today's dynamically changing reality, issues related to work and leisure time are particularly important. There is a growing need to understand the peculiarities of these phenomena and readiness to manage them optimally is of crucial importance. Leisure time is the main area of interest for the authors of the article, since conscious planning and undertaking activities outside of work has many benefits for physical and mental health, effective functioning under stress, as well as work-home balance (Łukaszewski, 2020; Rosak-Szyrocka, 2021). This raises another issue of what role an individual's characteristics – in the form of the intensity of certain temperament traits – play in the perception of leisure and stress (Cyniak-Cieciura, 2021). Previous analyses on the aforementioned variables were undertaken

with specific social or professional groups to indirectly verify the relationship between them. Given the lack of implications that confirm the significance of the interactions, the aim of the conducted research was not only to examine the relationship between the perception of stress at work and leisure activities, but also to see whether emotional reactivity and activity modify the relationships under consideration.

## 1. Ways of spending leisure time

The concept of leisure time emerged in scientific discourse as the opposite of time devoted to work. The literature provides various definitions that de-

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scribe the essence of this issue, and since it arouses the curiosity of researchers from many scientific fields, three approaches to the conceptualization of leisure time are distinguished: instrumental, behavioural and spiritual (Czarnecki, Kaszkowska, Kreft, Nikolenko, Skalski, 2023). The first defines time as moments left for an individual to regenerate after fulfilling tasks arising from varied obligations. The behavioural approach involves engaging in activities that lead to rest and relaxation (Czarnecki et al., 2023). In spiritual terms, leisure time involves focusing on satisfying higher-order needs, such as self-development or self-improvement (Miłaszewicz, Węgrzyn, 2018). In the research presented here, leisure time will be considered both in terms of rest from work and household chores as well as in terms of any activity that is a source of satisfaction (Czarnecki et al., 2023).

Leisure time plays various roles in human life, which can basically be boiled down to three functions. The first of these – rest – is oriented toward relieving and removing mental and physical fatigue. Relaxation is essential for recovery and directly affects a person's well-being. The second function of leisure time is entertainment, which allows needs that counteract monotony to be satisfied through activities with different levels of variation and intensity. The third function involves the independent expansion of knowledge about one's own being, which leads to development and self-realization. It is a different kind of stimulation that provides an opportunity to disconnect from daily worries. In addition, it is said that through leisure mental life is enriched, interpersonal relationships are established and maintained, and there is an opportunity to satisfy the need for creative expression (Czarnecki et al., 2023; Różanski, 2018).

Considering leisure time through the prism of the activities undertaken in it makes it possible to carry out a division of the ways it is spent into, first, active such as sports, gardening, traveling, and second, passive in the form of, for example, listening to music, watching TV, going to the theatre. Their preference depends on a number of factors, such as environmental conditions, individual characteristics of the person or his or her current well-being (Łukaszewski, 2020). Leisure time physical activity positively affects various aspects of daily functioning, from improving

sleep quality to affecting overall health (Bull et al., 2020). A popular form of this type of recreation is team sports (such as volleyball, basketball, football or hockey). They can be a good way to relieve accumulated tension in a group of people who enjoy physical exertion and like situations that involve interpersonal interaction and cooperation. Individual sports (e.g., swimming, golf, skiing) are another type of active leisure activity. They are certainly characterized by greater time flexibility. Moreover, they leave ample room for individual preference in the intensity and frequency of the activities undertaken. Individual sports increase a sense of control, self-discipline, and independence, and by requiring a high level of focus, distract from stressors and other negative factors (Šagát et al., 2021).

When it comes to relaxation leisure activities, there are a number of options to choose from as well. Due to ease of access, many people consider watching TV, listening to the radio or reading a book or newspaper to be the optimal way to rest passively. Those with a passion for the art of film are more likely to go to the cinema for a movie screening, while classical music enthusiasts will prefer concerts at the philharmonic. Others will regularly choose to spend an evening at the theatre or art gallery (Yoo, 2022). An interesting way to spend leisure time, especially in the long term, is tourism. This is a specific form of activity which involves an extremely wide range of possibilities as regards the choice of destination, as well as the activities undertaken. Depending on individual preferences, tourism can be both active and passive. However, regardless of whether a person decides during this time to visit architectural monuments, walk through mountainous terrain or relax in the sun, any change of environment that allows a break from various commitments significantly improves the quality of life and provides an opportunity for rest and recuperation (Stasiak, 2022).

