



**A Comparative Study of Work-Life Balance and Occupational Burnout among
Working Professionals**

Shabana Khan, Masters in Arts, Psychology, Madhya Pradesh, India

Khan512shabana@gmail.com

ABSTRACT

The purpose of working professional has changed throughout the formation due to economic evolution and psychological needs. This has resulted in a scenario in which working professionals have huge work pressure to develop and set a career as strong as their co-workers while strengthening active participation in personal life. The increasing workload forming a pattern on the working professionals leaving them with less time for themselves. The current research study is an effort to find out the tough challenges faced by working professionals who all work in various different organisations. The current study shows about the various elements involving in the work- life balance of working professionals and cause burnouts which makes an employee to be dissatisfied from his or her job. The improper work life balance not only affect the physical health of an employee but also affects the mental health of an employee. A sample of 40 working professionals in the age 20 to 40 years were taken. Standardized scales were used to measure work-life balance and occupational burnout. Results found out that Occupational Burnout is significantly negatively correlated with Work-life Balance. Policies

such as health and wellness programs & other work-life balance programs need to be incorporated in an organisation to help working professionals cope better. Further, support from manager, co-workers, a healthy work environment is needed to protect work professionals mental health.

Keywords: *Work-life Balance, Work-life, Job Satisfaction, Stress, Burnout, Working Professionals*

INTRODUCTION

“If you feel ‘burnout’ setting in, if you feel demoralized and exhausted, it is best, for the sake of everyone, to withdraw and restore yourself.”

~Dalai Lama

Work life balance and occupational burnout are very common among working professional. If an employee who is not having proper balance between his or her personal and professional life then it's quite impossible for an employee to focus on the work and there are various factors which can leads to occupational burnouts and dissatisfaction towards job. The present research study intended to analyse the relation between work-life balance and occupational burnout. In addition, also important background variables (age, gender and education qualification) were included. The current study is conducted on 40 working professionals who are working in different organisations in India. The main challenge faced by an employee which is indicative in this research is that the employees are tired with the timelines, targets, work overload, less pay or not get paid on time. Additionally, if the working environment is toxic that means no proper support from the senior authorities, managers, team mates or co-workers, that also makes an employee to burnout. As per the employees if the working environment is not healthy then the employee not feels fully satisfied with the work which he or she doing.

A survey was conducted on health service providers which, the main aim of that survey was to assess work-life balance, occupational burnout, job satisfaction, motivation among health workers (doctor and nurses) who all were employed within the public sector in India. The study was conducted in three districts representing two states in India. The participant of this study was represents the doctors and nurses from health and service delivery centres. Data were collected from a total of 309 healthcare providers in which 152 doctors and 157 nurses. The average scores for most of the dimensions of job satisfaction were low for both doctors and nurses with the lowest scores reported for the dimensions of 'professional support and 'personal satisfaction' while the highest score reported for 'satisfaction with pay.' The significant result come out for this research study is the difference of mean scores were found for all seven dimensions of job satisfaction except for 'prospects.' Whereas the mean scores of motivation were found to be significantly different for different levels of place of work and also between the doctors and nurses.

Another research study was done by Rohwer (2022) on police officers and other law enforcement organizations, to explore the effects of job stress, job involvement, job satisfaction and other organizational commitment. In all other past research on work-life balance and occupational burnout it was found out that higher life satisfaction it gave results in better physical and mental health, it improved the efforts and longer life expectancy. Through the various research it shows that what happens at work does not stay at work but it spills over and affects an individuals overall life. Work life balance variables, particularly job stress, job involvement, job satisfaction, occupational burnout and organizational commitment, these variables just not only affect people at work, but also affect people's satisfaction with their overall lives. The research study examined how job stress, job involvement, job satisfaction and organizational commitment were

associated with life satisfaction among a sample of 827 police officers from the state of Haryana in India. The results of this study suggest that police administrators should attempt to lower job stress and increase job involvement, job satisfaction and organizational commitment among officers to raise their life satisfaction, which in benefit the individual officers, the police agency and the community being served.

