

# Designing a Structural Equation Model of Physical Activity Level, Job Burnout, and Effectiveness of Police Academy Officers in Iraq

Ahmed. Falih Hasan<sup>1</sup>, AhmadReza. Askari<sup>2\*</sup>, Abduljaleel. Jabbar Naser<sup>3</sup>, Zahra. Serjuei<sup>4</sup>, Majid. Khorvash<sup>5</sup>

<sup>1</sup> PhD Student in Sport Management, Faculty of Sport Sciences, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

<sup>2</sup> Assistant Professor, Department of Physical Education and Sport Sciences, Mobarakeh Branch, Islamic Azad University, Isfahan, Iran

<sup>3</sup> University of Baghdad, College of Physical Education and Sport Sciences, Baghdad, Iraq

<sup>4</sup> Assistant Professor of Motor Behaviour, Department of Sport Sciences, Isfahan (Khorasgan) Branch, Islamic Azad University, Isfahan, Iran

<sup>5</sup> Department of Physical Education and Sport Sciences, Najafabad Branch, Islamic Azad University, Najafabad, Iran

\* Corresponding author email address: ahmadreza.askari@mau.ac.ir

## Article Info

### Article type:

Original Research

### How to cite this article:

Falih Hasan, A., Askari, A. R., Jabbar Naser, A., Serjuei, Z. & Khorvash, M. (2025). Designing a Structural Equation Model of Physical Activity Level, Job Burnout, and Effectiveness of Police Academy Officers in Iraq. *International Journal of Innovation Management and Organizational Behavior*, 5(4), 1-9.

<https://doi.org/10.61838/kman.ijimob.5.4.6>



© 2025 the authors. Published by KMAN Publication Inc. (KMANPUB), Ontario, Canada. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) License.

## ABSTRACT

**Objective:** This study aimed to design a structural equation model to examine the relationships between physical activity levels, job burnout, and the effectiveness of Iraq Police Academy officers.

**Methodology:** The research was applied, descriptive, and survey-based, utilizing structural equation modeling (SEM) to analyze data. The sample consisted of 384 police officers from the Iraq Police Academy, selected through random sampling based on the Krejcie and Morgan table. Data were collected using standardized questionnaires: the Physical Activity Questionnaire by Askari et al. (2013), the Maslach Burnout Inventory (MBI), and the Effectiveness Questionnaire by Vandewalle (2000). The validity of the scales was confirmed using confirmatory factor analysis, and reliability was assessed using Cronbach's alpha. SEM analysis was conducted using LISREL software.

**Findings:** The results showed that the levels of physical activity and effectiveness among Iraq Police Academy officers were above average, while job burnout levels were below average, indicating a favorable status. The analysis confirmed a significant positive relationship between physical activity and officer effectiveness, with higher physical activity levels associated with improved performance. Additionally, job burnout was found to mediate the relationship between physical activity and effectiveness, highlighting the importance of managing job burnout to enhance officer performance. The model demonstrated an adequate fit with the data.

**Conclusion:** The study concluded that promoting physical activity can positively influence the effectiveness of police officers while reducing job burnout. Effective management strategies, including regular exercise programs and initiatives to alleviate job burnout, are essential for improving officer well-being and organizational performance.

**Keywords:** Physical activity, job burnout, effectiveness, Iraq Police.

## 1 Introduction

Job burnout refers to a condition where employees experience physical and psychological exhaustion due to unfavorable working conditions and excessive pressures in the workplace. This condition may gradually develop over a prolonged period through repeated occupational stressors (Lubbadeh, 2020). Job burnout consists of three main dimensions: emotional exhaustion, depersonalization, and reduced professional efficacy (Bazmi et al., 2019). In the emotional exhaustion dimension, employees feel fatigue and emotional depletion, struggling to manage their emotions properly. This can lead to decreased work motivation and increased stress (Angerer, 2003). In the depersonalization dimension, employees perceive others as mere objects or work-related contacts, disregarding their needs and emotions. This may lead to workplace relationship issues and higher turnover rates (Bazmi et al., 2019). In the reduced professional efficacy dimension, individuals feel that they have not made progress in their job and experience demotivation regarding their job responsibilities (Liu et al., 2022).

The significance of job burnout for organizations lies in its negative impact on organizational performance and productivity. Salama et al. (2022) describe these negative effects as reduced job performance and organizational productivity, increased turnover rates, decreased employee satisfaction, and a decline in service or production quality. Job burnout has a serious impact on individual health and performance but also harms work efficiency, organizational effectiveness, and even the social stability of employees. With growing concerns over employee burnout and its detrimental consequences on personal health and organizational productivity, there is an urgent need for effective strategies to mitigate this issue (Salama et al., 2022).