The leisure activities listed above are only a small portion of the activities a person can undertake during breaks from work. How an individual spends their free time depends on their individual preferences, interests, education, place of residence, economic status and availability, among other factors. In the context of the variety of diseases of civilization, undertaking activities

that serve recreation is gaining importance. Finding a moment to relax becomes a key part of taking care of one's own physical and mental well-being (Skalski, Nesterchuk, Skalska, Kindzer, 2021).

## **2. Leisure time, emotional reactivity and activity versus experiencing stress at work**

The pace of life in the modern world means that we have increasingly less time to relax and also need to deal with much more stressful situations (Heszen, 2020). Despite the multiplicity of definitions of stress, it seems that the common denominator of the vast majority of them is to view the stress response as some kind of disruption of the harmony between an individual's resources and the demands of the outside world. A particular place which a definite part of society can associate this type of tension with is the professional environment. The stress response in general is a healthy and adaptive function that occurs when a person is faced with a challenge. Thus, it should not be considered unequivocally harmful to the individual; however, prolonged and regular contact with stressful stimuli can significantly stress the entire body and bring negative consequences (Engert, Linz, Grant, 2019). Time pressure, fear of losing one's job, excessive control by one's supervisor, conflicts or inadequate working hours are among the many stressors associated with the work environment. There are a number of indications from empirical studies that confirm that high levels of perceived stress at work, among other things, reduce employees' satisfaction and productivity, as well as worsen their well-being. Therefore, the introduction of measures to prevent and counteract this phenomenon should be an integral part of the structure of operations of the entire organization, and the personnel employed should be properly prepared (Aryanto, Tukinah, Hartarini, Lubis, 2020; Brunner, Igc, Keller, Wieser, 2019).

The approach to workplace stress proposed by Dudek, Waszkowska and Hanke (1999) plays an important role in the research presented herein. The aforementioned researchers believed that stress is a process which consists of diverse reactions and

changes that occur in a person as a result of having to face a difficult situation and becoming aware of the various demands associated with it. The researchers identified six consecutive phases of workplace stress: (1) the objective situation; (2) the subjective situation; (3) the primary evaluation; (4) the immediate reaction resulting from emotional arousal; (5) the choice of how to deal with the stress; and (6) the distant effects depending on the adequacy of the decision made in the previous stage. The whole process is directly influenced by certain modifiers that depend on the characteristics of the individual and the social environment, which can support the person facing a difficult situation or, on the contrary, cause additional difficulties (Dudek, Waszkowska, Hanke, 1999).

Due to the negative effects of stress, many researchers are taking on the challenge of finding the most optimal methods to reduce such tension. Various analyses have been conducted to consider this issue and to verify, among other things, the relationship between various leisure activities and different aspects and types of stress, including work-related stress. Officers of the National Fire Service were one of the professional groups that was subjected to such testing. Slendak and Cewińska (2015) examined the role of sports activities undertaken in free time in counteracting stress in the workplace. It turned out that the largest number of officers of the National Fire Service relieve accumulated stress by meeting with friends, listening to music, watching TV series, and playing sports. After the physical activity, most officers felt a significant improvement in their mood and a reduction in tension. Moreover, more than half of the respondents reported that team sports in particular had a positive effect on decreasing tension. Bell, Theiler and Rajendran (2012), on the other hand, decided to see if there was a relationship between the stress experienced at work and the balance between time spent in the workplace and that spent on private activities and relaxation. The study included 100 employees of various universities located in Australia. Analysis of the results showed that work-home imbalance was significantly more common among the workers who experienced more severe professional stress.

