

RECREATIONAL ACTIVITIES AS AN INVESTMENT: IMPACT ON STRESS, JOB SATISFACTION AND ECONOMIC EFFICIENCY OF A COMPANY

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Abstract: *In the modern business environment, job satisfaction is a fundamental variable that encourages employees to increase their efficiency, engagement, and focus on achieving organizational goals. Workplace stress is one of the key challenges of modern organizations, negatively affecting productivity, employee satisfaction, and overall well-being. Numerous studies confirm that regular physical activity, especially recreational sports, can be an effective tool for managing stress and improving the psychological and physical resilience of employees. Additionally, an organizational culture that encourages sports contributes to a sense of belonging, which in the long term reduces employee turnover and increases organizational loyalty. The aim of this paper is to investigate employee perceptions of the role of recreational and sports activities in the workplace, with a special emphasis on their impact on reducing stress, increasing job satisfaction, and work efficiency. The paper also analyses the degree of employee support for strategic investment in such activities, which contributes to reducing costs associated with sick leave and absenteeism. For the purposes of this paper, a survey was conducted via an online questionnaire from February to March 2025, in which 94 respondents (N=94) participated. The research methodology is based on the use of a survey questionnaire, and the collected data were processed using the JASP software tool, using descriptive statistics, contingency tables, chi-square test and Bayesian analysis. The results obtained can be applied for promoting sports activities within the company, improving greater job satisfaction and then the work performance of employees and can be a support in including sports activities in strategic investments of the company.*

Keywords: *business efficiency, employee productivity, investment in human capital, economic effects of recreation, strategic investment in sports activities*

JEL classification: D23, L23, J30

INTRODUCTION

Recreational activities and physical activity are increasingly seen as an important factor in promoting employee well-being and reducing costs associated with absenteeism and sick leave.

In conditions of market instability, both employees and managers are faced with continuous pressure from employers who strive to achieve superior results and achieve strategic goals. Under this pressure, employees, either unconsciously or under duress, take on multiple tasks, which results in stress, or burnout. Although this approach to work can sometimes generate positive outcomes, in most cases it leads to negative consequences. These include excessive working hours, physical and mental fatigue, depletion of energy resources, and a general decrease in job satisfaction and morale. If you are stretched and overloaded, you cannot think strategically about your time, and certainly not about others .

Physical activity, in addition to having proven benefits for physical health, also plays a significant role in improving mental health. Today, physical activity, or exercise, is increasingly used as a therapeutic intervention in the treatment of stress. Numerous studies confirm its effectiveness in alleviating symptoms of anxiety disorders, depression, and in reducing stress. In addition to its direct impact on neurotransmitter systems by stimulating the secretion of endorphins and other hormones, exercise contributes to increasing self-esteem and self-confidence, and improving cognitive functions and socialization in patients. A systematic review of the literature has determined that there are recommendations from the World Health Organization (WHO), recommending physical activity for at least 30 minutes a day or, alternatively, at least three times a week for one hour. Therefore, regular physical activity is a key factor in improving the quality of life of modern people, especially in the context of preserving and improving psychophysical health. Given the above, it is crucial to find the optimal way of physical exercise adapted to individual preferences. Choosing an activity that an individual enjoys allows for effective reduction of tension and stress, especially in a demanding work environment.

The implementation of such activities results in significant positive changes in the overall health of the individual, including physical and mental well-being . The main goal of sports and recreation programs for employees is to improve health through prevention, alleviation and elimination of ailments and compensation and correction of other negative effects that are a consequence of various workloads at the workplace. Therefore, when developing guidelines for designing sports and recreation programs, it is necessary to consider the characteristics of the job first. In addition, for the programs to be accepted by employees, it is useful to consider their interests .

BURNOUT SYNDROME AT WORK

Burnout syndrome is a stress reaction that develops in people exposed to high work demands and was first mentioned in the 1970s, during a study of emotional stress in workers engaged in auxiliary professions in healthcare .

