# STRESS AT WORKPLACE FOR SHIFT STAFF

# (PETRONAS SABAH AUXILIARY POLICE)

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**A Project Paper submitted in partial fulfilment of the requirement for the degree of Bachelor of Applied Social Sciences**

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# DECLARATION

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I hereby declare that this Project Paper is the result of my own work,

except for quotations and summaries which have been duly acknowledged.

Signature: Date: 15 / 4/2020

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## ABSTRACT

In this project paper, the objective is to identify factor that influence stress at workplace for shift staff of PETRONAS Sabah Auxiliary Police and their stress level. There are 12 respondents participated in this project paper, where there are three parts of questions in the questionnaire. The first part of the questionnaire consists of variables such as gender, age, marital status and duration of service. Meanwhile for the second and third part of the questionnaire consist of five and ten questions with Likert scale of five and ten. For the identifying stress level questionnaire, it refers to the American Institute of Stress (AIS) survey question which stress at workplace. To analyse the data from the questionnaire, several test such as reliability test, descriptive analysis, bivariate correlation test, paired-sample t-test and one-way ANOVA test were used to for this project paper by using Statistic Package for Social Science (SPSS) software. From the analysed data, the highest score for factor that influence stress at workplace is lack of communication between colleague and superior. On the other hand, there are two highest score for stress level amongst the respondent are able to handle stress well and moderately well. Through bivariate correlation test, both question's analysed data shows a strong relationship between question 3 and 5 for the factor that influence stress and question 6 and 9 for identifying stress level. However, for determining any significant differences between variable, factor influence stress at workplace, paired-sample t-test and one-way ANOVA test were used. Through both test, there are significant difference between age, gender and marital status with the highest score factor that influence stress at work place. In conclusion, it is recommended to provide one-to-one discussion between company and workers regularly in order to understand and help their work.

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| | |
|---|---|
| AP | Auxiliary Police |
| SPSS | Statistic Package for Social Science |
| α | Cronbach's alpha coefficient |
| p | Significant value |
| cv | Critical value |
| CI | Confidence interval |
| sig. | Significant |
| df | Degree of freedom |

# CHAPTER 1

# INTRODUCTION

## 1.0 Background of Study

As the world is revolving around us, the development and revolution of human and its need for living also evolving drastically. In order to survive, people need to work so that they are able to buy their needs based on their capability. According to Ali (2016), job is an important factor in an individual's life where it consumes most of their time compared to their leisure time. Plus, job considered as an aspect that supply, provides and support an individual's financial basis. However, satisfaction is another term that have close relation with job, where it's considered as a relieving and satisfying feeling whenever an objective or goal is achieved. However according to Mishra (2013) job satisfaction is one of the most controversial issues within the organisation's management and also in psychological industry as it brought the meaning of the attitude towards and related to the job. Job satisfaction itself has their own factors that influences its quality such as type of work, time of job, working condition, benefits, security, wages and etc.

Nowadays when technologies become the spotlight in most industries, people were indirectly forcing to know, learn and become part of it because today's flow of work are basically depending on technology (Stockton et al., 2018). Engaging job

satisfaction together with latest technology somehow trigger negative vibe into the society, which leads to stress. There are many factors that related to work which triggered the phenomenon of job stress. In fact, according to Nasir & Omar (2006), stress is a very well-known source or factor that influence the quality of a job performance, lifestyle and health of a person. Through stress, a person's lifestyle might change together with their health, and when this happen it will disturb a person's work quality.

The main point of this study is to identify or determine and identify the main factors that influence stress at workplace, stress level and best solution in reducing stress for Petronas Sabah Auxiliary Police's shift staff. It is believed that shift worker is those employees that tend to get exposed to job stress or work stress due unfixed or rotation shift schedule working hour. According to Srivastava (2010), amongst the shift schedule, night shift is one of the main culprits that able and related to deterioration of a person's health while working.

Petroliam Nasional Berhad (PETRONAS) is one of the few national oil companies in the world that has transformed itself into being a leading multinational of choice and ranked amongst the largest corporations on FORTUNE Global 500. This company is a Malaysian owned company was founded by Tengku Razaleigh Hamzah in 1974 and vested with the entire oil and gas resources in Malaysia and is entrusted with the responsibility in developing Malaysia as a whole (PETRONAS, Corporate Profile, 2019). PETRONAS not only operates locally in Malaysia including Sabah and Sarawak but also internationally such as Iraq, Sudan, South Africa, Indonesia, London,

Turkmenistan, Myanmar, Thailand, Vietnam, Gabon, Cameroon, Niger, Egypt, Yemen, Chad, Mauritania and many more (PETRONAS, PETRONAS Global, 2019).

In Sabah, PETRONAS operated both for onshore and offshore terminals in producing oil, gas, urea, fertilizer, and methanol. Not only focusing on oil and gas production, but PETRONAS too active in empowering social change for Sabah through the foundation of Yayasan PETRONAS as they are seeking to create sustainable impact for the well-being of the society. Recently, with the collaboration of Ministry of Education in Sabah, PETRONAS have contributed in building *Asrama Desa, Pulau Balambangan* in Kudat Sabah. The objective of this project is improving access to education for students of Pulau Balambangan in helping the government of Sabah (Ariffin, 2019). This shows that PETRONAS is also concern on the socio-economic outcomes for communities in Sabah with the focus area of education, community well-being and deployment and environment. Since PETRONAS has become one of the income producers for Sabah, government has also taken proactive steps in protecting PETRONAS assets by gazette their installation as Protected Area and Protected Places under Act 1959. In order for protecting these Protected Area and Protected Places, Chief Government Security Office (Sabah) enforced security control must be established by deploying Royal Malaysian Police Auxiliary Police assigned to protect PETRONAS domestic assets and facilities which are subject to Section 47 – 50 under Police Act 1967 (1967, 2017). The main duties of the Auxiliary Police are to protect the property of their employer and prevent criminal activity in areas they're posted in within the perimeter of employer's assets.