Another factor that can moderate the relationship between stress-related phenomena and also be related to the level of stress is temperament. Of the many diverse takes on this issue, one seems to be particularly frequently cited by the numerous researchers exploring the subject, namely the Regulatory Theory of Temperament. The author of this approach, J. Strelau, distinguishes six temperament traits: perseverance, briskness, endurance, sensory sensitivity, emotional reactivity, and activity. Due to the specifics of the analyses carried out, it is worth paying special attention to the latter two characteristics. Emotional reactivity according to this concept is defined as the tendency to react intensely to emotogenic stimuli, which are expressed in high sensitivity and low emotional resilience. Activity, in turn, can be understood as the tendency to engage in behaviours characterized by high stimulative value or those that provide high internal stimulation (Heszen-Niejodek, 2020). The relationship between temperament and stress has been analyzed for a variety of groups and environments both in Poland and abroad. Waszkowska, for example, tested the relationship between certain temperament characteristics and the level of stress drivers experience in connection with active participation in traffic. The results clearly indicate that individuals experiencing less tension in traffic are those characterized by low intensity of response to stimuli and high need for stimulation (Waszkowska, 2009). Cyniak-Cieciura and Zawadzki (2019), on the other hand, tested whether temperament traits were related to symptoms of post-traumatic stress disorder (PTSD) and its moderators. Through a meta-analysis of 19 studies, they were able to determine that all temperament traits consistent with the Regulatory Theory of Temperament were statistically significantly associated with PTSD symptoms – emotional reactivity was associated positively, while activity – negatively. In turn, Brudek, Steuden and Ciula (2019) reviewed the mediating role of stress coping styles in the relationship between temperament and occupational burnout. The study group consisted of nurses, working in various psychiatric wards. The results led to the conclusion that emotion-focused coping is a significant mediator between emotional reactivity and activity and emotional exhaustion.

The studies cited above provide clear evidence of a link between leisure time, emotional reactivity and activity and the experience of stress in various situations and environments, including the workplace. However, there is a clear deficit in the literature of studies that take into account selected temperament traits and leisure activities, especially in relation to the phenomenon of occupational stress.

### **3. Problems of own research**

The aim of the study was to analyze the relationship between feelings of stress at work and leisure activities, and to see if emotional reactivity and activity play a significant role in shaping the relationship between these variables. So far, the considerations mainly referred to single aspects of the factors under review. The relationship between stress and leisure time is usually studied indirectly by checking the relationship with a specific interest on which leisure time can be spent. The subject of such considerations is primarily physical activity in its broadest sense. Rosak-Szyrocka (2021) showed that undertaking such activities helps combat occupational stress, allows for relaxation and recovery, and increases the employees' overall quality of life. Also, activities unrelated to sports can reduce tension, as can be seen, for example, in analyses conducted by Hartono (2022). A questionnaire survey with respondents between the ages of 17 and 25 led to the conclusion that having a hobby, in this case specifically related to drawing, helped reduce accumulated stress by directing attention to developing creative thinking. Despite the lack of research that takes into account the breakdown of leisure activities into relaxation and physical activities, the rationale from the cited studies provides a solid basis for the assumption that stress at work will correlate with leisure activities. In addition, analyses by Cyniak-Cieciura (2021) showed that the level of activity and emotional reactivity are clearly related to stress as a predictor of its intensity, with the latter temperament trait possibly being modified by the intensity of psychological flexibility. Moreover, a study involving psychiatric nurses (Brudek, Ciula, Furmanek, Steuden, 2018) found that activity was

negatively associated with emotional exhaustion and depersonalization, i.e., aspects of professional burn-out, which in many cases is underpinned by chronic stress in the professional environment.

In view of the cited research results, the following research hypotheses were formulated:

- H1. There is a relationship between stress levels and leisure activities:
  - H1.1 The stronger the relaxation activity, the lower the level of occupational stress.
  - H1.2 The stronger the physical activity, the lower the level of occupational stress.
- H2. The lower the level of emotional reactivity, the lower the level of perceived stress.
- H3. The higher the level of activity, the lower the level of perceived stress.

Given the lack of research with regard to the relationship between emotional reactivity and activity and leisure activities, and the desire to verify the links that exist between them, it was decided to formulate the following directional research questions:

- Q. 1. Is there a relationship between the level of emotional reactivity and leisure activities?
  - Q. 1.1 Does a higher level of emotional reactivity mean weaker relaxation activity?
  - Q. 1.2 Does a higher level of emotional reactivity mean weaker physical activity?
- Q. 2. Is there a relationship between activity levels and leisure activities?
  - Q. 2.1 Does a higher level of activity mean higher relaxation activity?
  - Q. 2.2 Does a higher level of activity mean higher physical activity?
- Q. 3. Can emotional reactivity modify the relationship between leisure activities and feelings of stress in the workplace?
- Q. 4. Can activity modify the relationship between leisure activities and feelings of stress in the workplace?