Emotional exhaustion, negative attitudes and feelings towards clients, and insecurity in professional competence were observed in the workers at that time. Burnout is often associated with chronic stress or unfulfilled expectations. In diagnostics, it is important to distinguish burnout syndrome from stress. Stress is a temporary condi-

tion, while burnout is a long-term process that can have serious consequences. Burnout syndrome is a mental health disorder caused by chronic stress at work.

Burnout syndrome usually manifests itself when individuals, despite their exceptional dedication to work, realize that their engagement is not enough to achieve their desired professional goals. Long-term stress and frustration, combined with ineffective strategies in working with clients, significantly contribute to the development of this syndrome. Emotional exhaustion, which results from excessive work obligations and unfavourable working conditions, results in a feeling of mental and physical fatigue. Reduced personal achievement refers to the loss of perception of one's own competence, especially in the context of interpersonal interactions. People affected by this condition often express doubt in their own abilities, a feeling of chronic fatigue, depression, cynicism, irritability, and negative attitudes towards work and co-workers. Burnout syndrome is also closely related to self-image - a construction that is formed through perceptions, cognitions, experiences, and self-evaluation. Already in early childhood, through positively shaped upbringing, the basis of self-confidence is formed, but in people who experience burnout, the self-image remains average and largely depends on external recognition.

Burnout syndrome can be interpreted as an individual's failed effort to achieve the achievements that are crucial for maintaining stable self-confidence, with research showing that self-perception and self-evaluation in affected individuals are extremely unstable and prone to constant comparison of their own achievements with those of their environment. Methods of regulating energy decline and preventive action in dealing with burnout syndrome emphasize the importance of recovery, which represents lasting personality strengths that help a person cope with life's challenges and build effective strategies for dealing with problems. This implies activating human capacities at the individual, group and collective levels to overcome stressful circumstances in an emotionally and physically healthy way.

Previous research has shown mixed results when it comes to people who are susceptible to burnout. Some studies suggest that people with higher education and above-average work performance are more prone to burnout, while other research suggests that those with lower education are more susceptible. There are also gender differences. While some research shows that women are more prone to burnout, other research claims that there is no significant difference between the sexes. Individual factors include:

- Demographic characteristics – age – more common in young people
- Gender – no differences observed
- Marital status – more common in unmarried people
- Education level – more common with lower levels of education
- Personality traits – less courageous, with reduced self-esteem, people who avoid facing problems
- Attitude towards the workplace – excessive expectations from the workplace, previous work experience, work style.

Burnout is a long-term feeling of emotional exhaustion, depersonalization, and lack of personal accomplishment; in the context of sports, burnout represents a state of devaluation of sports, physical and emotional exhaustion, and a diminished sense of accomplishment.

Numerous studies have investigated the link between the work environment and burnout at work, consistently revealing that negative aspects of work and its organizational structure are closely related to work-related burnout. The human body is the foundation of overall well-being, and its optimal functioning requires systematic care and support through the adoption of healthy lifestyle habits. Key factors for maintaining the health of the body certainly include regular physical activity as well as adequate rest, with the synergistic effect of these elements contributing to the physical and mental health of the individual. Thus, encouraging recreational activities in the company, in addition to the benefits, can also be a very useful strategic investment. Further observing all the benefits of application, we can speak of an economic tool that is reflected in increased efficiency and productivity of the company.

SPORTS RECREATION AND ITS IMPACT ON EMPLOYEES IN IMPROVING WORK EFFICIENCY

The global trend of sports activities is becoming increasingly prominent in the modern, fast-paced business environment. In this context, corporate health and strategies aimed at promoting physical activity have become indispensable elements of organizations that strive to improve work efficiency and ensure favourable and stimulating working conditions, positively affecting the well-being of their employees.

Physiologically, physical activity stimulates the release of endorphins, known as “happy hormones”, which act as natural antidepressants and reduce levels of the stress hormone cortisol. Scientific evidence shows that it is possible to positively influence work-related outcomes, especially absenteeism, through health promotion efforts that include components focused on the physical work environment and the organizational structure of the workplace.