Researchers (Alavi et al., 2017; Khorosh et al., 2009; Naczinski et al., 2017; Ochentel et al., 2018; Saif Panahi Shabani & Parvandi, 2019) stated that exercise and physical activities could enhance individuals' capacity to cope with certain psychological pressures in the workplace and prevent job burnout. Regular physical activity is recognized as an effective method for improving physical and psychological health and can play a vital role in reducing the negative effects of job burnout (Liu et al., 2022). Exercise can lead to both long-term and short-term psychological improvements, contributing to psychological well-being and exercise motivation. Psychological benefits include reduced anxiety,

improved mood, resilience to psychological pressure, and reduced anxiety in the presence of a stressor (Granero-Jiménez et al., 2022). Additionally, workplace exercise programs are associated with increased self-motivation, optimism, positive affect, and health locus of control, along with reduced anxiety, depression, absenteeism, and employee turnover (Collado-Mateo et al., 2021).

Six summarized studies indicate that aerobic and strength training exercises have beneficial effects on reducing employee burnout. In Switzerland, a 12-week program at a private fitness center reduced job burnout and improved mood states (Gerber et al., 2013). In Iran, a three-month program showed burnout reduction, although the benefits decreased without continued exercise (Mohebbi et al., 2019). An eight-week Italian mixed-exercise program significantly reduced burnout dimensions with high participant satisfaction (Greco, 2020). In Taiwan, tailored exercises for office employees improved burnout measures and physical health (Tsai et al., 2013). A 10-week mixed-exercise program in New Zealand improved various health variables and reduced job burnout and stress (Dreyer et al., 2012). Finally, in Ecuador, aerobic and strength training significantly reduced cynicism, inefficacy, and exhaustion, whereas fatigue increased in the control group (Rosales-Ricardo & Ferreira, 2022).

Overall, scientific evidence suggests that physical activity can be a crucial and effective factor in reducing job burnout and enhancing employee effectiveness. Promoting physical activities and exercise programs in the workplace can improve overall employee health and organizational performance. This underscores the importance of focusing on employees' physical and psychological well-being to enhance productivity and organizational effectiveness.

While the relationship between physical activity and job burnout continues to receive significant research attention, no study has specifically examined this critical structure concerning the physical activity level of officers at the Iraq Police Academy. Furthermore, other research often provides inconclusive findings regarding the nature of this relationship among personnel in various organizations, indicating a gap in the literature. Exploring the physical activity levels and their impact on burnout and effectiveness among Police Academy officers in Iraq could address this gap. Officer effectiveness and well-being are crucial not only individually but also for the broader efficiency of Iraq's security infrastructure.

The relationship between physical activity, job burnout, and employee effectiveness is a major and challenging topic

in human resource management and occupational health, attracting considerable attention from researchers and managers in recent years. If this research is conducted, it is expected to provide a comprehensive understanding of the relationship between physical activity levels, job burnout, and the effectiveness of Police Academy officers in Iraq. This academic exploration may yield reliable structural equations that clearly describe these relationships and offer practical outcomes to improve the overall work environment at the Iraq Police Academy. Understanding these correlations could inform effective strategies to reduce officer burnout and increase effectiveness, contributing to a healthier work environment. It is also plausible that implementing such strategies would reduce burnout rates and improve officer effectiveness. Other military and non-military organizations in Iraq could benefit from these findings. All these factors highlight the importance and necessity of this research.

Therefore, the primary objective of this study is to present a structural equation model of physical activity levels, job burnout, and the effectiveness of Police Academy officers in Iraq.

Based on this, the research hypotheses are:

- The current levels of physical activity, job burnout, and effectiveness among Iraq Police Academy officers are optimal.
- There is a significant relationship between physical activity components and job burnout with the effectiveness of Iraq Police Academy officers.
- Job burnout mediates the relationship between physical activity and effectiveness.
- The structural equation model of the relationships between physical activity levels, job burnout, and effectiveness at the Iraq Police Academy has a good fit.

## 2 Methods and Materials

This study is applied in terms of its objective, descriptive in nature, and survey-based, employing structural equation modeling (SEM). The statistical population of this research includes all officers of the Iraq Police Academy. The sample size was determined using the Krejcie and Morgan table, resulting in 384 participants (the recommended sample size for an unlimited population), and random sampling was used.

