

# **Lifestyle Retirement Impact on The Health Fitness among Employees Working in the «Security Sectors»\***

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\*Received:14/2/2016, Accepted: 28/9/2016.

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أثر نمط الحياة في مرحلة التقاعد على مستوى اللياقة البدنية والصحة وسط عمال (قطاع الأمن)

### ملخص

يعد التقاعد من القضايا الجوهرية المتعلقة بالأبحاث الحديثة، إذ تؤكد دورية علم الأوبئة أن التقاعد يتسبب في عواقب صحية وعقلية كنتيجة تنسب إلى النهج الذي يسلكه المتقاعد كنمط حياتي في استغلال وقت الفراغ الناتج عن التقاعد. وتؤكد نظرية التقاعد أن هذه المرحلة الانتقالية يكون فيها مستوى النشاط البدني عرضة للتغيير بسبب التغيير في نمط الحياة اليومية. ومن هذا المنطلق، هدفت هذه الدراسة إلى دراسة تأثير نمط الحياة في مرحلة التقاعد على مستوى اللياقة البدنية والصحة وسط عمال «قطاع الأمن». لذلك الغرض، اختيرت عينة البحث بالطريقة العمدية وشملت على (14) عاملاً داخل قطاع أمن الجامعي "مستغانم"، إذ تراوح متوسط أعمارهم ( $58 \pm$ ) سنة (7) منهم من تقاعدوا العام الماضي و (7) منهم مازالوا يزاولون مهنتهم، واختيرت قدراتهم البدنية والصحية. وعلى أساس المنهج المطبق ونتائج الدراسة والمعالجة الإحصاء المطبقة، يوصي البحث المتقاعدين بالانخراط في الأنشطة الترفيهية كأنماط حياتية صحية تساهم في استثمار زمن الفراغ، والمحافظة على اللياقة الصحية المكتسبة.

### Abstract:

Our aims in this modest study is to tackle the subject of retirement, which lies at the centre of many core issues. The recent research published in the journal Epidemiology, (Q.Asthon Acton, 2011) (Lisa F. Berkman, Ichiro Kawachi, M. Maria Glymour, 2014) confirmed that when a worker reaches retirement, he may have extensive physical and mental health consequences. Attribute is given to transition from the worker to retirement that (Jerry W. Hedge, Walter C. Borman, 2012) show as in balance if levels of physical activity lifestyle. In addition, retirement has potential life stages, owing to the change in lifestyle as levels of physical activity. Our aim in this study is to assess the impact of retirement on various health outcomes security sectors, based on the absence of physically demanding jobs. Whereas (Barbara

Newman, Philip Newman, 2008) indicated that retirement options seem to be taking two directions those engaged in physical activities and those who do not (Krauss Whitbourne, 2016). For this purpose, the research samples were selected by the intentional manner that incorporated 14 workers from the security sector of university Mostaganem, Algeria, where their average age  $\pm 58$  years, 7 of them retired in the last year and 7 expect their retirement. Testing was implemented on medical and physical tests to esteem their ability on effort and health outcomes.. Through the results and statistical treatment, we recommend performing physical activities during leisure time (Mo Wang, 2012) in order to promote healthy lifestyles for our retirees.

**Keywords:** the retirement, health outcomes, University Security Sector Workers.

### Introduction

The evaluation of the causal effect of retirement on health is convoluted by two fundamental empirical challenges. The first challenge is unobserved factors. The second challenge is to make sure that causality flows from retirement to health (Irene Mosca, Alan Barrett, 2014). In addition, the literature shows how retirement affects health outcomes (Coe, Zamarro, 2011).

it is evident that working is an important element of personal identity construction and it contributes to the construction of the social being since mankind is produced and reproduced by working (Rodrigues, Ayabe, Lunardelli, Canêo, 2005). (Christine E. Gudorf, 2013) confirmed that the work can give our lives meaning, not only by bringing structure, productivity, and organisation to our days (Heidi Catherine Culbertson, 2011)

Whereas transition stage of life to another that include retirement (John Blando, 2014) disorganised Stability Zone Relatively stable factors in our life. (Ruth Wright, Léonie Sugarman, 2009) said that where the evidence shows that retirement has not immediate negative effects on health if life change means that retirees must look for ways to adapt to new

routines and patterns (Robert V. Kail, John C. Cavanaugh, 2015). Knowing that retirement offers more free time, where similar studies recommended the retirees to Engage in leisure activities (Mo Wang, 2012). Our aim in this study is to examine the impact of retirement on various health outcomes among our employees who work in the “Security Sectors”.