Recreational sports provide employees with a mental break from work responsibilities, stimulating the regeneration of cognitive resources necessary for effective decision-making and problem-solving. These positive effects of physical activity have been confirmed regardless of the gender and age group of the participants, further highlighting the universality of the benefits that sports and recreation provide. In this context, more and more companies recognize the importance of implementing programs aimed at improving the physical and mental health of the working population, thereby reducing work stress and increasing overall employee satisfaction. People who regularly participate in recreational activities show higher levels of motivation, team cohesion and emotional stability, which is directly reflected in their work efficiency.

The promotion of sports activities outside working hours is the one with the highest level of implementation in European public administration. In support of this, the results of a study examining the relationship between lifestyle (physical activity, obesity, fitness) and work performance showed that a higher intensity of physical activity is associated with the quality of work performance and overall work efficiency, as well as with a reduction in additional effort in performing work. Thus, severe obesity and sports inactivity are associated with a higher number of days lost from work and lower efficiency in performing work tasks.

In the European Union, the prevalence of work-related stress is estimated at around 22%. There is evidence that stress, absenteeism and employee well-being can also be influenced by the behaviour of management within the company. The integra-

tion of sports activities into the organization would have an impact on the well-being of all employees, regardless of hierarchy, which would certainly create a positive working environment and have a positive impact on the work performance of all employees. The effects of physical activity programs for employees can far exceed the initial investment, especially through reduced absenteeism, lower sick leave costs and higher ROI.

RESEARCH AND METHODOLOGY

As part of this work, a study was conducted using an online questionnaire. The questionnaire contained 14 questions, designed to collect data on the personal attitudes and habits of respondents related to recreational activities. The impact of sports activities on stress reduction, work efficiency and job satisfaction and economic benefits was examined. The research aimed to determine the extent to which recreational activities affect employee work performance, their satisfaction and how much employees support the inclusion of sports activities in strategic company investments. In the introductory part, the respondents were introduced to the aim of the study and its purpose. The study involved 90 respondents ($N = 90$), employed in different sectors and divided into five age groups, and was conducted from February to March 2025. A link to participate was sent to the e-mail addresses of people who engage in recreational sports. The questionnaire consisted of two parts. The first part included demographic data, including gender, age structure and years of work experience. The second part of the survey questionnaire contained six closed-ended questions and Likert scales. The collected data were processed using the JASP software package, using descriptive statistics, contingency tables, chi-square test and Bayesian analysis. The questions covered the perception of the importance of sports activities, attitudes about their effect on stress and work efficiency, as well as opinions about the role of companies in encouraging physical activity. The variables were analysed according to age groups, and the results were presented in the form of tables and graphs. Two hypotheses were tested using appropriate statistical methods.

Hypotheses H1 - Employees perceive recreational activities as an important factor in reducing stress and increasing job satisfaction.

Hypothesis H2 - Most employees support strategic investment in sports activities as a means of increasing efficiency and reducing costs associated with absences and sick days.

RESULTS AND DISCUSSION

The survey was attended by 72.2% women and 27.8% men (Table 1). Most respondents belonged to the age group 45 to 54 years, 36.7% of them, 22.2% of them were from 25 to 34 years, 21.1% of them were from 35 to 44 years, 14.4% of respondents were over 55 years of age, and 5.6% were under 25 years of age. The respondents were grouped into five age groups.

Table 1. Gender and age structure

Sex	Age					Total
	25 - 34 years old	35 - 44 years old	45 - 54 years old	< 25 years old	> 55 years	
Male	2	6	10	2	5	25
Female	18	13	23	3	8	65
Total	20	19	33	5	13	90

Source: Created by the authors

Table 2. Chi-square test

	Value
BF ₁₀ Independent multinomial	0.281
N	90

Source: Created by the authors

The results from the Bayes test for the contingency table show the following (Tables 1 and 2), BF₁₀ (Bayes factor in favour of the alternative hypothesis versus the null hypothesis): 0.281, Total number of observations (N): 90. The Bayes factor (BF₁₀ = 0.281) means that the data are more supportive of the null hypothesis (H₀) than of the alternative hypothesis (H₁). In this case, a value of 0.281 means that the data are about 3.56 times more consistent with the null hypothesis than with the alternative (because $1 / 0.281 \approx 3.56$). Based on this Bayes test, there is no strong evidence for the existence of a dependence between the variables in the contingency table — which supports the assumption of independence.