As from the different research study and as well as from the current studies we got to know that if an employee's have a healthy work- life balance, they are more likely to enjoy their job and also they feel satisfied with their job. This will create less occupational burnout and work stress in an employee and leads to improvement in their job performance, greater job satisfaction, and a higher level of overall happiness whereas an employee who is underpaid, less appreciated, overburden with tasks and targets, not having proper support from supervisors or managers they are more frustrated and stressed out. This leads to higher level of dissatisfaction in job, and it just not only affect people at work, but also affect people's satisfaction with their overall lives. So, as per the various research studies work life balance is an important variable for job satisfaction and a satisfied employee will always leads to improvement in their job performance.

Work-Life Balance

Healthy work-life balance refers to maintaining a harmonious relationship between your work and personal life. It involves consciously managing your time and energy to meet both professional and personal commitments while prioritizing self-care and well-being. Kirchmeyer, Cooper and Rousseau (2000) defined work- life balance as “achieving satisfying experiences in all life domains with personal resources such as energy, time, and commitment well distributed across domains.”

As per Frone et al. (1992), the author observed that there is no proof of gender inequality in the pattern of asymmetry, also it depicts that family responsibilities and work dynamics may operate in a similar manner among men and women.

Whereas Campbell and Kennard (1994) have find out that the work commitment and job performance of women were majorly effected by family responsibilities.

Burke, (2002) also found out that both male and female prefer to work in an organisation that supports work- life balance. Women are more effected by the unsuitable work culture as compared to men. Women experience more frustration, sadness, pressurised if they are not able to give time to their family.

Aziz and Cunningham, (2008) in a study found out that work pressure and work- life imbalance were correlated with work holism regardless of gender.

Baral (2010) conducted a study on 485 employees working in different companies in India found out that working men and women in India experience more work family enhancement rather than work interference with family. Also, in this study it is find out that there were no gender differences in the employee perception regarding work family enhancement.

As per Klopping (2012), in the modern times, human resource department has one of the significant role to maintain an equal balance between personal and professional life.

As per employees perception work- life balance is determined as handling multiple domains of personal time, household care, and workplace are maintained and mixed work place, but according to Malhotra and Sachdeva (2005), the roles and responsibilities of a women still remain the same, i.e., women may be at higher position still the “care taking or nurturing” roles are considered much a part of women responsibilities.

Rodgers (1992), conducted a research study with the sample of employees of 20 Fortune 500 companies; 28 percent of the men and 53 percent of the women described that

work-family stress affects their ability to concentrate at work, hence revealing that more than half of the women and almost a third of the men described that work/family stress affects their ability to concentrate on the job. So, it shows that life seems quite difficult for working women.

As per the research conducted by Blocks (1997), it indicates that family-to-work-spill-over is stronger for women and the work-to-family spill-over is stronger for men.

Research indicates that female participants in all parts of the world are pressurised for time, rarely have time to relax and feel stressed and overworked most of the time, but women in emerging countries feel stress even more as compared to women in developed countries. Women in India (87%) are more stressed? Pressured for time. (Nielsen Survey, June 2011).

A research study by ASSOCHAM's based on the survey of 103 corporate female employees from 72 different companies/ organisations across 11 broad sectors of the economy focused on the issues of corporate female employees. One of the most important findings is that high psychological job demands like long working hours, working under deadlines, without clear direction leads 75% of the working females suffer depression or general anxiety disorder than those women with the lowest level of psychological job demands (Ahmed, 2009).

Balancing personal and professional life is quite impossible. If an individual feels that she has done justice to all her roles and is satisfied, that's known as real balance. The problem related with Work- life balance is really serious and need to address in the real time. According to Friedman and Greenhaus (2000), in their renowned book, 'Work and Family: Allies or Enemies,' argue that the conflict between work and family has real consequences. This may affect the condition of family life and career achievement of both men and women. The outcome for women may include serious restriction on career choices, limited chance for career growth and achievement in their work role, and they need to choose two clearly opposites- an active and satisfying career, or marriage, children and a happy family life. We can say, if an

individual balance his/her role both at home and work, it recognise as Work and Family balance.

As per Kirchmeyer (2000) living a balanced life refers as “ach achieving satisfying experiences in all life domains, and to do so requires personal resources such as energy, time, and commitment to be well distributed across domains.”

Also, Kofodimos (1993) suggests that imbalance- in particular work imbalance, creates high levels of stress, diminish from quality of life, and at the end it minimise the effectiveness at work. Collins and Shaw (2003) suggested that an equally high investment of time and participation in work and family would minimise work-family conflict and stress thereby it strengthen an individual’s quality of life. So, it goes without saying that the married working women of this era can have a healthy life when they have a great work-life balance.