To measure the level of physical activity, the Physical Activity Questionnaire by Askari et al. (2013) was used,

consisting of 18 items that assess physical activity status during work, leisure time, and exercise, evaluated on a 5-point Likert scale. Job burnout was measured using the Burnout Inventory, originally designed by Maslach and colleagues (1981) for educational and service professions. This inventory contains 22 questions, each answered on a 5-point Likert scale ranging from very low to very high. The inventory evaluates burnout across three dimensions: emotional exhaustion, personal accomplishment, and depersonalization (Habibi Vatan et al., 2018).

The 44-item Effectiveness Questionnaire by Van De Voorde (2000) assessed the effectiveness variable with 9 components: communication, insight into goals and objectives, secondary work position, intra-unit cooperation, information sharing, customer orientation, inter-unit cooperation, compensation, and leadership operations. Responses were recorded on a 5-point Likert scale ranging from strongly disagree to strongly agree (Van De Voorde et al., 2012).

To assess the validity and reliability of the measurement scales, confirmatory factor analysis (CFA) was used. The results indicated that the t-statistic was greater than 1.96 in all cases, and the factor loadings were also above 0.4. Thus, it can be concluded that the selected items provided suitable factor structures for measuring the research variables. Cronbach's alpha test was employed to determine the reliability of the questionnaires, and the results showed that Cronbach's alpha was greater than 0.7 for all variables, indicating good reliability. The research hypotheses were tested using one-sample t-tests, the Sobel test, and SEM methods, utilizing SPSS and LISREL software.

## 3 Findings and Results

The demographic findings of the research sample are as follows: The entire sample (100%) consisted of male participants. Regarding educational levels, 32.6% held an associate degree, 45.8% held a bachelor's degree, and 21.6% held a master's degree or higher. The age distribution was as follows: 16.7% were between 20 and 25 years old, 25.3% were between 26 and 30 years old, 35.9% were between 31 and 35 years old, and 22.1% were between 36 and 40 years old.

The tools used in this study were assessed using the Kolmogorov-Smirnov test, which indicated that the main components of the study have a normal distribution (Table 1).

**Table 1***Results of the Kolmogorov-Smirnov Test*

Variables	Number of Data	Test Statistic	Significance Level
Physical Activity at Work	384	0.120	0.148
Physical Activity during Leisure	384	0.173	0.304
Physical Activity during Exercise	384	0.127	0.103
Physical Activity	384	0.100	0.221
Emotional Exhaustion	384	0.130	0.087
Reduced Competence and Achievement	384	0.146	0.061
Depersonalization	384	0.201	0.055
Job Burnout	384	0.191	0.078
Communication	384	0.137	0.075
Goal Insight	384	0.102	0.204
Secondary Work Position	384	0.128	0.098
Intra-unit Cooperation	384	0.135	0.065
Information Sharing	384	0.140	0.077
Customer Orientation	384	0.148	0.087
Inter-unit Cooperation	384	0.116	0.187
Compensation	384	0.134	0.070
Leadership Operations	384	0.126	0.109
Effectiveness	384	0.136	0.062

Since the significance levels for all variables are greater than 0.05, the claim of normality for the research variables was accepted. Consequently, structural equation modeling (SEM) using LISREL software was used to test the hypotheses.

To evaluate the current state of physical activity, job burnout, and effectiveness among the police officers studied,

a one-sample t-test was employed. The questionnaire used a 5-point Likert scale, with scores from 1 to 5, where 1 indicates the lowest value and 5 the highest. A score of 3 was chosen as the theoretical median. If the mean of the variable exceeds 3, the indicator is considered favorable. [Table 2](#) presents the results of this test.

**Table 2***Results of the One-Sample t-Test for Research Variables*

Variables	Mean	Standard Deviation	t-Statistic	Degrees of Freedom	Significance Level
Physical Activity	3.642	0.622	20.249	383	0.0001
Job Burnout	2.082	0.647	-19.303	383	0.0001
Effectiveness	3.867	0.345	49.173	383	0.0001

According to the results in [Table 2](#), the significance levels for physical activity and effectiveness among Iraq Police Academy officers are less than 0.05, and the t-statistic values are positive. Thus, with 95% confidence, it can be stated that the physical activity and effectiveness levels of Iraq Police Academy officers are above average, indicating a favorable state.

Additionally, the job burnout level among Iraq Police Academy officers has a significance level less than 0.05, and the t-statistic value is negative. Therefore, with 95%

confidence, it can be stated that the job burnout level is below average, indicating a favorable state.