Table 3. Age and length of service

Age	Work experience					Total
	11 - 20 years old	21 - 30 years old	5 - 10 years	< 5 years	> 30 years	
25 - 34 years old	2	0	6	12	0	20
35 - 44 years old	16	3	0	0	0	19
45 - 54 years old	11	20	1	0	1	33
< 25 years old	0	0	0	5	0	5
> 55 years	0	3	0	0	10	13
Total	29	26	7	17	11	90

Source: Created by the authors

Table 4. Chi - square test

	Value
BF ₁₀ Independent multinomial	1.090×10 +20
N	90

Source: Created by the authors

The results in Tables 3 and 4 show the relationship between age group and length of service. A total of 90 respondents participated in the study, divided into five age categories and five categories of service. The distribution of respondents shows a clearly pronounced pattern: younger age groups (especially 25–34 years) dominate in the shorter service categories (< 5 and 5–10 years), while older groups (e.g. 45–54 and > 55 years) have a significantly higher representation in the longer service categories (21–30 years and > 30 years). Bayesian contingency table analysis confirmed a statistically significant relationship between age and service. The obtained value of the Bayes factor ($BF_{10} = 1.090 \times 10^{20}$) represents extremely strong evidence of the dependence between these two variables. These results confirm the expected career development with respect to age and indicate the existence of a clear structural relationship between age and accumulated work experience.

Table 5. The impact of recreational activities on stress

Age	Do you find that recreational activities help reduce stress?				Total
	I partially agree.	Neutrally	I completely disagree.	I completely agree.	
25 - 34 years old	2	2	0	16	20
35 - 44 years old	2	0	0	17	19
45 - 54 years old	3	2	2	25	32
< 25 years old	2	0	0	3	5
> 55 years	0	0	1	12	13
Total	9	4	3	73	89

Source: Created by the authors

Table 6. Chi - square test

	Value	df	p
χ^2	12,635	12	0.396
N	89		

Source: Created by the authors

Tables 5 and 6 show a correlation between the age group of the respondents and their opinion on whether recreational activities help reduce stress. The analysis of the contingency table included a total of 89 respondents, divided into five age categories and four response categories (from “completely disagree” to “completely agree”). The largest number of respondents in all age groups agreed with the statement that recreational activities help reduce stress. The response category “completely agree” was predominant across all age groups (e.g., 25–34 years: 16 out of 20 respondents; 45–54 years: 25 out of 32; >55 years: 12 out of 13). A chi-square test of independence was conducted to statistically verify the existence of a correlation between age group and opinion on recreational activities. The test value obtained was: $\chi^2(12) = 12.635$, $p = 0.396$. Since the p-value is greater than the standard significance threshold ($p > 0.05$), it is concluded that there is no statistically significant association between age and attitudes about the effect of recreational activities on stress. Although most respondents

expressed agreement, no statistically significant differences were observed between the age groups.

Table 7. Participation in recreational activities

How often do you participate in recreational activities?	Age					Total
	25 - 34 years old	35 - 44 years old	45 - 54 years old	< 25 years old	> 55 years	
Never	0	0	3	0	0	3
Sometimes (1-2 times a month)	1	2	4	0	4	11
Occasionally (less than 1 time per month)	1	0	0	0	1	2
Very often (more than 2 times a week)	14	9	13	3	4	43
Often (1 - 2 times a week)	4	8	13	2	4	31
Total	20	19	33	5	13	90