Karakas and Lee (2004) explained work life balance as spending quality time with family, getting free time to be able to relax for emotional and mental health and well-being of family, having good communication and support from the family, colleagues,, that makes an individual to be feel less worried and pressurised from the work. As per the Kinman (2001), he found out in his research study that the main factor of psychological distress and disappointment during Job was related to work life balance. He found out that over half of the participant complained about that they have to work regularly at home as well after coming back from the job that cause more stress. Netemeyer, Boles and McMurrian (1996) proclaimed that majority of the employees reported that they remained preoccupied with work issues even after they leave the workplace and feel difficulties in sleep at home.

Elliott (2003) explained that mostly the problem regarding work life balance faced by the working parents of children, aged six or younger, because it includes high quality of child care which is quite expensive and also it involves a large portion of income and also it reduces the chances of mother to be employed. The overload of child care and other family members

responsibility puts more emotional burden on women as compared to men. Daly & Lewis (2000) explained that in today's reality, it is still women who keep hold of the major responsibilities for childcare and more it likely to work part- time, sparing time for family as well.

Whereas, Gersen (1993) explained that fathers also faced stress and tension in childcare as their wives are working women and they are not present at home to look after the kids. Due to this, in early 20th century some of the big organisation felt that the employers should allow free time to their employees to look after their children. Frequently changing projects, shift timings, job insecurity and frequent changes in job locations are some of the factors which cause work life strain. A research conducted by Luce and Murray (1998) most of the employee who are new to the organisation describe that they feel isolated, and they are often bombard due to unclear expectations and excessive work pressure.

Frone (2000) found out that work-home clash equally affected the mental health of men and women, whereas Emslie, Hunt and Macintyre (2004) also did not find out any significant gender differences in perceptions of work-home clash. As per the study by Thompson et al. (1998) it is a general insight that organisations with lower level of work- life clash possess supportive organisational work culture. Kossek, Dass and DeMarr (1994) explained the one of the reasons of the work life stress is lack of combination of between the employee's life and organisation's goals. He further explained that negative work culture, poor and toxic work environment and bad attitudes of managers and supervisors towards employees creates an obstacle towards the implementation of work life balance. Rochling and Moen (2001) predicted that flexible shift timings, salary (earnings), friendly work environment, and understanding & encouraging colleagues are interconnected with work life balance.

Non supportiveness of colleagues and supervisors affects employee loyalty negatively. They further explained that a partner who is unstable or low income increases the financial burden on the other partner.

As per Kinman and Jones (2008), not treating fairly with the rewards is one of the reasons of work stress and pressure among the employees. In their research, they explain flexible shift timings and the freedom of the employee in his work were found to be a key factor of work- life balance. Parasuraman and Simmers (2001) also found out that self-control or having freedom in the work can help an individual to organize their work in a particular manner that minimises the chances of work-family conflict. Warren And Jhonson (1995) also found that self-control or having autonomy in the work can help individuals to schedule work in a way that reduces the likelihood of work-family conflict.

Occupational Burnout

Maslach and Jackson (1986) famously described burnout as "Emotional exhaustion (now simply called exhaustion) - the feeling that one's emotional and physical reserves are depleted and overburdened. Depersonalization – is subsequently defined as cynicism and negative attitudes toward people." Similarly, Schaufeli and Greenglass (2001) defined burnout as "a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding."

Stress is the body's non- specific response to any demands on it. Let's take an example, when a person experiencing excessive workload then his or her body responds differently. As per Hawari (2002), someone who is facing and going through stress can be seen changes in physical, psychological and behavioural. According to Ivancevich and Matteson (2006), stress is an adaptive response, which is affected by individual differences and / or psychological processes, which are the results of external actions (environment), situations or events that are

the result in psychological and/or physical tension towards a person. External activities, environment and circumstances are known as source of stress.