That is because numerous studies have shown that physician recommendation is a powerful motivator to change lifestyle habits, including the level of physical activity (James M. Rippe, 2013). Whereas the results of healthy habits basics are to have three meals per day and avoid snacks, maintain normal body weight, exercise moderately, sleep seven or eight hours (Ron Meyers, 2003). Preparing for the retirement as transitional phase is one of several key transition points over the life-course, which can have an impact on people’s health (Lee Knifton, Neil Quinn, 2013) and (Michael L. Malone, MD, Paul R. Katz, MD, Mathy Mezey, 2013) whether retirement brings with it not only the diminution in income but also the loss of social prestige (K. Warner Schaie, Dan Blazer, James S. House, 2013).

From this perspective, the importance of this study lies in revealing the beneficial effects of working as a Physical activity to manage time life of retired, confirmed by (Dominic Haydn-Davies, Emerick Kaitell, 2010) and (Bette Loef, Ellen L. de Hollander, Cécile R.L. Booth, Karin I. Proper, 2016) in the benefit of physical leisure activities on one hand, and our belief that occupation time in the retired as physical inactivity, which contributes substantially to the global burden of disease confirmed by (James F. Sallis and Jordan A. Carlson, 2015), (Pate, Russell R., Buchner, David, 2014) and (Lee, I-M, Shiroma FJ, Lobelo F, et al, 2012). While literary review shows, on one hand, no negative effects of retirement on physical or mental health (Lisa F. Berkman, Ichiro Kawachi, M. Maria Glymour, 2014). Where other studies explored the impact of retirement on various health outcomes (Peter A. Bamberger, Samuel B. Bacharach, 2014).

Through this conflict, our issue in this

study is to examine the effects retirement that offers more free time. Where our background confirmed that retirement is thought to be the trigger for these alterations, since it represents social devaluation, the loss of professional identity, quality of life, the decrease in fitness and health care, according to the recommendations of the similar studies (Pereira RJ, Cotta RMM, Franceschini SCC, Ribeiro RCL, Sampaio RF, SE Priore, et al, 2006), (Rodrigues M, Ayabe NH, Lunardelli MCF, Canêo LC, 2005), (Carroll et al, 2014), (de Hollander et al, 2015) and (Bette Loef, Ellen L. de Hollander, Cécile R.L. Booth, Karin I. Proper, 2016).

## Methods

### Study population and design

The data of This study was conducted in the Laboratory OPAPS” Physical Education Institute” the University of Mostaganem for academic years 2014-2015. As we have tested the sample based on the field test (Nick Draper, Helen Marshall, 2014) to esteem their ability to physical effort based on vo2max power anaerobic and leg explosive (VJ and Power), as we have measured blood pressure and heartbeat to determine the impact of lifestyle on various health outcomes of retirees and worker university security sector.

**Table 1**

exposes the homogeneity of the sample in weight age and Service Years.

Variables		Mean±SD	F	Sig	T	Sig
Weight	Retired	78.28±0.95	1.43	0.18	0.26	0.7
	worker	78.14±1.06				
Age	Retired	53.28±0.75	1.57	0.66	0.32	0.75
	worker	53.14±0.89				
Service Years	Retired	33.57±1.62	1.33	0.63	1.03	0.33
	worker	32.71±1.49				

Trough the table 1 the homogeneity was calculated based on independent t-test and Levine’s test for Equality of Variances, all

values are greater than the  $p \leq 0,05$  condition which confirmed that there are no signification between variables weight, age and service years.