To test the hypotheses in the structural model, for a hypothesis to be significant, the t-value must be equal to or greater than 1.96. If this value exceeds 1.96, it confirms the relationship between the constructs and supports the research hypotheses. The findings ([Table 3](#)) demonstrate a significant relationship between physical activity, job burnout, and the effectiveness of Iraq Police Academy officers.

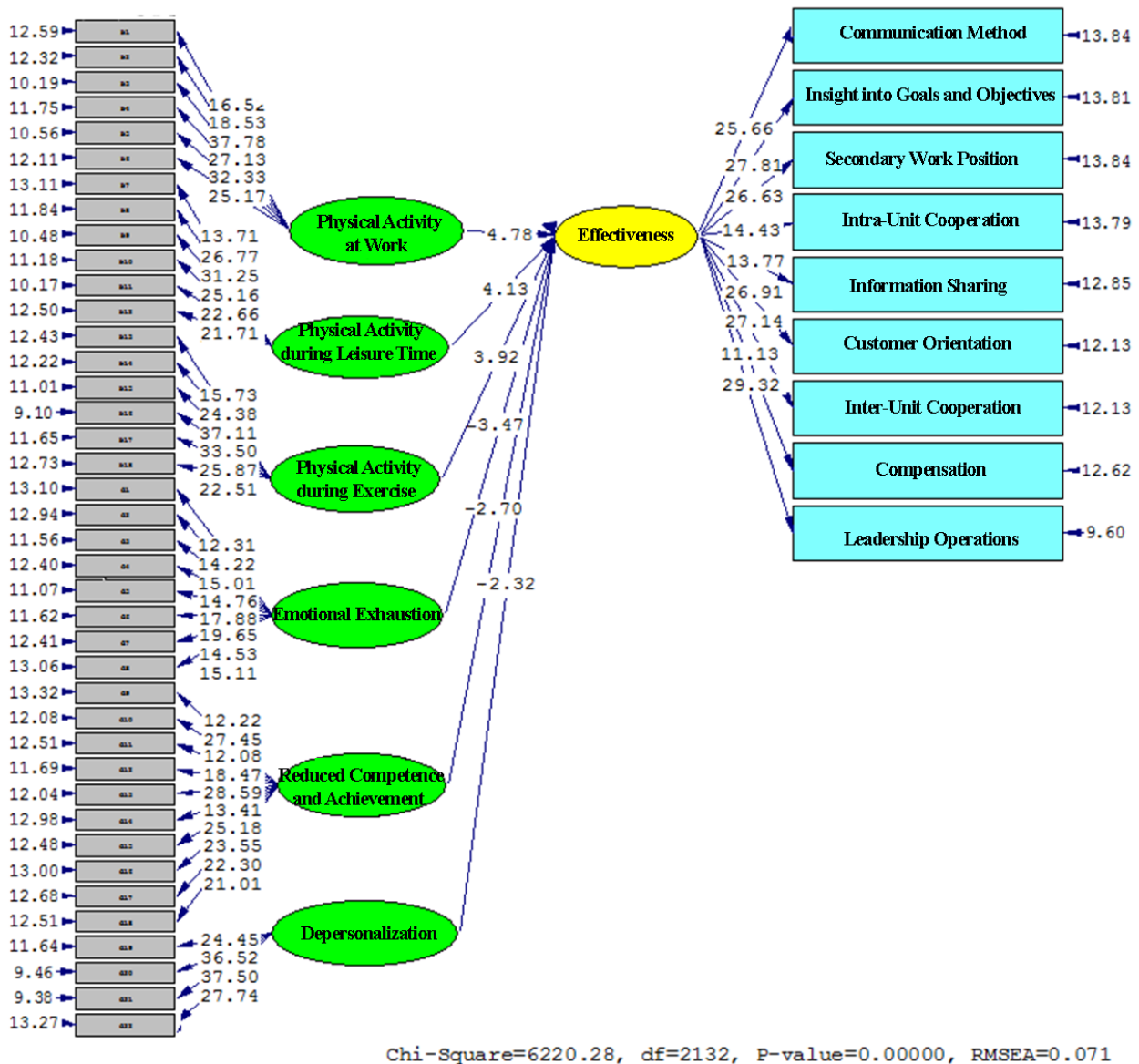
Table 3

Results of the First Research Hypothesis

Path	Path Coefficient	t-Statistic	Standard Error (SE)
Physical Activity at Work → Officer Effectiveness	0.28	4.78	0.059
Physical Activity during Leisure → Officer Effectiveness	0.25	4.13	0.061
Physical Activity during Exercise → Officer Effectiveness	0.20	3.92	0.051
Emotional Exhaustion → Officer Effectiveness	-0.18	-3.47	0.052
Reduced Competence and Achievement → Officer Effectiveness	-0.15	-2.70	0.056
Depersonalization → Officer Effectiveness	-0.13	-2.32	0.056

Figure 1

t-Statistics for Factor Loadings and Path Coefficients of the First Research Model



To examine the mediating role of job burnout in the relationship between physical activity and effectiveness among Iraq Police Academy officers, the indirect

relationship between physical activity and effectiveness was analyzed. As shown in Figure 2, the path coefficient between physical activity and job burnout is -0.49, which is negative.