In this project paper, respondent was identified from PETRONAS Kota Kinabalu office where the stress situations are seen quite alarming. The role of Auxiliary Police (AP) is to advise the plant/facility leadership on security matters, conduct security risk assessment, develop and implement security plans and procedures and manage site-wide security operations. All security incidents shall be investigated and closed. The Shift Leader shall formally notify the Security Manager once a security incident is closed and provide details of actions taken, lessons learnt and recommendations for taking administrative or disciplinary actions against personnel, changes to security operations and procedures, or incident response and emergency procedures. The strength of AP's in this location is 18 personnel. 12 personnel are working on shift hours where the balance of 6 personnel are working in Office Hours from 8:00am until 5:00pm from Monday to Friday. For shift hours, their working hours divided by three working group such as;

| Working Group / Strength | TYPE OF SHIFT | | |
|---|---|---|---|
| | Morning Shift 8:00am – 4:00pm | Afternoon Shift 4:00pm – 12:00am | Night Shift 12:00am – 8:00am |
| Shift A<br>One Corporal (Shift Leader)<br>Two Constables | Working | | |
| Shift B<br>One Corporal (Shift Leader)<br>Two Constables | | Working | |
| Shift C<br>One Corporal (Shift Leader)<br>Two Constables | | | Working |
| Shift D<br>One Corporal (Shift Leader)<br>Two Constables | Off Day | Off Day | Off Day |

**Table 1.1 : Rotating Shift Schedule**

| JANUARY | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | SEL | RAB | KHA | JUM | SAB | AHD | ISN | SEL | RAB | KHA | JUM | SAB | AHD | ISN | SEL | RAB | KHA | JUM | SAB | AHD | ISN | SEL | RAB | KHA | JUM | SAB | AHD | ISN | SEL | RAB | KHA |
| SVIF A | N | OFF | OFF | E | E | E | E | OFF | M | M | M | M | OFF | N | N | N | N | OFF | OFF | E | E | E | E | OFF | M | M | M | M | OFF | N | N |
| SVIF B | OFF | N | N | N | N | OFF | OFF | E | E | E | E | OFF | M | M | M | M | OFF | N | N | N | N | OFF | OFF | E | E | E | E | OFF | M | M | M |
| SVIF C | M | M | M | M | OFF | N | N | N | N | OFF | OFF | E | E | E | E | OFF | M | M | M | M | OFF | N | N | N | N | OFF | OFF | E | E | E | E |
| SVIF D | E | E | E | OFF | M | M | M | M | OFF | N | N | N | N | OFF | OFF | E | E | E | E | OFF | M | M | M | M | OFF | N | N | N | N | OFF | OFF |

**Table 1.2 : Sample of shift schedule**

Number or working hours for each shift is 8 hours and AP sometimes are called for working Overtime after or before their actual shift and maximum allowable working hours is 16 hours and must not exceed 24 hours continuously. Overtime possibly happen should there any Emergency Leave Annual Leave or Medical Leave taken by AP from different group. Overall Operation of AP is managed by one Sub Inspector and assisted by Sergeant who is working on Office Hours. Both of these Supervisors are responsible to look after the discipline, well-being, and performance of the AP's under their supervision. Should there be any incident that happen after Office Hours, Shift Leader will take charge as the first responder before.

## 1.1 Problem Statement

Anxiety and depression are very popular disease compared to AIDS and HIV in the year of 2019. Lots of suicide and self-harmed occurred throughout the year with rate of double to triple fold compared to few decades ago. However in Malaysia, the Patron of the Malaysia Psychiatric Association (MPA) stated that according to National Health and Morbidity Survey, 29% of Malaysia in year 2017 had depression and anxiety disorder, while in 2011 there are only 12% diagnosed with it (THE STAR ONLINE, 2018). Furthermore, in Malaysia, at least 5 people commit suicide daily referring to Wong (2019).

As for work stress or job stress according to Workplace Stress Continues to Mount by Korn Ferry, stated that 76% of the respondent admit that work stress affect the personal life, 66% experienced sleep disturbance and 16% quite their job due to overloaded work stress (Lipman, 2019). This shows that stress due to work and at workplace contributed most to current society's lifestyle and mental health. This kind of phenomenon also frequently rise among worker that works according to their shift schedule especially night shift. According to Akerstedt (1988), 60%-70% of workers on rotating shift admit that they experienced sleep disturbance due to reversal lifestyle while carrying out night shift. Lack of sleep always triggered several serious diseases. A study by Staines & Pleck (1983) also stated that, stress from shift work also associated with family conflict, social problem and feeling loneliness at all the time. Factor from workplace also shows significant stress impact toward the shift worker such as lack of communication from the management, lots of pressure from superior, forced to be multitasking at workplace, bully and harassment from surrounding.

Many employers believe that being multitasking is a good skill, however beyond that goodness, many damages were created. As mentioned by Bradberry (2014) multitasking reduce the brain's function and efficiency, as brain can't focus more than one subject. Otto et al. (2012) also stated that multitasking at workplace able to increase stress and have the potential to burnout and absenteeism. When this happened, workers work performance will deteriorate and organisation's reputation and loss of cost. Malaysia's workforce considered unhealthy especially in the aspect of mental health where 53% experience work stress. From this matter, yearly average cost of absenteeism and presenteeism caused by health and stress is estimated within the range of RM2.7 million per organisation (Bernama, 2017).

This study is important because if the problem is not identified, it may cause problems to the organization and employees in the future. This study aims to find the factor that caused stress at workplace and their stress level for shift staff of PETRONAS SABAH (AUXILIARY POLICE).

## 1.2 Research Question

This study seeks to investigate whether stress has relationship with job performance amongst the shift employees.

The research questions are: -

1. What is the factor of work stress among PETRONAS Sabah AP staff (Shift Staff)?
2. What is the stress level of PETRONAS AP Shift staff?