The definition of work stress which is given by Ivancevich and Matteson (2006) it's not too much different from the definition of stress in general, which is an adaptive response that is the result of the demands of work environment that is the outcome in psychological and or physical tension of a person. Stress appears when individuals oppose with demands both physical and psychological that come from the environment. If an individual understands that demands overcome the ability and capacity possessed by the individual and the individual is not able to adjust to the situation at hand, it will automatically create a feeling of pressure on the individual. As a result, from this pressure will bring up the reactions both physical and psychological in individuals who experience stress. Each individual will feel and experience that stress in different manner, some individuals who are fall due to stress and some are actually take that stressful situation as a motivation, one main thing which causes this differences is an individual perceptions, and differences in terms of gender, self-esteem, and personality as per (Ivancevich & Matteson, 2006).

As per Wolin and Wolin (1993), Resilience is the process where a individual struggling when he or she faced with difficulties, problems, or suffering. According to Relvich and Shatte, (2002) is the capability to adapt and remain calm in difficult situations. Whereas, as per Banaag (2002) and Chandra (2009), states that resilience is a process of interaction between individual factors and environmental factors. These individual factors function to hold self- destruction and carry out the positive self-destruction., while the environmental factors function to protect the individual and “calm down” the difficulties of an individual's life. Wolin & Wolin (1999), explained that there are seven main attributes and features possessed by skilled individuals. These attributes makes an individual capable to adapt well when they have to deal with the problems, overcome various obstacles, and develop their full potential. As per Wolin and Wolin

(1999), an individuals who have perception and intuitions to ask challenging questions and answer them honestly.

According to Mayer (2004), children who understand themselves well also have a clarity about their emotional state and they can carry out the adaptive emotional regulation. Wolin & Wolin, (1949) explains that independence is the ability to make distance yourself emotionally and physically from the source of problems in one's life. Independence includes the ability to maintain a balance between being honest with yourself and caring for others. In adulthood, relationships mature in the form of attachment, which is a mutually beneficial personal bond where there characteristics of giving and receiving.

Mccain and Smith (1994), considered occupational stress as the most important occupational hazard in the modern times. Kane (2009) stated that it an important factor to find out the main reason and sources of stress in a healthcare organisation, to find the stress management strategies to help the individuals and the environment. Stress in nurses affects their physical health as well as mental health and it increases the absenteeism, attrition rate, infection rates, injury claims and also errors in while treating patients. When the healthcare setups admit the problem and take necessary steps to tackle the continuing threat of chronic stress, staffing cost will keep increasing and add to the increased cost of treatment. Nurses, absenteeism, turnover and sickness will also rise the cost of employment in healthcare units. As per Kawano (2008) chronic job stress factors not only affect physical health but also have an impact on mental health, that can cause the risk of cardiovascular disease, medical cost and work performance.

Thus, reducing work stress factors is an important to reduce the development of stress related diseases and to effect on workers' health. Nursing is a highly stressful job, a chronic environmental job related stress factors among nurses and health care staff are associated with job satisfaction and musculoskeletal disorders, but not with risk indicators for cardiovascular

disease, these stress factors are also related with the mental and physical health of nurses is an important for the quality of nursing care.

According to Kane (2009), the working environment of nurses and healthcare workers included and surrounded by the atmosphere, time pressures, excessive noise or undue quiet, sudden changes in their shift, sudden changes in their everyday tasks, no other chance, unpleasant noises and sights, and long standing hours. Nurses are trained for all these tasks beside that nurses have to deal with these factors like home stress, conflict of work, improper training, insufficient and in adequate staffing, poor teamwork and poor direction or supervision. Stress is known to cause the emotional exhaustion in nurses and this lead to negative feeling towards those whom they cure. The research study has done on nurses, in which the research findings, obviously the most frequent causes of stress are conflict of role and no clarity about the role, workload, poor relationship with other staff members, poor job conditions, work environment, career development and responsibility towards others. Al-omar (2003), explains that non clarity about the job role creates due to improper information which creates an obstacle for an individual to perform their job properly.