## Statistical analysis

The research samples were selected by the intentional manner included 14 security sector of university ages  $\pm 58$  years 7 retirees in the previous year and 7 awaiting their retirement. For their homogeneity we calculate independent t-test which is nothing significant in the blood pressure tests and weight see table 1 in the opposite of other parameters which the independent t-test is significant in the benefit of non-retired for the person correlation and the Effect Size all R are not significant at level 0.05 in the oppose of them effect size which has a large effect significant in the opposite of weight and age.

## Measures

Our focus in this study, based on differences lifestyle (worker verses retired relying on leisure time retirement phase), as the only difference between the total samples. Where no one uses alcohol, cigarettes or medical drugs. In terms of tests, we relied on the basic protocol jump test (Tom Kortemeier, Todd Kortemeier, 2016) and bending the legs (Antonio Baena Extremera , Antonio Granero Gallegos, 2015) (Hermann O. Mayr, Stefano Zaffagnini, 2015) to calculate anaerobic muscular power - leg power. As well as Ruffier-Dickson test (Jean Ferré, Philippe Leroux, 2009) to calculate the heartbeat and index adaptation to effort seeded in similar as basic medical assessment. In order to compute Power (Watts) (John McLester, Peter St. Pierre, 2007) (Jim Breithaupt, 2015) we used the formula power leg  $(W) = 21.72 \times VJ (m) \times \text{mass (kg)}$  (Nesta Wiggins-James, Rob James, 2005) (Greg Haff, Charles Dumke, 2012). However, to measure the anaerobic power, we chose the formula (SAYERS, S. et al, 1999) Peak power  $(W) = 60.7 \times VJ (cm) + 45.3 \times \text{mass (kg)} - 2055$  (William D. McArdle, Frank I. Katch, Victor L. Katch, 2010). To estimate the  $VO_2\text{max}$  we use the formula  $VO_2 \text{max} = 15 \times (\text{HRmax} \div \text{HRrest})$  (Larry Hoover, 2013) developed by (UTH, N. et al, 2004) . While to calculate Blood pressure

we use the electronic devices that measure the blood pressure at the elbow or wrist (Alan L. Rubin, 2011) .

## Results

**Table 2**

shows different of Blood pressure means between the two groups

Variables		Mean	SD	T	Sig
Systolic at rest	Retired	117.14	1.95	2.75	0.01
	worker	113.42	2.99		
Diastolic at rest	Retired	82.57	5.25	2.13	0.04
	worker	77.42	3.59		

Through the table 2. The T-test is statistically differentiating between the two groups in the benefit of workers attributed to the efficiency of the system cardiorespiratory according to (Marcus E. Raichle, Gordon M. Shepherd, 2014). Whereas our participants are not confined to the danger zone based on the standards recommended for healthy adults, which lies between 120 systolic and 80 diastolic (James T Willerson, David R. Holmes, Jr. , 2015) with the exception of Diastolic at rest case retired . From this proof, we agree (D.H. Becker, L.B. Gardner, 2012) that Cardiovascular risk can be shown to increase steadily with diastolic blood pressure greater than 78 mm Hg, for all ages and both sexes. From the proofs, we notice that our heartbeat and our blood pressure determine our blood circulation and our general health (HORVATH, ANTHONY, PHD, 2015) . Also the Blood pressure is a combination of the force and rate of the heartbeat (Shahid Aziz, 2015), we confirm that our retired employees who attempted to modify their inactive lifestyle (Richard Stim, Ralph Warner, 2008). Where a number of retired in developed countries consider exercises physique an important component of their lifestyle (Ian Chaston , 2009).

**Table 3**

shows different of level Health Fitness means between the two groups

Variables		Mean	SD	T	Sig
VO2max	Retired	29.02	1.42	-4.99	0.01
	worker	33.14	1.64		
VJ (cm)	Retired	21.71	3.40	-3.19	0.01
	worker	26.71	2.36		
Anaerobic power	Retired	2809.40	216.44	-2.97	0.01
	worker	3106.42	152.10		
Power leg	Retired	3698.30	58.91	-3.10	0.00
	worker	4530.42	40.74		
Index Ruffier-Dickson	Retired	14.54	1.01	5.43	0.00
	worker	11.74	.90		