Source: Created by the authors

Table 8. Chi - square test

	Value
BF ₁₀ Independent multinomial	0.084
N	90

Source: Created by the authors

Tables 7 and 8 show the frequency of participation in recreational activities by age group. It is visible how often respondents participate in recreational activities, with five categories: “Never”, “Sometimes (1-2 times a month)”, “Occasionally (less than 1 time a month)”, “Very often (more than 2 times a week)” and “Frequently (1-2 times a week)”. Respondents were divided into five age groups: “< 25 years”, “25 - 34 years”, “35 - 44 years”, “45 - 54 years” and “> 55 years”. There are 90 respondents in total. The largest number of respondents participate “Very often” (43), while the smallest number of respondents never participate (3). In the age groups 25 to 34 years and 35 to 44 years, the majority of respondents participate “Very often”. In the older age groups (45 - 54 and > 55 years), there is also a significant number of respondents who participate “Frequently”. Bayes factor (BF₁₀): The value of 0.084 indicates that there is very weak support for the hypothesis of independence between age groups and frequency of participation in recreational activities. This means that there appears to be an association between age and frequency of participation. The results suggest that the frequency of participation in recreational activities varies across age groups, with the highest participation seen in younger age groups.

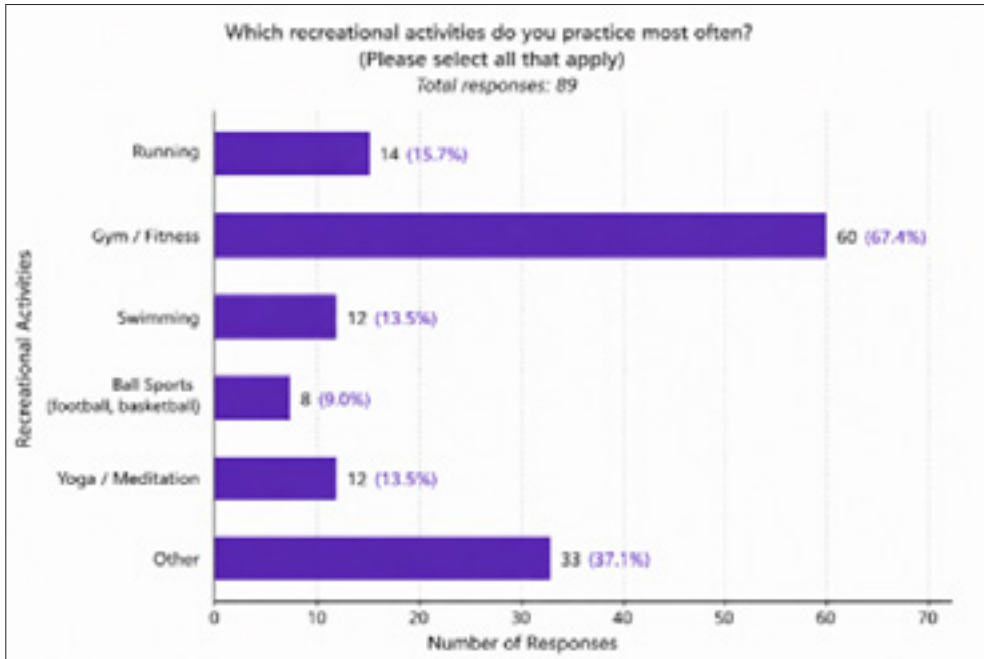
Table 9. Types of recreational activities**Source:** Created by the authors

Table 9. shows the recreational activities that respondents most often practice. The largest number of respondents listed fitness as the most common activity (67.4%), followed by running (15.7%), swimming (13.5%), ball sports (13.5%), and other (37.1%).