The t-statistic is -9.36, less than -1.96. The path coefficient between job burnout and officer effectiveness is -0.26, also negative, with a t-statistic of -3.90, less than -1.96. Since the hypotheses related to the independent variable's relationship with the mediator and the mediator's relationship with the dependent variable were accepted, the indirect path coefficient of physical activity to effectiveness is:  $-0.26 * -0.49 = 0.13$

The Sobel test was also used to determine the significance of the mediating effect. This test uses the Z statistic, and if the absolute value of Z exceeds 1.96, the mediating effect is significant at the 0.05 level.

Here, the Z value was 3.57, greater than 1.96, indicating that job burnout mediates the relationship between physical activity and effectiveness. Thus, the third research hypothesis is accepted.

Figure 2

t-Statistics for Factor Loadings and Path Coefficients of the Second Research Model

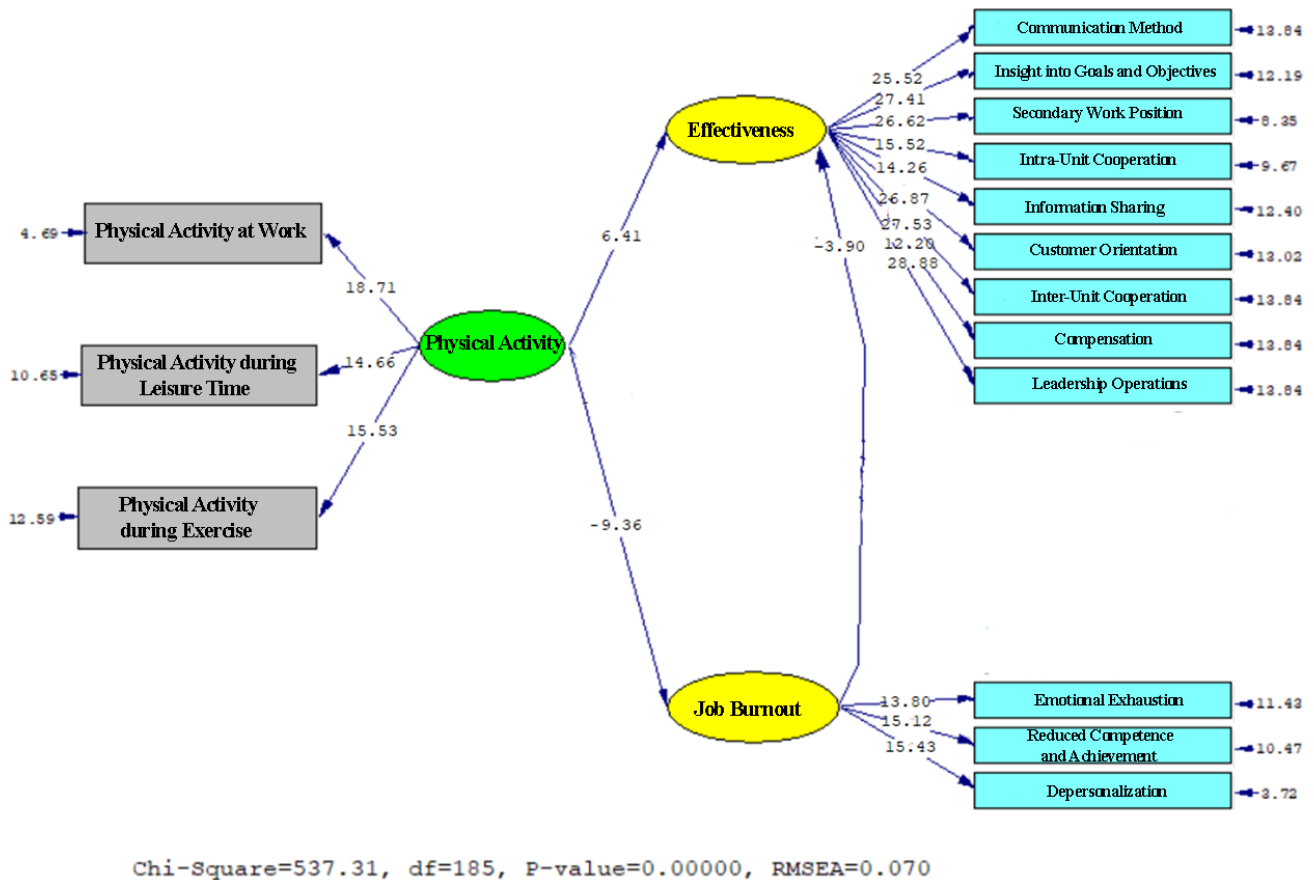


Table 4

Results of the Second Research Hypothesis

Path	Path Coefficient	t-Statistic	Standard Error (SE)
Physical Activity → Job Burnout	-0.49	-9.36	0.052
Job Burnout → Officer Effectiveness	-0.26	-3.90	0.067
Physical Activity through Job Burnout → Officer Effectiveness	0.13	3.57	0.036

Various tests are used to evaluate the structural equation model with different fit indices, which are continuously compared, developed, and refined. However, no consensus exists on an optimal test. The indices used in this study

include the relative Chi-square ( $\chi^2/df$ ), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Goodness of Fit Index (GFI), and Normed Fit Index

(NFI). Table 5 presents the fit indices for the tested research model.

**Table 5**

*Fit Indices for the Tested Research Model*

Model	$\chi^2/df$	CFI	GFI	NFI	RMSEA
Acceptable Values	Less than 3	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.1
Measurement Model	2.895	0.93	0.92	0.95	0.070

Based on the findings in Table 5, it can be concluded that the structural equation model of the relationships between physical activity levels, job burnout, and effectiveness at the Iraq Police Academy has an adequate fit.

#### 4 Discussion and Conclusion

The present study aimed to design a structural model of physical activity levels and job burnout with the effectiveness of Iraq Police Academy officers. The results for the first hypothesis indicated that the levels of physical activity, job burnout, and effectiveness among Iraq Police Academy officers are at a favorable level. Therefore, it can be concluded that the officers have an appropriate level of physical activity, which can contribute to their physical and mental well-being. This suitable level of physical activity may include regular exercise, job-related physical training, and daily physical activities. Additionally, the favorable state of job burnout among the officers indicates that this variable is either at a low or manageable level. This outcome may result from effective measures taken by the organization or environment to reduce job burnout factors. Overall, the confirmation of this hypothesis indicates that existing measures and conditions within the police organization have been managed in a way that maintains and improves these three critical aspects of officer well-being. This can lead to overall organizational performance improvement and better service delivery to the community.