Tough table 3 shows independent T is significant in all, compare variables physical effort; this leads lead us to confirm the different health states of our samples, which are for the benefit of the worker. From that, our results line with the confirmation to promote and maintain good health, our retired must integrate moderate-intensity aerobic to be performed according to (Jana Pelclová, 2015) and organism functional sited by(Peter D. Le Roux, Joshua Levine, W. Andrew Kofke, 2013) . From the above, we agree that individuals who do not engage in any moderate or vigorous physical activity during leisure time risk Functional capacity declines (William D. McArdle, Frank I. Katch, Victor L. Katch, 2010) case of our Retired. According to those proves, we confirm that the Algerian Lifestyle Retirement without physical activity can contribute to degradation of the level Health Physical Abilities advising to (James F. Sallis and Jordan A. Carlson, 2015), (Pate, Russell R., Buchner, David, 2014), (Lee, I-M, Shiroma FJ, Lobelo F, et al, 2012). On this base. we support the judgment of (Stuart Biddle and Nanette Mutrie, 2001) that we must get serious importance about improving the health of the nation by stressing our commitment to healthy physical activity in our case, integrate our retirees' in physical leisure activities to improves them well-being (Robert Kail, John Cavanaugh, 2015).

## Discussion

From the table 2 and 3, our assessment report indicates that the retirement is a serious public health problem leading to severe health consequences (N. A. Garrett et al, 2004) such as the level of blood pressure and the level Health Fitness. We agree that a regular time works as structure case worker in order to promote health (L. B. Robbins et al, 2001) and increase the capacity function. Opposite of the inactive free time record the case of retired which is recognised as an important risk factor for multiple causes of death and chronic morbidity and disability (Majid Ezzati, 2004). Also its increases the risk of stroke and such other major cardiovascular risk factors as obesity, high blood pressure, low HDL (“good”) cholesterol and diabetes (Noemie P. Beaulieu, 2008)

Through the tasks of security workers have a physical character which improves endurance and strength, allowing the individual to perform activities more effectively and for longer periods (Jerrold S. Greenberg, George B. Dintiman, Barbee Myers Oakes, 2004) . Our result line with the results which confirm that the retirement has a negative effect on various health outcomes fitness, where (Krell-Rösch, Janina, 2014) suggests that the solution lies in integrating these retirees in society.

Accordingly, to present results, we mention that fitness rating help, which determines health-related to active or inactive lifestyle based on the levels agility, balance, body composition, cardiorespiratory endurance (McConnell, Karen, Corbin, Charles, Corbin, David, 2014) to maintain the request Health Physical Abilities. Confirmed by (Sharon A. Plowman and Denise L. Smith, 2013) that health-related fitness involves exercise activities in order improve physical health and stay healthy, in particularly the cardiovascular endurance, muscular strength, flexibility, muscular endurance and body composition (Anne Williams and Joanne Cliffe, 2011) and (John Porcari, Cedric Bryant, Fabio Comana, 2015).

## Conclusions

Security work is fundamentally based on sports activities, which are a social phenomenon that encompasses all of these social forms of human activity (Karin Volkwein-Caplan, 2013). While the physical activity required maintaining optimal health, which is regular, planned and structured with the aim of improving or maintaining of one or more aspects of physical fitness (Encyclopedia of Human Nutrition, 2012) a result that consists in the case of our workers.

Whereas their retirement takes them to inactive life, confirmed by (William J. Rothwell, Harvey Sterns, 2008) in the decrease of physical activity in their lives. Seen that, we approve the recommendation, advised by (Janie Clark, 2014) that, the American College of Sports Medicine recommend performing daily physical activity, such as walking to work and retirees. As a quality of life perceived by an individual necessitating the employment and/or daily activities satisfaction,. Where the effective procedure in retirement require the maintenance of physical activities (Líria Núbia Alvarenga, Luciana Kiyann Bianca Bitencourt, Kátia da Silva Wanderley, 2009). As well, the respect of food intake for fitness and life without disease (Vecchia RD, Ruiz T, Bocchi SCM, Corrente JE, 2005).

## Conflict of interest

The author declares that there are no conflicts of interest.

## Acknowledgments

The author is grateful to the Laboratory OPAPS" Physical Education Institute" University of Mostaganem for protocol validations..