## 1.3 Study Objective

This study is expected to meet the following objectives: -

1. Factors of stress at workplace for PETRONAS AP shift staff.
2. To identify the stress level of 12 affected staff.

## 1.4 Study Contribution

In general, I hope that this study can serve as a guide and reference to the management of the PETRONAS Sabah AP's as well as those responsible for the stress experienced by the PETRONAS Sabah AP's. This is because the staff of the PETRONAS Sabah AP's plays a very important role in security PETRONAS asset in achieving

organizational objectives in terms of production and services that rendered especially in managing security threat for PETRONAS Sabah office so that it can be implemented more efficiently and effectively. This is because PETRONAS is one of the biggest contributors to national income.

By improving and reducing the work pressure among the PETRONAS Sabah AP's, it may benefit everyone, especially the affected staff. As a result, the staff will be more motivated to perform their tasks and may increase the sense of integrity of PETRONAS Sabah AP's. The Management, on the other hand, will be pleased with the work shown and will improve the quality of service.

# CHAPTER 2

# LITERATURE REVIEW

## 2.0 Review of Literature

According to AIA Vitality 2019 survey, a total of 230 organisation with combination of workforce of 17,595 people participated in a survey for the Malaysia's Healthiest Workplace revelation. Half of their respondents indicated that they only sleep less than 7 hours daily where 14% stated that their sleep quality is very poor while another 17% stated that they always feel tired and fatigue. Furthermore, according to that survey lots of workers in Malaysia suffer from varies chronic diseases such as hypertension, high cholesterol, diabetes, cancer, stroke and kidney problem. This matter takes up to 32% based on the survey and another 42% of them were diagnosed with obese. The shocking news from this survey is almost 45% organisation in Malaysia didn't offer any mental intervention, in order to take care of their worker's welfare. However, a total 15 companies have been recognised as companies that promote and provide a healthy workplace by creating a healthy environment for their worker (Ram, 2019).

From that survey also stated that 53% are at risk of mental health issues and another 84% of the worker diagnosed with at least one type of musculoskeletal condition due to high level of stress and sedentary lifestyle. Furthermore, in the year of 2017, AIA Vitality Survey stated that half of 5369 respondents are at risk of mental health issues with 53% are reported

diagnosed with stress and 12% experienced high level of depression and anxiety (Reporter, 2017). However according to Mohamed Makhbul & Idrus (2009), in their research mentioned that 57.4% of stress at workplace comes from health, shift work, working hour and working environment.

Globally, it was reported that over 264 million people were estimated to suffer depression from workplace. The rate of cost for mental illness worldwide had reached up to US$2.5 trillion or equivalent to RM10,282 trillion. In Malaysia itself, the rate of cost for mental illness has the possibility to increased drastically from RM43.6 billion up to RM99.9 billion for the year of 2010 to 2030. According to Bernama (2017), mental illness also has become one of the leading source or factors that triggered Malaysia's economy loss due to health cost, absenteeism and decrement of work productivity and quality. It also mentioned that inside Malaysia's 1st Mental Health Experiential Conference (MyMHEC2019) stated that accidents in workplace are comes from many factors, not only from poor work safety practices but it also comes from mild to severe mental health issue from the workers. Due to that, NIOSH and Malaysia's Health Ministry makes a collaboration regarding to this matter known as Niosh's Total Wellness and Health Promotion Programme (STAR, 2019).

Nowadays lots people around us has been diagnosed with several mild to severe mental disorder such as anxiety and depression. It is known that stress as one of the factors that associate and related with this phenomenon (Yusoff, et al., 2011). Stress is a term used to shows feedback of a person or individual toward their environment and communication or relationship with other (Piko, 2006).

However, shift work is a term used to define non-traditional work schedule where traditional work schedule starts from 8 am to 5 pm. There is variety shift work schedule such as morning shift, evening shift and night shift. According to Parkes

(2016), there are two categories of shift work which is fixed shift work system or rotation shift work system. Frequently for those who are working at night shift, get exposed to several disruption in their body system such as fatigue, sleep disturbance and disruption on their circadian rhythm. Somehow working at night shift was like working in daylight but in reversal environment and motion (Takahashi, 2014).

Through several studies, a large number of workers who's working at night shift shows significant symptom of shift work disorder or also known as SWD. According to Flo, et al. (2009), SWD have been linked or related with depression, cancer and other diseases. Other than disrupting health condition of a person, shift work also contribute to social stress, psychological distress, family-work conflict and behavioural changes (Asaoka et al, 2013). Moreover, shift work also mentioned by Parkes (2016) related with numbers of major diseases such as cardiovascular disease, cancer, diabetes, reproductive disorder and metabolic syndrome.

## 2.1 Concepts and Theory

### 2.1.1 Shift Work

Shift work is work activity that differ from the normal or standard working hour that normally done during daytime. Other than that, shift work also defined as a pattern of work consist of several group of schedules that replaces one another within 24 hours per day (Health and Safety Executive, 2006). Furthermore, according to IARC Monographs Working Group (2010), shift work is also known as flexible, unusual and a non-standard working hour with 3 types of shift work. The types of shift work are permanent, continuous and with-or-without night work.

Moreover, IARC Monographs Working Group (2010) also mentioned that shift system consist of several parameter such as length of shift cycle, duration of shift, number of shift workers, start-and-finish shift duties, speed of shift rotation, direction of shift rotation, number of rest days between shift and regularity of shift schedule. Each of these parameters have different usage according to what industries or sectors referred it. Different shift work system brought different approach and impact on shift workers health.

### 2.1.2 Stress

According to Morhead and Griffen (1998), stress as respond and reaction of an individual towards stimulus that triggered psychological and physical reaction on itself. Stress also define as a whole accumulation of psychological and physical signs as result from struggles and hardship experienced by an individual during trying to adapt with new environment (Bennet, 1994). This shows that an individual will develop stress once they unable to tolerate adaption that surpass their ability, resources, patience, capability and etc.