In the second hypothesis, the relationship between physical activity components and job burnout with the effectiveness of Iraq Police Academy officers was examined. Structural equation modeling revealed that physical activity levels are significantly related to both individual and collective effectiveness. The results showed that individuals with higher levels of physical activity have greater productivity and are more successful in work and educational environments. Given that the t-statistic was positive and significant, it can be concluded that increasing physical activity among police officers can enhance their

effectiveness. Regular physical activity can improve health, reduce stress, increase energy, and boost concentration, all of which can lead to better job performance. Encouraging physical activity can have positive impacts in various environments, including workplaces and educational settings. These findings align with prior research (Habibi Vatan et al., 2018; Jakobsen et al., 2015; Liu et al., 2022; Zamanehpour et al., 2023), which highlight the positive effects of physical activity on physical and mental health. Managers and officials are advised to develop regular exercise programs for officers and encourage participation in physical activities. Workshops and counseling sessions should be organized to reduce fear and job burnout. Furthermore, regularly assessing job burnout and physical activity levels and their relationship with performance can help improve organizational management strategies.

Another finding of the study demonstrated that job burnout mediates the relationship between physical activity and the effectiveness of police officers. This finding implies that the impact of physical activity on officer effectiveness occurs partly through changes in job burnout levels. This underscores the importance of managing job burnout. Simply increasing physical activity is insufficient for enhancing work effectiveness; reducing job burnout is a crucial factor. To address this, the organization can implement recreational programs such as group activities like walking, hiking, or team sports to strengthen social bonds and boost group morale. Work shifts should be adjusted to allow adequate rest and energy recovery. Psychological counseling services should be offered regularly and free of charge to all officers. Job burnout levels should be assessed periodically, and preventive programs should be developed to address burnout symptoms as they arise. Comprehensive health programs, including healthy nutrition, stress management, regular exercise, and yoga or meditation sessions, should be implemented. Providing educational resources on these topics can encourage officers to adopt a healthy lifestyle. These recommendations can

simultaneously enhance the mental and physical well-being of police officers and improve their effectiveness.