Table 10. Corporate investment in sports activities

Do you think that a company should provide employees with sports activities?	Age					Total
	25 - 34 years old	35 - 44 years old	45 - 54 years old	< 25 years old	> 55 years	
I partially disagree.	1	0	0	0	0	1
I partially agree.	4	4	7	1	2	18
Neutrally	3	2	1	2	2	10
I completely disagree.	0	0	2	0	0	2
I completely agree.	10	12	22	2	9	55
Total	18	18	32	5	13	86

Source: Created by the authors**Table 11.** Chi - square test

	Value
BF ₁₀ Independent multinomial	0.041
N	86

Source: Created by the authors

Between the age group of respondents and their attitude about whether the company should provide sports activities for employees was examined. A total of 86 respondents, divided into five age categories, participated in the study. According to the distribution of responses, the most common response in all age groups was „I completely agree“, with 55 out of 86 respondents completely agreeing with the statement that the company should invest in sports activities for employees. The largest number of positive responses was recorded in the 45–54 and 35–44 age groups. Bayesian contingency table analysis was conducted to assess the probability of dependence between age and attitudes. The obtained value of the Bayes factor is: $BF_{10} = 0.041$. This value indicates strong support for the null hypothesis, i.e. the absence of a statistically significant relationship between age and attitude about the need for sports activities in the company. A Bayes factor of less than 1 (specifically, < 0.1) indicates that the data are approximately 24 times more likely under the assumption of independence between the observed variables. In conclusion, although the majority of respondents express a positive attitude towards sports activities offered by the employer, these preferences do not depend significantly on the age of the employee.

Table 12. Investment in sports activities and company strategy

Age	Should investing in employee sports activities be part of a company's employee investment strategy?					Total
	I partially disagree.	I partially agree.	Neutrally	I completely disagree.	I completely agree.	
25 - 34 years old	0	6	0	1	12	19
35 - 44 years old	1	6	0	0	12	19
45 - 54 years old	0	6	2	1	24	33
< 25 years old	0	2	1	0	2	5
> 55 years	0	0	2	0	11	13
Total	1	20	5	2	61	89

Source: Created by the authors

Table 13. Chi - square test

	Value	df	p
χ^2	18,176	16	0.314
N	89		

Source: Created by the authors

The age group of respondents and their attitude towards the statement that investing in employee sports activities should be part of a company's strategic approach was examined. The analysis included 89 respondents divided into five age groups and five response categories. The majority of respondents fully agreed with the statement ($n = 61$), with this option being dominant across all age groups, particularly among respondents aged 45–54 ($n = 24$) and 35–44 ($n = 24$), ($n = 12$). A χ^2 test of independence was conducted to assess whether there was a statistically significant association between age and attitude. The following results were obtained: $\chi^2(16) = 18.176$, $p = 0.314$. Since the p-value is not less than 0.05, there is no statistically significant asso-

ciation between age and attitudes on this statement. Despite the general support for the idea within all age groups, differences between groups are not statistically significant. These results indicate that age group does not significantly influence attitudes towards strategic corporate investment in sports activities. Employees, which may indicate the general acceptance of this idea among employees regardless of age.

Table 14. Sports activity and company costs

Age	Do you think that providing sports activities by companies would reduce costs associated with sick leave and absences from work?					Total
	I partially disagree.	I partially agree.	Neutrally	I completely disagree.	I completely agree.	
25 - 34 years old	3	6	7	2	2	20
35 - 44 years old	2	8	2	1	6	19
45 - 54 years old	2	14	4	3	10	33
< 25 years old	0	3	1	0	1	5
> 55 years	0	3	1	2	7	13
Total	7	34	15	8	26	90

Source: Created by the authors

Table 15. Chi square test.

	Value	df	p
χ^2	17,437	16	0.358
N	90		

Source: Created by the authors

Tables 14 and 15 show whether there is a connection between the age group of respondents and their opinion on whether the provision of sports activities by companies can reduce costs associated with sick leave and absence from work.

The overall results show that most respondents partially agree with the statement ($n = 34$), while a significant number also express complete agreement ($n = 26$). Support is particularly strong among respondents in the age groups 45–54 years (14 partially agree; 10 completely agree) and 35–44 years (8 + 6). To statistically assess the relationship, a chi-square test of independence was applied, with the results: $\chi^2 (16) = 17.437$, $p = 0.358$. Since the p-value exceeds the standard significance level ($p > 0.05$), it is concluded that there is no statistically significant relationship between the age of the respondents and their attitude towards reducing costs through sports activities. In conclusion, although there is a visible pattern of support within all age groups, the differences between them are not sufficiently pronounced to be statistically significant. These findings suggest that a broad and age-independent perception of the potential benefits of investing in employee sports activities.