However according to Beehr and Franz (1987), definition of stress can be divided into 3 categories such as stimulus-based stress, response-based and interactional-based stress. As for stimulus- based definition, stress developed from stimulation from the environment and detected by the organ's stimuli. Then for the response-based definition, stress developed from an individual's sensor on their psychological and physiological aspect towards their surrounding and environment. Lastly for the interactional-based definition, it is the combination of stimulus-based and response-based definition where most stress nowadays developed through these two

approach and sensors. Other than that, according to Ganesan et al. (2018) stress also can be divided into two which is positive stress and negative stress that is known as distress.

### 2.1.3 Job Stress

Job stress or also known as occupational stress, is one of many other stresses that developed from variety of sources. However, the main source of this kind of stress comes from work's location, type and other matter that related to it. According to Durrand (2003), job stress developed from interaction between workers and condition of work. Meanwhile according to Colligan and Higgins (2005), job stress occurred when there is conflict between demand for the physiological while working and the individual inner strength such as their inability to manage and solve work demands. However, Mustafa et al. (2015) mentioned that, occupational stress is the change in an individual in the aspect of mental and physical as a response to challenges and conflict at workplace.

According to Nekoranec & Kmosena (2015), 20% of employee in EU stated that main reason for the development of job stress are from the failure of not able to meet task's dateline, another 23% from workload that caused fatigue, 72% says that job insecurity makes them feel stress while working, 55% from the exposure from harassment and bullying and another 66% thinks that working long hour makes them exhausted and stress. Through their survey 4 out of 10 workers stated that problems that triggered their stress at workplace still not solved accordingly. Prolonged exposure to stress definitely will arouse several serious diseases that related to mental and physical.

### 2.1.4 Type of Stress

Stress can come from varies sources and due to that variety of stress are categories according to level of its impact toward an individual. Typically, there are 4 types of stress as mentioned by Taylor Shelley (1995) which is acute stress, chronic stress, episodic acute stress and traumatic stress.

**a) Acute Stress**

Acute stress is the most common stress that occurred in almost every person on earth. This kind of stress usually caused a short-term effect and almost zero possibility of causing a permanent disruption or damage to an individual's body. Example of acute stress is when a person riding on a very high-speed rollercoaster or paragliding.

**b) Chronic Stress**

Chronic stress is a type of stress that give permanent effect toward an individual especially in term of their mental and physical. This kind of stress acted as result of prolonged suffering which the person may have or not control of it. Without any help from the expert, individual with chronic stress might experience breakdown and death. Example of chronic stress are severe depression, anxiety, grief, low self-esteem and anger.

**c) Episodic Acute Stress**

Episodic acute is another term for prolonged acute stress. This kind of stress are quite rare but usually occur on an individual without their realisation. Person with

this kind of stress usually tend to takes numbers of responsibility, which beyond their ability and capability. Due to that, they will slowly develop another characteristic that identified the stress such as always running late, frequently in rush, disorganised, chaotic and always out of control. Example of episodic acute stress is prolonged or frequent acute stress like getting work done due to tight deadline or frequently get warn or shout by boss.

**d) Traumatic Stress**

This kind of stress is the most severe type of stress, which usually caused from intense experience such as life-threatening event, sexual assault or nature disaster. Rate of getting better once experienced this kind of stress are unknown as some managed to recover. However, for those who still under the influence of this kind of stress, will continue distress from frequent flashback and tension from the trauma.

### 2.1.5 Source of Stress

There are lots of source of stress that can be define according to several aspect, but in this research, we are going to focus on stress at workplace. Studies were conducted by many researchers on stress at work and most of it developed by the environment, people surrounding and the way of coping with stress. Factors that triggered the formation of stress on a person known as Stressors (Anbazhagan & Soundar Rajan, 2013). There are 3 type of stressors known as individual, group and organisation's stressors. Aswathappa (1990) stated that individual stressors developed according to the individual's personality and constraints of change. Meanwhile for group stressors, it influenced from poor communication or relationship within the

group, interpersonal conflict and lack of bonding and toleration within the group. For organisation stressors, it was influenced by role conflict, inadequate role authority, difficulties in performing task, inequity feeling, job insecure, working environment and family conflict.

One of the researches by Bowin and Harvey (2001) mentioned that development of stress at work place comes from lack of involvement in company's decision making, prolonged repetitive task, lack of feedback and concern from superior and management, conflict with colleague or superior and lots of task to be done with tight dateline. According to Arnold, et al (1993), there are 5 basic sources or causes of stress at work which is factor intrinsic to the job, career development, relationship with colleagues at work, role in the organisation and organisational structure and climate.

**a) Factor intrinsic to the job**

**i. Shift work**

Lack of rest and working in reversal shift such as nigh shift somehow triggers and influences several health disruptions such as hypertension, ulcer, diabetes, migraine and cardiac related disease. Sometimes working in shift especially night shift, needs a person to force themselves to stay awake in order to perform their job and at the same time their body clock already disturbed.

**ii. Poor working condition**

For those who works on a fixed shift, working in a poor working condition might trigger confusion on their mental state, as they kept on facing the same condition

without any improvement. Example of poor working condition are working in a noisy, poor ventilation system, stuffy or low-lighting office. This might cause lack of commitment among the worker and makes them less excited coming for work, which shows that there's lack of concern from the management regarding to their welfare.

**iii. Latest technology**

Working with works that needs to be parallel with the latest technology, makes a person in pressure as they need to be ready and always updated with the technology. For millennial generation, keeping themselves updated and adapting with the latest technology is an easy task as they have been exposed to this kind of matter since young age. However, for those who born before the millennial generation, might find it hard as they already get used to what they have been adapting especially working in traditional method or pre-technology era.