As per Konstantinos and Christina (2008), a research studies carried out on stress in nursing have identified various stressors that upon the clinical specialty, despite the fact that some common stressors across nursing specialties which includes poor working relationship between nurses and doctors and other health care workers and professionals, demanding communication and relationships with patients and relatives, high workload, emergency cases, inadequate staff and lack of support and positive feedback from senior staff. Trygstad (1986), in her study which is carried was carried out about stress in different types of psychiatric nurses, as cited in Konstantinos and Christina (2008), they found that problem with patients are accounted around 13% of overall stressors, whereas relationships between nurses and physicians accounted for nearly 91% only of the stressors, (when the senior ignored the nurse's input and

efforts and made decisions by him or herself, 17% involved the ward sister's poor supervisory behaviour and attitudes, practices (this happens when there is no proper support or insufficient positive reinforcement for staff, and lack of clinical and administrative expertise) and she concluded that the relationship between staff nurses and their ward sister and their capabilities to work together was an important factor of the work stress experienced by psychiatric nurses, and the most important factor of stress experienced by these nurses was the difficulties in relationships among staff nurses and their ability to work together.

Other stressors that psychiatric nurses experienced were related with the working relationship with co-workers and other unit staff, and the problems arose involving ineffective communication. These kind of working condition can have a significant impact on individual nurses and the also it effects the ability of nurses to achieve their tasks; poor decision making, lack of interest, lack of concentration in work, decreased motivation, and stress & anxiety may effect their job performance., this can create a serious threats to patients safety.

Also, stress – related issues increases the chance of absenteeism, that required the administrative use of unplanned and costly replacement staff from agencies, or mandatory overtime for nurses, which also creates an environment of stress and burnout. According to Hsien Ho, (2009) research studies carried out on stress in nursing have identified, job rotation among for nurses could also affect their job satisfaction. Kamau et al. (2014), Occupational stress is serious issue which affects nurses, and research studies shows that this is related to absence from work and intentions to quit a hospital.

METHODOLOGY

Purpose

The purpose is to study Work-life balance and Occupational burnout among working professionals.

Hypothesis

There will be a significant correlation between work life balance and occupational burnout among working professional.

Methods

Sample

A total sample of 40 Working Professionals in the age of 20-40 years were collected from all over India.

Measures

The following standardised tools were used to measure Work-Life balance and Occupational Burnout.

- ***Occupational Burnout Scale***

The Occupational Burnout Scale as developed by (Post, 1981) was used to measure occupational burnout among Working Professionals. The occupational Burnout scale contains 28 items. The items were measured on a five-point Likert scale ranging from 1 (never), 2 (Rarely), 3 (Sometimes), 4 (Often), 5 (Always).

- **Work- Well Being Scale**

The scale as developed by Black Dog Institute. The scale consisted of 31 items. Each item had a pair of statements. The items were measured on a five-point Likert scale ranging from 1 (Not at all) to 5 (Extremely). The participant was required to choose one that described their feelings and beliefs.

Procedures

The participants were informed about the purpose of the research and the questionnaires were filled through Google forms, each participant was thanked for their cooperation. Standardizes psychological tests were administered to the participants.

ANALYSIS OF DATA

Results

The responses of the participants were analysed using Pearson's Correlation to see the relationship between Work-life Balance & Occupational Burnout.

Table 1

Correlation between work life balance and occupational burnout

	Work Life Balance	Occupational Burnout
Work Life Balance	—	
Occupational Burnout	-0.523 ***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

The results found out that there is a significant negative correlation between Work Life Balance and Occupational Burnout ($r = -0.523$, $p < 0.001$).

Discussion of Results

The following are the findings of the study.

Work Life Balance and Occupational Burnout- There is significant negative correlation ($r = -0.523$, $p < 0.001$) which indicates work life balance of an individual will get affected as the occupational burnout increases. This implies that when an individual experience higher levels of occupational burnout, that will affect the work life balance of an individual as well as they find dissatisfaction towards their job. Research was conducted to study the relationship between Work-life balance and occupational burnout among working professionals. The outcomes of the study depicted a negative relationship between work life balance and occupational burnout.

CONCLUSION

Conflicts at work life balance among working professionals not only affect their physical health but also their mental health. The main motive to done this research study was to find out the relationship between work life balance and occupational burnout. After finding out the results it become clear that the work environment, supportive co-workers, managers plays an important role to maintain a work life balance and less occupational burnout. As the results shows that there a significant negative correlation between work life balance and occupational burnout, which means the more individual have occupational burnouts the less he or she having work life balance.

Health and wellness programs can, for sure help working professionals in balancing their personal and professional life. Also, not only this an individual if getting fairly paid, getting proper time for his or her personal life, a healthy work environment, supportive team mates,

managers can make an individual more satisfied and the chances of burnout and dissatisfaction from job becomes less.