## 4. Method

### 4.1. People surveyed

The survey included 124 people with a minimum of one year of work experience at their current place of employment. Women accounted for 52.4% of the respondents, while men accounted for 47.6% of the respondents. The mean age of the participants was 34 years ( $M = 33.8$ ;  $SD = 12.2$ ). The average length of service overall was 9 years, while for the currently held position it was 6 years. For 72.6% of the respondents, the learned profession was not compatible with their occupation. In addition, 29% of those surveyed held a management position. The most common place of residence declared by the participants was a city between 100,000 and 500,000 residents (32.3%), and the least common was a village (18.5%). Most of the respondents had a master's degree (34.7%), followed by secondary education (33.9%). Moreover, less than half of the respondents (43.5%) played sports, with more than 42% doing so more than twice a week.

### 4.2. Research tools

In seeking answers to the formulated hypotheses and research questions, three research tools with satisfactory reliability indices were used.

Formal Characteristics of Behaviour – Temperament Inventory Revised Version (FCZ-KT (R)) by Cyniak-Cieciura, Zawadzki and Strelau (2016) was used to measure the intensity of emotional reactivity and activity. This tool contains 100 items to which the surveyed individual responds using a four-point response scale, where 1 means *strongly disagree* and 4 means *strongly agree*. The questionnaire consists of seven scales: briskness, perseverance, endurance, sensory sensitivity, rhythmicity, emotional reactivity, and activity. Due to the subject matter of the research conducted, only the latter two were used. They show a satisfactory level of reliability in our own research (Cronbach's  $\alpha = 0.88$ , and for activity  $\alpha = 0.84$ ).

The job's burden with psychosocial stressors was measured using the Subjective Work Assessment Questionnaire (KSOP) worked out by Dudek, Waszkowska and Hanke. The tool contains 57 items

that describe various job characteristics, which the respondent rates on a five-point scale indicating the degree of strain of the characteristic (1 – *the characteristic is not present, does not apply to my job*; 5 – *it annoys me all the time at work, and I even get annoyed about it at home*). The questionnaire consists of ten scales: (1) sense of psychological burden associated with work complexity; (2) lack of rewards at work; (3) sense of insecurity caused by the organization of work; (4) social contact; (5) sense of threat; (6) physical strain; (7) unpleasant working conditions; (8) lack of control; (9) lack of support; (10) sense of responsibility. When added together, these give an overall index of job stressfulness. In our study, the Cronbach's alpha coefficient for the entire questionnaire was 0.95, which indicates highly satisfactory reliability. For individual scales, it is highest for the sense of psychological burden associated with work complexity (Cronbach's alpha = 0.88) and unpleasant working conditions (Cronbach's alpha = 0.87), while it is lowest for lack of support (Cronbach's alpha = 0.65), sense of threat (Cronbach's alpha = 0.69) and sense of insecurity caused by the organization of work (Cronbach's alpha = 0.67).

The Free Time Spending Questionnaire by Hauk and Strzelczyk was used to verify leisure activities. It consists of 32 items that relate to activities undertaken during vacation, to which the respondent provides a reply using a four-point scale indicating the frequency of their performance, where 1 means *never* and 4 means *very often*. The tool highlighted two scales with satisfactory reliability in our own research – relaxation activity (Cronbach's alpha = 0.78) and physical activity (Cronbach's alpha = 0.77).

#### **4.3. Test procedure**

The research was conducted between October 2022 and January 2023 in a stationary mode, in accordance with the principles of the Declaration of Helsinki. This means that all the respondents were informed of the voluntary nature and anonymity of participation, as well as the scientific purpose of the study and the fact that the results obtained would be used for scientific purposes only. The process of recruiting participants for the study was based on the use of social relation-

ships. Trustworthy people close to the researchers actively encouraged the people they knew who met the set criteria to participate in the study, which made it possible to gather participants representing diverse professional backgrounds. The subjects were given a sheet to fill out, containing the personal data necessary for the analysis, as well as three carefully prepared questionnaires, which they returned to the researchers after completing them on their own without time constraints or supervision. Any data collected was used in further statistical analysis, performed in SPSS Statistics 28. Given the number of respondents (124 participants), the central limit theorem was applied to assume that the distribution approximates normal.