**iv. Duration of working hour**

Stress might appear when a person was asked to add-on more working hour or also known as over-time (OT) due to several reasons such as short of worker, tight dateline or even loss of pending task. Though some are willing to work more that their supposed working hour for the sake of getting extra money, however their mental state and body condition might not be able to cope with it as time passed. Taking example on those who works at night shift then continue working at the morning shift. Most probably they can't give a 100% concentration compared to those who just started working for the morning shift, since their body and mental state are already disturbed due to lack of rest and sleep. When this happen, stress will be developed as result from that phenomenon.

**v. Repetitive work-task**

Working with the same task everyday might cause a person lose their interest on their work as it seems boring and less-challenging. Sometimes carrying the same task everyday also triggered the arousing sense of low self-esteem in an individual, where they would see their job did not in par with the ability and talent. When this kind of phenomenon kept on happening, level of stress in a person might increasing and developed depression nor anxiety.

**b) Career Development**

Nowadays people were needed to keep themselves updated with latest technology and several skills as most company want their worker to be a multi-task worker. Due to development in most industries, most company are reluctant to add more worker and waste their time on providing training or induction for new worker. So, they preferred to have their current worker to developed that sense of multi-tasking which at the same times causing their worker felt more pressure and stress. Doing multi task at the same time, needs a person to be ready physically and mentally especially in the aspect of knowledge and keeping themselves calm. Lack of skills and unable to performed might cause these worker feels insecure with their position and performance.

**c) Relationships at work**

When it comes to relationship, it has close bonding with communication. People nowadays need to have excellent communication skills in order to perform a good performance. Without good relationship with colleague and superior, a person might feel timid and lost as most people need a motivation while carrying out their task. A good relationship between workers and superior able to create a good working

environment where they can share their thought, problem and at the same time superior also able to take a good care of their worker's welfare.

### 2.1.6 Symptom of Stress

In general, symptom act as a sign that might be detected easily or invisible according to how to detect it and how transparent the sign is. However, symptom for stress in workplace need deeper exploration and observation in order to declare and categorised it accordingly. There are 3 types of symptom of stress that we can see in workplace, which is in the aspect of behavioural, physiological and psychological. Each of the symptom has their own caused and impact toward an individual.

In the aspect of behavioural, when a person is stress, they tend to developed deterioration of work performance such as late in dateline, frequent late and absent to work, always nervous in making decision, confusion, fidgeting while communicating with colleague and superior and low quality of work. This kind of development might cause them trouble as most employer do not favour such employee and this might cause them to lose their job.

Then in the aspect of physical, people who undergoes stress tend to gained or lose weight drastically as some trying to cover or reduce their stress level by eating especially sweet and fast food. Other than eating, getting involved with smoking, alcohol and drug also might get into person with stress's lifestyle. When this happen, their health condition also developed into getting serious diseases such as obesity, diabetes, migraine, gastric, hypertension, thyroid-related, cancer and depression.

Lastly in the aspect of psychological, it is known as the most visible symptom that be seen in a person that undergoes stress. Most of them developed anxiety, depression, aggressiveness, excessive anger and nervousness, which causing their work performance and life-skills deteriorate.

### 2.1.7 Impact of Stress

It is known that stress managed to brought more negative impact compared to positive impact caused most of the factor that triggered stress are due pressure from surrounding and environment. Generally, there are various type of effects occurred once subjected to stress and each of it brought difference approach on an individual. The effects mentioned by Blumenthal (2003) can be seen on the tabulated Table 2.1 below.

| EFFECTS | DETAILS |
|---|---|
| Subjective | Triggered anxiety, depression, low self-esteem, fatigue and frustration. |
| Behavioural | Triggered impaired speech, forgetfulness, restlessness, easily get agitate and abusive. |
| Cognitive | Triggered difficulties in making decision, hypersensitive, difficulties in concentrating and getting blank thought. |
| Health | Triggered high blood pressure, lack of sleeping, cardiovascular problem, headache, difficulties in breathing, diabetes, migraine, ulcer, cancer and diarrhoea. |

**Table 2.1 : Effects of Stress**

In addition, Botwe et al. (2017) stated that prolonged unmanaged stress able to create lots of negative impact especially in the aspect of physical and physiological. Those who undergoes stress for a long duration might have their sleep, emotion and

memory got disrupted. Furthermore, their appetite habit also got disturbed as they might gained or lose weight drastically. Due to that changes, it also disturbed their metabolism's function and at the same time makes them fatigue all the time. From there, this individual's lifestyle especially in term of exercising also deteriorated. Moreover, stress also disturbed most of the body system's function such as repetitive of stomach ulcer occurrence and bowel syndrome, as our brain have close inter-connected with gut. Then in term of chronic stress, it able to disrupt our immune system especially for older individual as their immune system decline together with their age.

In physiological aspect, stress was famous source of unfortunate event such as suicide, suicidal thought, self-harm and bullies. According to Mental Health Foundation survey during their Mental Health Awareness Week 2018, mentioned that 16% of the adult respondent previously harmed themselves. Meanwhile 32% of the respondent admit to have suicidal thought for at least once in their life. In term of work stress, 15% of people at work have mental illness and almost 300,000 people lose their job due to prolonged unmanaged stress.