## References

1. Alan L. Rubin. (2011). High Blood Pressure for Dummies. US: Wiley.com.
2. Anne Williams and Joanne Cliffe. (2011). Primary PE: Unlocking the Potential. UK: McGraw-Hill Education (UK).
3. Antonio Baena Extremera, Antonio Granero Gallegos. (2015). Componentes básicos del currículum de Educación Física. Deportiva: Ebooks Wanceulen.
4. Barbara Newman, Philip Newman. (2008). Development Through Life: A Psychosocial Approach. US: CengageBrain.com.
5. Christine E. Gudorf. (2013). Comparative Religious Ethics: Everyday Decisions for Our Everyday Lives. US: Fortress Press.
6. Coe, N.B. Zamarro, G. (2011). Retirement effects on health in Europe. Journal of Health Economics, 30, 77-86.
7. D.H. Becker, L.B. Gardner. (2012). Prevention in Clinical Practice. UK: Springer Shop.
8. Dianne Hales. (2014). An Invitation to Health. US: CengageBrain.com.
9. Encyclopedia of Human Nutrition. (2012). UK: Access Online via Elsevier.
10. Great Britain. Parliament. House of Lords. (2006). The Parliamentary Debates (Hansard). House of Lords official report, 692, 1.
11. Greg Haff, Charles Dumke. (2012). Laboratory Manual for Exercise Physiology. US: Human Kinetics.
12. Heidi Catherine Culbertson. (2011). Wisdom and Recipes: Things I Would Have Shared With My Daughter. US: west bow press.
13. Hermann O. Mayr, Stefano Zaffagnini. (2015). Prevention of Injuries and Overuse in Sports. UK: Springer Shop.
14. HORVATH, ANTHONY, PHD. (2015). CAPITALlessISM: A Macro Model for a strong National E-conomy. USA: CAPITALlessISM.
15. Ian Chaston. (2009). Boomer Marketing: Selling to a Recession Resistant Market. UK: Routledge.

16. Irene Mosca, Alan Barrett. (2014). *The Impact of Voluntary and Involuntary Retirement on Mental Health: Evidence from Older Irish Adults*. *Forschungsinstitut Zur Zukunft der Arbeit Institute for the Study of Labor*(8723), 3.
17. James T Willerson, David R. Holmes, Jr. (2015). *Coronary Artery Disease*. UK: Springer Shop.
18. Jana Pelclová. (2015). *Physical activity in the lifestyle of the adult and senior*. Czech: e-book English.
19. Janie Clark . (2014). *Exercise Programming for Older Adults*. US: Routledge.
20. Jean Ferré, Philippe Leroux. (2009). *Préparation aux diplômes d'éducateur sportif*. FR: Editions Amphora.
21. Jerrold S. Greenberg, George B. Dintiman, Barbee Myers Oakes. (2004). *Physical Fitness and Wellness: Changing the Way You Look, Feel, and Perform*. UK: Human Kinetics.
22. Jerry W. Hedge, Walter C. Borman. (2012). *The Oxford Handbook of Work and Aging*. UK: Oxford University Press.
23. Jim Breithaupt. (2015). *Physics*. UK: Palgrave Macmillan.
24. John Blando. (2014). *Counseling Older Adults*. US: Routledge.
25. John McLester, Peter St. Pierre. (2007). *Applied Biomechanics: Concepts and Connections*. US: CengageBrain.com.
26. John Porcari, Cedric Bryant, Fabio Comana. (2015). *Exercise Physiology*. USA: F.A. Davis.
27. Karin Volkwein-Caplan. (2013). *Sport Fitness Culture*. UK: Meyer & Meyer Verlag.
28. Krauss Whitbourne. (2016). *The Encyclopedia of Adulthood and Aging*, 3 Volume Set. US: Wiley.com.
29. Krell-Rösch, Janina. (2014). *Interdependence of Physical (In-) Activity, Fitness and Cognition*. KIT Scientific Publishing.
30. L. B. Robbins et al. (2001). *Physical activity research in nursing*. *Journal of Nursing Scholarship*, 33( 4), 315–321.
31. Larry Hoover. (2013). *Metabolic States: Notes on Stress, Nutrition and Exercise*. US: XLibris LLC.
32. Líria Núbia Alvarenga, Luciana KiyanIn Bianca Bitencourt, Kátia da Silva Wanderley. (2009). *The impact of retirement on the quality of life of the elderly*. *Rev. esc. enferm. USP*, 43(4), 3. doi:dx.doi.org/10.1590/S0080-62342009000400009
33. Lisa F. Berkman, Ichiro Kawachi, M. Maria Glymour. (2014). *Social Epidemiology*. UK: Oxford University Press.
34. Majid Ezzati. (2004). *Comparative Quantification of Health Risk*. Geneva: World Health Organization.
35. Marcus E. Raichle, Gordon M. Shepherd. (2014). *Angelo Mosso's Circulation of Blood in the Human Brain*. UK: Oxford University Press.
36. McConnell, Karen, Corbin, Charles, Corbin, David. (2014). *Health for Life*. USA: Human Kinetics.
37. Mo Wang. (2012). *The Oxford Handbook of Retirement*. UK: Oxford University Press.
38. N. A. Garrett et al. (2004). *Physical inactivity: direct cost to a health plan*. *The American Journal of Preventive Medicine*, 27(4), 304–309.
39. Nesta Wiggins-James, Rob James. (2005). *AS PE for AQA*. UK: Heinemann.
40. Nick Draper, Helen Marshall. (2014). *Exercise Physiology: For Health and Sports Performance*. US: Routledge.
41. Noemie P. Beaulieu. (2008). *Physical Activity and Children: New Research*. USA: Nova.