Table 16. Importance of corporate investment in sports activities

12. How important do you think it is for a company to invest in sports activities for employees? (rate from 1 to 5, where 1 is “not at all important” and 5 is “extremely important”)	Age					Total
	25 - 34 years old	35 - 44 years old	45 - 54 years old	< 25 years old	> 55 years	
1	1	0	3	0	2	6
2	0	1	0	0	0	1
3	3	5	4	2	1	15
4	7	4	6	1	1	19
5	8	9	20	2	9	48
Total	19	19	33	5	13	89

Source: Created by the authors

Table 17. Chi-square test

	Value
BF ₁₀ Independent multinomial	0.034
N	89

Source: Created by the authors

Tables 16 and 17 show respondents' assessment of how important they consider it to be for a company to invest in sports activities for employees, rated on a scale of 1 to 5 (1 = “not at all important”, 5 = “extremely important”). The analysis was conducted on a sample of 89 respondents, divided into five age groups.

The results of the contingency table show that the largest number of respondents rated the importance with a score of 5 - “extremely important” (n = 48), and this response was most common in all age groups, especially among: 45–54 years (n = 20), 35–44 years (n = 9) and > 55 years (n = 9).

Other ratings were significantly less frequent, with ratings 1 and 2 accounting for only 7 responses in total. This distribution indicates a high level of agreement among respondents on the importance of sports activities as an employer's investment. Bayesian contingency table analysis was applied to assess the statistical association between age and attitudes towards the importance of sports investments. The resulting value: BF₁₀ = 0.034. This value represents strong support for the null hypothesis, meaning that it is more likely that respondents' attitudes towards the importance of investing in sports activities are independent of their age. In other words, the differences between age groups are not sufficiently pronounced to indicate dependence. In conclusion, despite strong support for the idea of the importance of sports activities for employees, this support is consistent across all age groups, with no significant differences – indicating an age-universal attitude towards the importance of sports investments by companies.

CONCLUSION

The aim of this research was to examine employees' attitudes towards the role of recreational and sports activities in the context of the work environment, with a empha-

sis on their perception of the impact of these activities on reducing stress, increasing job satisfaction, and reducing costs associated with sick leave and absenteeism. The level of support for including sports activities in strategic company investments was also examined.

The results of the survey show that most people in all age groups believe that recreational activities reduce stress, but without a statistically significant association with age (χ^2 test, $p > 0.05$). From the conducted research, the results confirm hypothesis H1: Employees perceive recreational activities as an important factor in reducing stress and increasing job satisfaction, with most respondents believing (regardless of age) that regular recreational activities have a positive effect on their psychophysical well-being. Respondents emphasize that participation in such activities contributes to reducing stress levels and increases overall satisfaction with work and the work environment. This indicates the importance of integrating recreational programs into organizational policies.

From the conducted research, the results confirm hypothesis H2: Most employees support strategic investment in sports activities as a means of increasing efficiency and reducing costs associated with absenteeism and sick leave. Respondents recognize the benefits of such investments, including increased work efficiency, better health, and reduced absenteeism. These results support a strategic approach that includes investments in employee physical activity as part of organizational care for the health and productivity of the workforce. The obtained results indicate broad and age-independent support for the inclusion of sports activities in strategic investments of companies. Furthermore, the research provides valuable insight into employee perceptions and can serve as a basis for the development of organizational strategies aimed at improving employee well-being through physical activity. Future research should include objective data on the frequency of participation in recreational activities and measurable indicators of stress and work efficiency to further confirm these findings. It is recommended that companies consider and include recreational content in internal programs, as well as possible financial support for employees through subsidies for membership in sports clubs.

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