### 2.1.8 Coping with stress

Coping is an action or respond of counter-attacking any matter that brought negativity such as stress. In another word, coping is synonym to dealing. According to Panigrahi (2016), there are 2 categories of coping stress which is individual and organisation. Explanation for each of the categories can be seen on Table 2.2 below:

| INDIVIDUAL |
| --- |
| **Get more sleep time** which is more than 8 hours help to restore health, reduce stress level and managed to improve mood of a person (Hamilton, Nelson, |

| |
|---|
| Stevens, & Kitzman, 2007) |
| **Be more active** especially in physical activities able to reduce stress level and improved a person lifestyle (Kolehmainen & Sinha, 2014). |
| **Learn to relax** by participating on favourite activities (Gulzhain et al., 2018). |
| **Time management** helps to reduce an individual from being chaotic and stress over their unmanageable daily life (Eldeeb & Eldosoky, 2016). |
| **Communicate with other** and share thought whenever encountered with stress. |
| **Avoid unhealthy lifestyle** such as smoking and drinking alcohol, as it will worsen the stress level through its aftermath effect (Azagba & Sharaf, 2011). Other than that, it also will be triggered other serious diseases that related to stress. |
| **ORGANISATION** |
| **Reduce long working hour** where working over-time (OT) should not be promoted among workers specially to shift staff. |
| **Provide training** for worker in order to improve work performance and worker's skills. |
| **Technology** able to save time and help worker's finishing their job/task easily. For example, using AutoCAD software to draft building design compared to drawing by hand. |
| **Multitasking** should not be promoted on work that is not related to worker's job scope, as it will trigger stress on worker that have zero knowledge and training regarding to newly added task. |
| **Communication** among colleague and superior need to be improved and open for the purpose of identifying and solving problem within the organisation (Cylwik, 2013). |
| **Workplace diversity** by variety of worker's that comes from all kind of age, gender, race, education level and etc. This way communication become a fun way of relieving stress as advices can be shared among colleague. |
| **Awareness** should be given to worker's that have the possibility of getting stress. Through awareness, workers able to handle and overcome stress accordingly. |
| **Allow rest time or nap** even during working hour to ensure good quality work performance. According to McCurry (2014), several companies allow their worker to take nap during working hour to prevent low quality work performance and task. |

| |
|---|
| **No communication after working hour** regarding to work, as people need to get rest and being away from stress at workplace. Long exposure of stress even after working hour able to disturbed worker's social lifestyle and rest time (sleep). |

**Table 2.2 : Ways on coping stress**

## 2.2 Conceptual Framework

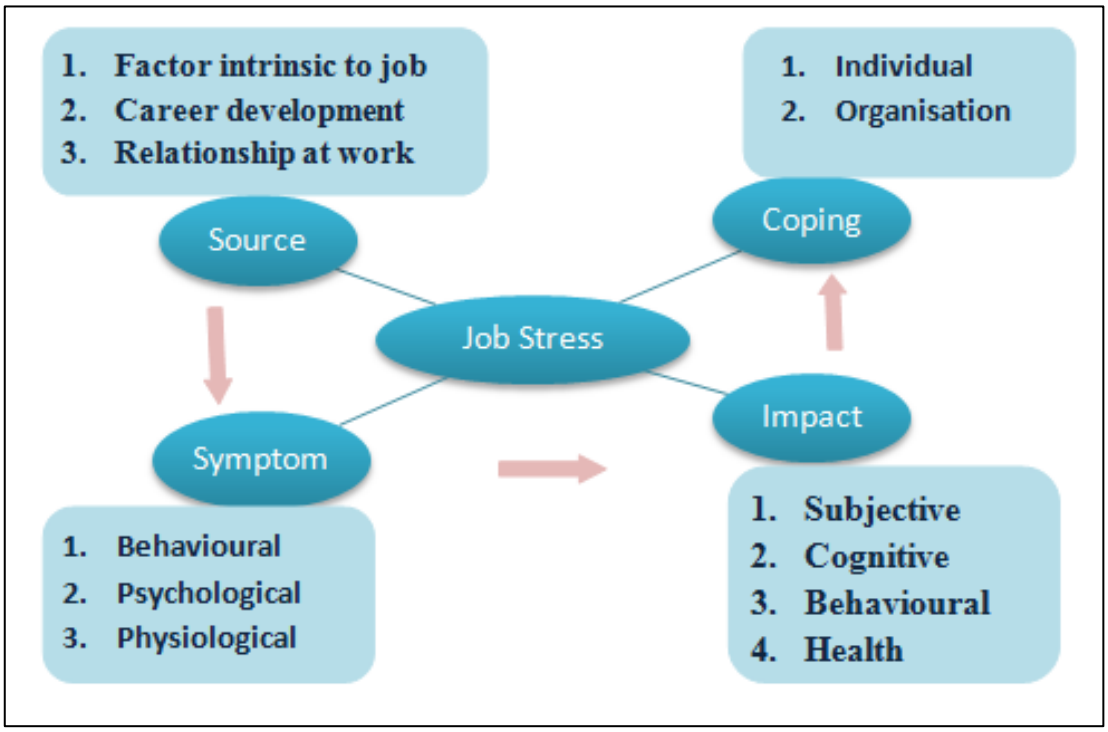


**Figure 2.1 : Conceptual Framework on Stress at workplace**

# CHAPTER 3

# METHODOLOGY

## 3.0 Research Design

In research design, researcher is needed to create their own guidance or step-by-step instruction, in order to ensure they are able to achieve their objective. Then researcher need to decide on what kind of approach were suitable for their research, whether it's inductive or deductive approach. Inductive approach is a bottom up approach where it begins from carrying out observation to forming theory and it is suitable for qualitative studies. Meanwhile for deductive approach it is the vice versa version of inductive approach where it starts from objective and theory to data collection until it reaches confirmation of the theory known as conclusion. However, this approach is suitable for quantitative studies, where it is widely used for measuring characteristic that may or not has possible values.

Furthermore, the in term of research methodology, there are basically 3 type of method which is mono-method, mixed-method and multi-method. Each of the method were carried out according to numbers of technique used in data collecting. For example, in mixed-method, it may consist one or both of qualitative and quantitative method where it involves survey, experiment and interview. However, for mono-method, it only use one type of data collection technique, for instance by conducting survey such as questionnaire (Azorin & Cameron, 2010).

In this research, deductive approach will be used as the problem statement and objective will be analysed in order to determine actual numerical value of stress at workplace within the shift staff. The characteristic used in this research may not see as a numeric in nature, however it will be considered as numeric with value although it did not consist of characteristic with value. Thus mono- method quantitative approach will be used for data collection in this research which is by using questionnaire method.