42. Peter D. Le Roux, Joshua Levine, W. Andrew Kofke. (2013). *Monitoring in Neurocritical Care*. US: Elsevier Health Sciences.
43. Q.Asthon Acton. (2011). *Issues in Global, Public, Community, and Institutional Health*. USA: General edition.
44. Richard Stim, Ralph Warner. (2008). *Retire Happy: What You Can Do Now to Guarantee a Great Retirement*. US: Nolo 1 edition.
45. Robert Kail, John Cavanaugh. (2015). *Human Development: A Life-Span View*. UK: CengageBrain.com.
46. Robert V. Kail, John C. Cavanaugh. (2015). *Human Development: A Life-Span View*. UK: CengageBrain.com.
47. Rodrigues M, Ayabe NH, Lunardelli MCF, Canêo LC. (2005). A preparação para a aposentadoria: o papel do psicólogo frente a essa questão. *Rev Bras Orientac Prof*, 6(1), 53-62.
48. Ruth Wright, Léonie Sugarman. (2009). *Occupational Therapy and Life Course Development*. US: Wiley.com.
49. SAYERS, S. et al. (1999). Cross-validation of three jump power equations. *Med Sci Sports Exerc*, 31, 572.
50. Shahid Aziz. (2015). *Understanding High Blood Pressure*. UK: sheldon press.
51. Sharon A. Plowman and Denise L. Smith. (2013). *Exercise Physiology for Health Fitness and Performance*. UK: Wolters Kluwer Health.
52. Stuart Biddle and Nanette Mutrie. (2001). *Psychology of Physical Activity*. USA: Psychology Press.
53. Tom Kortemeier, Todd Kortemeier. (2016). *Pro Football by the Numbers*. US: Capstone.
54. UTH, N. et al. (2004). Estimation of VO<sub>2</sub> max from the ratio between HR<sub>max</sub> and HR<sub>rest</sub> -the Heart Rate Ratio Method. *Eur J Appl Physiol*, 91(1), 111-115.
55. Vecchia RD, Ruiz T, Bocchi SCM, Corrente JE. (2005). Qualidade de vida na terceira idade: um conceito subjetivo. *Rev Bras Epidemiol*, 8(3), 246-52.
56. William D. McArdle, Frank I. Katch, Victor L. Katch. (2010). *Exercise Physiology: Nutrition, Energy, and Human Performance*. US: Wolters Kluwer Health.
57. William J. Rothwell, Harvey Sterns. (2008). *Working Longer: New Strategies for Managing, Training, and Retaining Older*. US: AMACOM.