Future studies should consider conducting comparative research on police officers in different geographic or cultural regions. Additionally, the long-term impacts of organizational exercise programs on psychological well-being and job performance should be investigated.

While this study provides valuable insights into the relationship between physical activity, job burnout, and job performance among police officers, it is essential to acknowledge its limitations. Firstly, the cross-sectional nature of this study limits our ability to establish causality. Longitudinal studies would be beneficial for understanding changes over time. Secondly, relying on self-reported data may introduce bias, and future studies could benefit from incorporating objective measures of physical activity and performance. Furthermore, this study focused on a specific demographic, limiting the generalizability of the findings to other populations or contexts.

Future research should explore similar relationships in different contexts or geographical locations to understand cultural or environmental influences. Examining the long-term effects of physical activity programs on the health and job performance of police officers could provide deeper insights. Additionally, studies investigating the role of mental health interventions alongside physical activity could offer a more comprehensive approach to enhancing the well-being and efficiency of police officers.

### Authors' Contributions

All authors have contributed significantly to the research process and the development of the manuscript.

### Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

### Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

### Acknowledgments

We would like to express our gratitude to all individuals helped us to do the project.

### Declaration of Interest

The authors report no conflict of interest.

### Funding

According to the authors, this article has no financial support.

### Ethical Considerations

In this research, ethical standards including obtaining informed consent, ensuring privacy and confidentiality were observed.

### References

- Alavi, S., Ahmadi, M. A., & Zar, A. (2017). Examining the Effectiveness of Sports on Job Burnout, General Health, and Life Expectancy Among Staff of Jahrom University of Medical Sciences. *Social Health*, 4(3), 160-169. [https://www.researchgate.net/publication/337085949\\_Evaluation\\_of\\_the\\_effectiveness\\_of\\_sport\\_on\\_Job\\_Burnout\\_General\\_Health\\_and\\_Life\\_Expectancy\\_in\\_Jahrom\\_University\\_of\\_Medical\\_Sciences\\_Staff](https://www.researchgate.net/publication/337085949_Evaluation_of_the_effectiveness_of_sport_on_Job_Burnout_General_Health_and_Life_Expectancy_in_Jahrom_University_of_Medical_Sciences_Staff)
- Angerer, J. M. (2003). Job burnout. *Journal of employment counseling*, 40(3), 98-107. <https://doi.org/10.1002/j.2161-1920.2003.tb00860.x>
- Bazmi, E., Alipour, A., Yasamy, M. T., Kheradmand, A., Salehpour, S., Khodakarim, S., & Soori, H. (2019). Job burnout and related factors among health sector employees. *Iranian Journal of Psychiatry*, 14(4), 309. <https://doi.org/10.18502/ijps.v14i4.1982>
- Collado-Mateo, D., Lavín-Pérez, A. M., Peñacobá, C., Del Coso, J., Leyton-Román, M., Luque-Casado, A., & Amado-Alonso, D. (2021). Key factors associated with adherence to physical exercise in patients with chronic diseases and older adults: an umbrella review. *International journal of environmental research and public health*, 18(4), 2023. <https://doi.org/10.3390/ijerph18042023>
- Dreyer, L., Dreyer, S., & Rankin, D. (2012). Effects of a 10-Week High-Intensity Exercise Intervention on College Staff with Psychological Burnout and Multiple Risk Factors. *ICHPER-SD Journal of Research*, 7(1), 27-33. <https://files.eric.ed.gov/fulltext/EJ973954.pdf>
- Gerber, M., Brand, S., Elliot, C., Holsboer-Trachsler, E., Pühse, U., & Beck, J. (2013). Aerobic exercise training and burnout: A pilot study with male participants suffering from burnout. *BMC research notes*, 6, 78. <https://doi.org/10.1186/1756-0500-6-78>
- Granero-Jiménez, J., López-Rodríguez, M. M., Dobarrío-Sanz, I., & Cortés-Rodríguez, A. E. (2022). Influence of physical exercise on psychological well-being of young adults: a quantitative study. *International journal of environmental research and public health*, 19(7), 4282. <https://doi.org/10.3390/ijerph19074282>
- Greco, G. (2020). Effects of combined exercise training on work-related burnout symptoms and psychological stress in the helping professionals. *Journal of Human Sport and Exercise*, 16(2), 424-434. <https://doi.org/10.14198/jhse.2021.162.16>
- Habibi Vatan, M., Nourbakhsh, M., Nourbakhsh, P., & Navabi-Nejad, S. (2018). The Effect of Physical Activity on Productivity, Reduction of Sickness-Related Absences, and Work Engagement Among Female Staff of Islamic Azad