## 3.1 Research Sample and sampling instrument

Population in a research or study is a complete set of subjects that act as target of a research. The population also need to be select and define according to research objective and purposes, where at the same time it acts as the research sample. In this research study, the target population is the shift staff of Petronas Sabah's Headquarter Auxiliary Police. The sample size for this research study consist of 12 respondents.

Through that, analysis will be carried out on sample according to its information's function using suitable and appropriate sampling technique. There are 2

types of sampling technique that widely used for data collection, which is the probability sampling and non-probability sampling. For probability sampling method, it focused on selected criteria, which set at the early research design on random member of a population. Meanwhile for non-probability sampling method, it did not set or define any criteria on its population or sample (Saunders, Lewis, & Thornhill, 2019). Thus, in this research study, non-probability sampling method will be used as it sees fit for the research study's objective. Furthermore, as this research required to identify discrete data, then by using non-probability sampling method able to solve the research question and objective.

Moreover, the most suitable sub-sampling in non-probability sampling method for this research study are the convenience sampling. Reasons why convenience sampling or also known as haphazard sampling were selected because enable data collection to be done on sample with common criteria of high accessibility level, readily available and easy to reach their willingness to participate in this study (Etikan, Alkassim, & Musa, 2016).

As for the sampling instrument, there are lots of instrument or device that can be use to conduct any kind of research according to their objective. Most of data are collected from instrument such as interview, test, questionnaire and etc. For this research study, there will be only one instrument used which questionnaire on selected target sample. Questionnaire is a common instrument used for quantitative method research, where data or information will be collected from respondent about their stress level, factors influence and ways to reduce their stress level at workplace.

## 3.2 Research method

The first step on conducting this research are by designing and providing a systematic work frame as guidance while executing this research. Other than that, at this step the subject or sample of the research is already decided to be the shift staff of Petronas Sabah Headquarters' Auxiliary Police. Total of 12 respondent were confirmed to participated in this research. Then researcher will re-check the questionnaire before it hands over to the respondent. The first and second step is one of the crucial step that need to take seriously as preparation before the involvement of the respondent has to be minimal in error.

Next, during the handing over of the questionnaire to the shift staff, researcher will give brief explanation, to ensure the respondent able to understand and answer the questionnaire easily. The questionnaire will be collected after one week for further analysis by using Microsoft Excel together with several statistical analysis approach.

### 3.3.1 Data Collection

According to Mohajan ( 2017), data is a raw information or facts that need to be process since it has undevelop benefit and meaning for researchher to interpret. 12 shift staff that located on Headquarters' building will received the questionnaire to be answered. Respondent will be explained in brief about the purpose of the survey and its content, in order to ensure the respondent, understand and able to answer the questionnaire easily. Questionnaire will be collected within the same week it arrived, for further analysis.

Questionnaire were developed and designed to collect and gather data for research's data analysis (Mathers, Fox, & Hunn, 2009). Content of the questionnaire also need to be related to the research's objective for further data analysis. In this research, the questionnaire consists of respondent's personal information and 3 parts of questions where each of the part related to each of the research's objective. Each of the questions will be given 5 option of their opinion and thought regarding to the research's theme. In detail of the questionnaire, the first part of the questionnaire is about the respondent's personal data which include their gender, age, marital status and duration of service at Petronas Sabah's headquarters. Then the second part of the questionnaire consist of statement and question, which related to factors that influence stress at workplace.

However for part three, it carried the purpose of measuring and identifying the stress level of the respondent at workplace. It also consist of statement and question according to American Institute of Stress (AIS)'s workplace stress survey, where inside the questionnaire respondent need to give their score based on their opinion for every questions. Both questions in part two and three need to be answered according to likert scale provided such as shown in Table 3.1 and Table 3.2.

| Options of answers | Likert Scale |
|---|---|
| Strongly Agree | 1 |
| Agree | 2 |
| Neutral | 3 |
| Disagree | 4 |
| Strongly Disagre | 5 |

**Table 3.3 : Likert Scale for Part 2's questionnaire (Factors that influence stress at workplace)**

| Options of answers | Likert Scale |
|---|---|
| Strongly Disagree 1 | 1 |
| Strongly Disagree 2 | 2 |
| Strongly Disagree 3 | 3 |
| Strongly Disagree 4 | 4 |
| Agree Somewhat 1 | 5 |
| Agree Somewhat 2 | 6 |
| Agree Somewhat 3 | 7 |
| Strongly Agree 1 | 8 |
| Strongly Agree 2 | 9 |
| Strongly Agree 3 | 10 |

**Table 3.4 Likert Scale for Part 3's questionnaire (Stress level for Petronas AP's shift staff)**

### 3.3.2 Data Analysis

Data collection is one of the crucial steps needed in research as much as data analysis. As mention above, there are several methods that widely used in gathering data. These data later on divided into 2 –categories known as primary and secondary data. Generally according to Hox & Boeije ( 2005), primary data is a real-time data that collected directly from test, questionnaire, interview ans etc. However, the secondary data is a kind of data that gained from other research's collection, which act as result analysis from primary data. Moreover primary data basically used to perform or create solution to present problem, compared to secondary data that used for other purposes.

Collected data will be analyse by using sophisticated analysis software knowns as the Statistical Package for the Social Sciences (SPSS). All statistical result will be acculumated through several analysis inside the softwaere to gained the actual result reugarding to what is the objective of the questions. However for part three questions,

the score will be calculated and analysed before it will be further compared and refered to American Institute of Stress (AIS)'s scale. The scale are divided into three parts or stages such as handle stresss well, handle stress moderately and unable to handle stress properly. In addition, the range of the scale will be 10-30, between 40-60 and 70-100.