## **5. Results of own research**

### **5.1. Ways of spending leisure time versus experiencing stress in the workplace**

The first research problem addressed the relationship between leisure activities and feelings of stress at work. Accordingly, specific research hypotheses were formulated, which assumed that relaxation and physical activity attenuate the experience of stress in the workplace (H1.1-H1.2). The results of Pearson's  $r$  correlation are presented in Table 1.

The results indicate strong negative associations between active and passive leisure activities and feelings of stress at work. Both relaxation and physical activity reduce tension, resulting from mental strain, lack of rewards, feelings of insecurity, social contact, sense of threat, physical strain, unpleasant working conditions, lack of control, lack of support, lack of responsibility, and overall levels of occupational stress. Thus, hypotheses H1.1-H1.2 were confirmed.

### **5.2. Emotional reactivity and activity versus experiencing stress in the workplace**

The second research problem concerned the relationship of emotional reactivity and activity with stress at work. Pearson's  $r$  correlation coefficient was again used to verify the second and third hypotheses (see: Table 2).

The data shows that low emotional reactivity co-occurs with low levels of stress in the workplace, both overall and in terms of specific aspects of work (hypothesis H2 was confirmed). Only unpleasant working conditions do not yield to emotional reactivity. In the case of activity, negative statistically significant relationships were noted, the strength of which ranged from moderate to strong (hypothesis H3 was confirmed).

### 5.3. Emotional reactivity and activity versus leisure activities

A decision was taken to test whether the higher the level of emotional reactivity, the weaker the relaxation and physical activity, and whether the higher the activity level, the stronger the leisure activities studied. The results in Table 3 confirm the directions of the assumed relationships. High emotional reactivity weakens the readiness for active and passive leisure activities, while high activity significantly enhances such leisure activities.

### 5.4. Ways of spending leisure time versus experiencing stress in the workplace. The mediating role of emotional reactivity and activity

The last research problem involved the relationship of leisure activities with feelings of stress, taking into account selected temperament traits as mediating variables. To this end, a series of regression analyses were performed using the introduction method in two subgroups distinguished based on high and low levels of emotional reactivity (see: Table 4) and high and low activity levels (see: Table 5).

In the case of emotional reactivity, both models proved to be a good fit to the data and explained 14% of the variation in the dependent variable – feeling stressed at work in the low reactivity group – and as much as 63% of the variation in the high reactivity group. In people with low reactivity levels, the experience of stress is affected only by the level of physical activity ( $\beta = -0.41$ ), while high relaxation ( $\beta = -0.55$ ) and physical activity ( $\beta = -0.34$ ) reduce the stress levels of highly reactive people (see: Table 4).

Table 1. Ways of spending leisure time versus experiencing stress in the workplace

Variables	Physical activity	Relaxation activity	
Mental load	<i>r Pearson</i>	-0.54	-0.54
	<i>Significance</i>	<0.001	<0.001
No rewards	<i>r Pearson</i>	-0.52	-0.43
	<i>Significance</i>	<0.001	<0.001
Sense of insecurity	<i>r Pearson</i>	-0.43	-0.49
	<i>Significance</i>	<0.001	<0.001
Social contacts	<i>r Pearson</i>	-0.54	-0.48
	<i>Significance</i>	<0.001	<0.001
Sense of threat	<i>r Pearson</i>	-0.47	-0.45
	<i>Significance</i>	<0.001	<0.001
Physical strain	<i>r Pearson</i>	-0.40	-0.28
	<i>Significance</i>	<0.001	0.002
Unpleasant conditions	<i>r Pearson</i>	-0.37	-0.28
	<i>Significance</i>	<0.001	0.001
Lack of control	<i>r Pearson</i>	-0.42	-0.45
	<i>Significance</i>	<0.001	<0.001
Lack of support	<i>r Pearson</i>	-0.43	-0.45
	<i>Significance</i>	<0.001	<0.001
Sense of responsibility	<i>r Pearson</i>	-0.46	-0.48
	<i>Significance</i>	<0.001	<0.001
Experiencing stress in the workplace	<i>r Pearson</i>	-0.59	-0.56
	<i>Significance</i>	<0.001	<0.001