- University. *Journal of Sport Management*, 3(10), 581-594.  
<https://www.sid.ir/fa/journal/ViewPaper.aspx?id=525542>
- Jakobsen, M. D., Sundstrup, E., Brandt, M., Jay, K., Aagaard, P., & Andersen, L. L. (2015). Physical exercise at the workplace reduces perceived physical exertion during healthcare work: Cluster randomized controlled trial. *Scandinavian Journal of Public Health*, 43(7), 713-720.  
<https://doi.org/10.1177/1403494815590936>
- Khorosh, M., Ehsani, M., & Tandnovis, F. (2009). The Relationship Between Physical Activity, Job Burnout, and Achievement Motivation Among Sports Experts of the Islamic Republic of Iran Physical Education Organization. *Movement Sciences and Sports*, 7(14), 141-150.  
<https://www.oncoloyradiotherapy.com/articles/the-relationship-between-chemotherapy-efficacy-and-the-quality-of-life-of-cancer-patients-a-comprehensive-review.pdf>
- Liu, H., Du, Y., & Zhou, H. (2022). The impact of job burnout on employees' safety behavior against the COVID-19 pandemic: The mediating role of psychological contract. *Frontiers in psychology*, 13, 618877.  
<https://doi.org/10.3389/fpsyg.2022.618877>
- Lubbadeh, T. (2020). Job burnout: A general literature review. *International Review of Management and Marketing*, 10(3), 7.  
<https://doi.org/10.32479/irmm.9398>
- Mohebbi, Z., Dehkordi, S. F., Sharif, F., & Banitalebi, E. (2019). The effect of aerobic exercise on occupational stress of female nurses: A controlled clinical trial. *Investigación Y Educación en Enfermería*, 37(2).  
<https://doi.org/10.17533/udea.iee.v37n2e05>
- Naczenski, L. M., de Vries, J. D., van Hooff, M. L., & Kompier, M. A. (2017). Systematic review of the association between physical activity and burnout. *Journal of Occupational Health*, 59(6), 477-494. <https://doi.org/10.1539/joh.17-0050-RA>
- Ochentel, O., Humphrey, C., & Pfeifer, K. (2018). Efficacy of exercise therapy in persons with burnout. A systematic review and meta-analysis. *Journal of sports science & medicine*, 17(3), 475. <https://pubmed.ncbi.nlm.nih.gov/30116121/>
- Rosales-Ricardo, Y., & Ferreira, J. P. (2022). Effects of physical exercise on Burnout syndrome in university students. *MEDICC Review*, 24, 36-39.  
<https://doi.org/10.37757/MR2022.V24.N1.7>
- Saif Panahi Shabani, J., & Parvandi, M. (2019). The Effect of Aerobic Exercise on Job Stress and Burnout Among Male Staff of Islamic Azad University, Qorveh Branch. *Journal of Sport Management*, 11(2), 359-377.  
[https://jsm.ut.ac.ir/mobile/article\\_74356.html?lang=en](https://jsm.ut.ac.ir/mobile/article_74356.html?lang=en)
- Salama, W., Abdou, A. H., Mohamed, S. A. K., & Shehata, H. S. (2022). Impact of work stress and job burnout on turnover intentions among hotel employees. *International journal of environmental research and public health*, 19(15), 9724.  
<https://doi.org/10.3390/ijerph19159724>
- Tsai, H. H., Yeh, C. Y., Su, C. T., Chen, C. J., Peng, S. M., & Chen, R. Y. (2013). The effects of exercise program on burnout and metabolic syndrome components in banking and insurance workers. *Industrial health*, 51(3), 336-346.  
<https://doi.org/10.2486/indhealth.2012-0188>
- Van De Voorde, K., Paauwe, J., & Van Veldhoven, M. (2012). Employee well-being and the HRM-organizational performance relationship: a review of quantitative studies. *International Journal of Management Reviews*, 14(4), 391-407. <https://doi.org/10.1111/j.1468-2370.2011.00322.x>
- Zamanehpour, M., Malaei, N., Daneshvar, H., & Khaledi, B. (2023). Investigating the Necessity for Educational System Staff to Pay Special Attention to Physical Fitness. Tehran.