There are some other arguments possible to use for explaining the link between work life balance and occupational burnout. The most important things that are necessary to mention here as follows:

- a) There is a need of taking an individual perspective regarding work life balance and occupational burnouts.
- b) Those factors that majorly determines the work life balance and occupational burnout lead to the problem of organizing them and find out common categories.
- c) Building work life balance programs in an organisation is strongly related to motivational systems that have specific structures- every change in the area are needs to be properly organised and implemented so employees are aware of it, they understand and know the main motive of it.

REFERENCES

- Aziri, B. (2011). Job satisfaction: A literature review. *Management research & practice*, 3(4).
- Delecta, P. (2011). Work life balance. *International journal of current research*, 3(4), 186-189.
- Ganster, D. C., & Rosen, C. C. (2013). Work stress and employee health: A multidisciplinary review. *Journal of management*, 39(5), 1085-1122.
- Hoffmann-Burdzińska, K., & Rutkowska, M. (2015). Work life balance as a factor influencing well-being. *Journal of Positive Management*, 6(4), 87-101.
- Kirby, L., Zolkoski, S., O'Brien, K., Mathew, J., Kennedy, B., & Sass, S. (2023). Examining staff and faculty work-life balance and well-being using the dual continua model of mental health during COVID-19. *Journal of Happiness and Health*, 3(1), 34-48.
- Kouvonen, A., Kivimäki, M., Virtanen, M., Pentti, J., & Vahtera, J. (2005). Work stress, smoking status, and smoking intensity: an observational study of 46 190 employees. *Journal of Epidemiology & Community Health*, 59(1), 63-69.
- Lakshmi, N., & Prasanth, V. S. (2018). A study on work-life balance in working women. *International Journal of Advanced Multidisciplinary Scientific Research*, 1(7), 76-88.
- Lambert, E. G., Qureshi, H., & Frank, J. (2021). The good life: Exploring the effects job stress, job involvement, job satisfaction, and organizational commitment on the life satisfaction of police officers. *International Journal of Police Science & Management*, 23(3), 279-292.
- Liu, S., & Onwuegbuzie, A. J. (2012). Chinese teachers' work stress and their turnover intention. *International journal of educational research*, 53, 160-170.
- Lu, Y., Hu, X. M., Huang, X. L., Zhuang, X. D., Guo, P., Feng, L. F., ... & Hao, Y. T. (2017). The relationship between job satisfaction, work stress, work-family conflict, and

turnover intention among physicians in Guangdong, China: a cross-sectional study. *BMJ open*, 7(5), e014894.

McCalister, K. T., Dolbier, C. L., Webster, J. A., Mallon, M. W., & Steinhardt, M. A. (2006).

Hardiness and support at work as predictors of work stress and job satisfaction. *American Journal of Health Promotion*, 20(3), 183-191.

McVicar, A. (2003). Workplace stress in nursing: a literature review. *Journal of advanced nursing*, 44(6), 633-642.

Mishra, P. K. (2013). Job satisfaction. *IOSR journal of humanities and social science*, 14(5), 45-54.

Pragholapati, A., Yosef, I., & Soemantri, I. (2020). The correlation of resilience with nurses work stress in emergency unit rumah sakit Al Islam (RSAI) Bandung. *Sorume Health Sciences Journal*, 1(1), 9-18.

Purohit, B., Lal, S., & Banopadhyay, T. (2021). Job satisfaction among public sector doctors and nurses in India. *Journal of Health Management*, 23(4), 649-665.

Pushpakumari, M. D. (2008, January). The impact of job satisfaction on job performance: An empirical analysis. In *City Forum* (Vol. 9, No. 1, pp. 89-105).

Smith, T. D., Hughes, K., DeJoy, D. M., & Dyal, M. A. (2018). Assessment of relationships between work stress, work-family conflict, burnout and firefighter safety behaviour outcomes. *Safety science*, 103, 287-292.

Vyas, A., & Shrivastava, D. (2017). Factors affecting work life balance-a review. *Pacific Business Review International*, 9(7), 194-200.

Yusuf, S. (2018). A comparative study of work-life balance and job satisfaction of the employees working in business process outsourcing sector. *Sciences*, 10(2), 87-93.