As for another temperament trait studied – activity – the models obtained also proved to be a good fit to the data and explained 51% of the variation in work stress levels of those with low activity and 15% of those with high activity. Experiencing stress at work for those with low activity is affected by both passive ( $\beta = -0.44$ ) and active forms of leisure ( $\beta = -0.46$ ), while for those with high activity, stress is reduced only by physical activity ( $\beta = -0.33$ ), (see: Table 5).

At the end of the conducted analyses, it was examined whether the combined consideration of emotional reactivity and activity modifies the relationship between active and passive forms of leisure and stress at work. Active leisure activities have an impact on stress levels in the low reactive group with high activity ( $\beta = -0.45$ ), ( $F(2,33) = 5.94^{**}$ ). Stress levels (64% of variation) depend

Table 2. Emotional reactivity and activity versus experiencing stress in the workplace

Variables		Emotional reactivity	Activity
Mental load	<i>r Pearson</i>	0.46	-0.50
	<i>Significance</i>	<0.001	<0.001
No rewards	<i>r Pearson</i>	0.35	-0.49
	<i>Significance</i>	<0.001	<0.001
Sense of insecurity	<i>r Pearson</i>	0.28	-0.44
	<i>Significance</i>	0.002	<0.001
Social contacts	<i>r Pearson</i>	0.42	-0.46
	<i>Significance</i>	<0.001	<0.001
Sense of threat	<i>r Pearson</i>	0.29	-0.44
	<i>Significance</i>	<0.001	<0.001
Physical strain	<i>r Pearson</i>	0.29	-0.37
	<i>Significance</i>	<0.001	<0.001
Unpleasant conditions	<i>r Pearson</i>	0.14	-0.25
	<i>Significance</i>	0.1	0.004
Lack of control	<i>r Pearson</i>	0.34	-0.34
	<i>Significance</i>	<0.001	<0.001
Lack of support	<i>r Pearson</i>	0.21	-0.42
	<i>Significance</i>	0.022	<0.001
Sense of responsibility	<i>r Pearson</i>	0.39	-0.42
	<i>Significance</i>	<0.001	<0.001
Experiencing stress in the workplace	<i>r Pearson</i>	0.43	-0.54
	<i>Significance</i>	<0.001	<0.001

on both relaxation and physical activity for highly reactive individuals with low activity ( $F(2,33) = 32.25^{***}$ ), (see: Table 6).

## Discussion of results and conclusions

In the context of various diseases of civilization, taking measures to reduce stress assumes special importance. The purpose of the study was to verify whether leisure activities can be a means of reducing occupational stress, and whether selected temperament traits – emotional reactivity and activity – can modify these relationships.

The results indicate strong negative associations between active and passive leisure activities and perceived stress at work. Both relaxation and physical

Table 3. Emotional reactivity and activity versus leisure activities

Variables		Emotional reactivity	Activity
Relaxation activity	<i>r Pearson</i>	-0.29	0.42
	<i>Significance</i>	<0.001	<0.001
Physical activity	<i>r Pearson</i>	-0.49	0.67
	<i>Significance</i>	<0.001	<0.001

Table 4. Leisure activities and feelings of stress in people with high and low levels of emotional reactivity

Stress at work – people with low reactivity levels	$\beta$	$T$	Adjusted $R^2$	$F(df1,df2)$
Relaxation activity	-0.001	-0.01	0.14	$F(2,61) = 6.24^{**}$
Physical activity	-0.41	-3.48 <sup>***</sup>		
Stress at work – people with high reactivity levels	$\beta$	$T$	Adjusted $R^2$	$F(df1,df2)$
Relaxation activity	-0.55	-5.61 <sup>***</sup>	0.63	$F(2,57) = 50.50^{***}$
Physical activity	-0.34	-3.47 <sup>***</sup>		

Explanation: \*\*Significance < 0.01, \*\*\*Significance < 0.001

activity reduce tension from mental strain, lack of rewards, feelings of insecurity, social contact, sense of threat, physical strain, unpleasant working conditions, lack of control, lack of support, lack of responsibility, and overall levels of occupational stress. Similar relationships were observed by Lagunes-Córdoba et al. (2022) and Brudek et al. (2018). This supports the premise that leisure can be a way to replenish personal resources or relieve tension after work by choosing specific ways to spend it. Active recreation in the form of swimming, running or cycling is always associated with a certain level of physical exertion. Passive forms, such as reading a book, listening to music or watching a movie, are no longer so physically exhausting, so they mainly serve to relax and have a healing function.



Table 5. Leisure activities and feelings of stress in people with high and low levels of activity

Stress at work – people with low activity levels	$\beta$	$T$	Adjusted $R^2$	$F(df1,df2)$
Relaxation activity	-0.44	-4.72***	0.51	$F(2,61)$ = 34.37***
Physical activity	-0.46	-5.02***		

  

Stress at work – people with high activity levels	$\beta$	$T$	Adjusted $R^2$	$F(df1,df2)$
Relaxation activity	-0.19	-1.52	0.15	$F(2,57)$ = 6.24**
Physical activity	-0.33	-2.65*		

Explanation: \*Significance < 0.05, \*\*Significance < 0.01, \*\*\*Significance < 0.001

Table 6. Leisure activities and feelings of stress in the workplace. The mediating role of emotional reactivity and activity

Stress at work – people with low reactivity and high activity	$\beta$	$T$	Adjusted $R^2$	$F(df1,df2)$
Relaxation activity	-0.11	-0.64	0.22	$F(2,33)$ = 5.94**
Physical activity	-0.45	-2.61*		

  

Stress at work – people with high reactivity and low activity	$\beta$	$T$	Adjusted $R^2$	$F(df1,df2)$
Relaxation activity	-0.44	-3.40**	0.64	$F(2,33)$ = 32.25***
Physical activity	-0.47	-3.63***		

Explanation: \*Significance < 0.05, \*\*Significance < 0.01, \*\*\*Significance < 0.001

It is important to keep in mind personal preferences in the form of certain temperamental conditions when choosing leisure activities, as the research conducted confirms that low emotional reactivity and high activity remain associated with low levels of experienced occupational stress. This is in line with the results obtained by Heszen (2020) and Waszkowska (2009), among others, regarding the direction of the relationship between the level of emotional reactivity and activity and the level of stress. Emotional reactivity, according to Strelau’s concept of Regulative Theory of Temperament, manifests itself in the intensity (magnitude) of responses, so people with higher levels of it may be less resilient to stress and perform worse in tension-provoking situations. Activity, on the other hand, shows clear links to various aspects of stress. Individuals characterized by high levels of activity tend to regulate the emotions they feel more flexibly, which supports coping with tension in the workplace and facilitates taking adequate action to reduce it. This translates into preferred leisure activities. As shown in the analyses presented herein, high emotional reactivity weakens the readiness for active and passive leisure activities, while high activity significantly strengthens such forms of leisure.

The most important finding of the study, however, is to show how leisure activities contribute to lowering work tension in a group of people who differ in reactivity and activity levels. It turns out that respondents with low reactivity and high activity, temperamentally the least vulnerable to stress, deal with tension in various dimensions of work actively and satisfy the individual need for stimulation, which will promote the arousal of positive emotions and efficiency of action. In contrast, people who are temperamentally most vulnerable to stress, due to their high emotional reactivity and low activity, protect themselves from the negative effects of stress by choosing various leisure activities, both relaxing and active.

In conclusion, the research conducted proves the important role of leisure time and ways of using it in shaping human health. Any form of leisure activity has a positive effect on reducing tension caused by occupational stressors, so continuing research in this

direction with a more numerous and professionally diverse group is considered significant from a scientific and practical point of view. The observed relationships can find a number of practical implications, ranging from mental health prevention in

organizations, the formation of company policies on stress management in the workplace based on individual employee characteristics, or in the process of individual counselling and support for employed individuals.

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