According to (Ursachi, Horodnic, & Zait, 2013), before the data were analyse, the acceptable level of error needs to be identified. The error is known as Type 1 error (α), which is usually used as setting benchmark for acceptable limit of error. However, for reliability-value, it is needed to indicate the degree of consistency between varies variable's measurement, so that the variable's data are not too different or varied along the time factor. From there, the measurement variable will have a constant value though it is taken at any point of time. On the other side, the reliability value increase when the number of samples increase even though it has similar degree of intercorrelation. According to (Hair Jr., Black, Babin, & Anderson, 2014) , the range of Cronbach's alpha is between 0 to 1 with minimum acceptable limit of .70.

In order to check the reliability value of part two and three of the questionnaire, Cronbach's Alpha coefficient from SPSS software were used to indicate the reliability value for each variable in each part of the questionnaire. In SPSS, the reliability analysis was carried out under Scale Analysis, which consist of data such as number of sample and mean for every sample.

In the end of this research, all data that analysed by using the Statistical Packages for the Social Science (SPSS) will be divided into two parts where each of it represent the factors that influence stress at workplace, while the other part represent the

stress level among the shift staff of Petronas Auxiliary Police. For the first part of the questionnaire, the analysis will be on the Descriptive Analysis which consist of the percentages and frequency of each variable of the respondent. Meanwhile for the second and third part of the questionnaire, it will undergo several analyses to identify the differences of its mean, standard deviation, correlation and differences between variables in the first part of the questionnaire and factors that influence stress at workplace by using suitable test in SPSS.

Correlation analysis will be included in this research as it is used to investigate and determine the relationship between the independent variable and dependent variable of this research which is factor that influence stress and stress level amongst shift staff of PETRONAS Auxiliary Police. Pearson's correlation coefficient or also known as r, will be used in order to calculate the relationship's strength within the compared variables. According to Schober & Boer (2018), whenever there is an association between two data, it is always considered as liner. In addition, when a scatter plot were plotted and most of the circles are close to one another, it is assumed that there is linear intersection between the correlated data.

When there is a straight diagonal line of 1 appeared in the tabulated data's table, shows the perfect correlation between the analysed data. Interpretation of this analysis indicates that when sig. value or also known as p is less than .05, there is presence of relationship between the data and conclude that the relationship as statistically significant.

Since the size of sample are smaller than 30, the most suitable test for this research is T-Test and One-Way ANOVA. For Paired-Sample T-Test, it is suitable to be used to compared and determine any mean differences between two variables in a paired observation with another independent variable or sample.

According to Samuels (2015), there are three conditions or steps that need to be done to shows any significant differences between the variables. The first condition is ensuring the t-value is larger than critical value (cv), which can be obtained from Table 3.3. The second condition is ensuring the p-value is less than $\alpha=0.05$, where 0.05 act as the indication of the pre-specified alpha level. The final condition in determining any significant differences between the paired-variable is to ensure the 95% of confidence interval (CI) does not cross zero according to its lower and upper value.

If both are in negative value, then the confidence interval (CI) did not across zero. However, if one of it is in negative value and the other one in vice versa, the confidence interval (CI) can be considered as crossing over zero. When all three condition are accordingly true, then the analysed data can be considered to have differences according to the related variable.

| one-tail | 0.1 | 0.05 | 0.025 | 0.01 | 0.005 | 0.001 | 0.0005 |
|---|---|---|---|---|---|---|---|
| two-tails | 0.2 | 0.1 | 0.05 | 0.02 | 0.01 | 0.002 | 0.001 |
| DF | | | | | | | |
| 1 | 3.078 | 6.314 | 12.706 | 31.821 | 63.656 | 318.289 | 636.578 |
| 2 | 1.886 | 2.92 | 4.303 | 6.965 | 9.925 | 22.328 | 31.6 |
| 3 | 1.638 | 2.353 | 3.182 | 4.541 | 5.841 | 10.214 | 12.924 |
| 4 | 1.533 | 2.132 | 2.776 | 3.747 | 4.604 | 7.173 | 8.61 |
| 5 | 1.476 | 2.015 | 2.571 | 3.365 | 4.032 | 5.894 | 6.869 |
| 6 | 1.44 | 1.943 | 2.447 | 3.143 | 3.707 | 5.208 | 5.959 |
| 7 | 1.415 | 1.895 | 2.365 | 2.998 | 3.499 | 4.785 | 5.408 |
| 8 | 1.397 | 1.86 | 2.306 | 2.896 | 3.355 | 4.501 | 5.041 |
| 9 | 1.383 | 1.833 | 2.262 | 2.821 | 3.25 | 4.297 | 4.781 |
| 10 | 1.372 | 1.812 | 2.228 | 2.764 | 3.169 | 4.144 | 4.587 |
| 11 | 1.363 | 1.796 | 2.201 | 2.718 | 3.106 | 4.025 | 4.437 |
| 12 | 1.356 | 1.782 | 2.179 | 2.681 | 3.055 | 3.93 | 4.318 |
| 13 | 1.35 | 1.771 | 2.16 | 2.65 | 3.012 | 3.852 | 4.221 |
| 14 | 1.345 | 1.761 | 2.145 | 2.624 | 2.977 | 3.787 | 4.14 |
| 15 | 1.341 | 1.753 | 2.131 | 2.602 | 2.947 | 3.733 | 4.073 |
| 16 | 1.337 | 1.746 | 2.12 | 2.583 | 2.921 | 3.686 | 4.015 |
| 17 | 1.333 | 1.74 | 2.11 | 2.567 | 2.898 | 3.646 | 3.965 |
| 18 | 1.33 | 1.734 | 2.101 | 2.552 | 2.878 | 3.61 | 3.922 |
| 19 | 1.328 | 1.729 | 2.093 | 2.539 | 2.861 | 3.579 | 3.883 |
| 20 | 1.325 | 1.725 | 2.086 | 2.528 | 2.845 | 3.552 | 3.85 |
| 21 | 1.323 | 1.721 | 2.08 | 2.518 | 2.831 | 3.527 | 3.819 |
| 22 | 1.321 | 1.717 | 2.074 | 2.508 | 2.819 | 3.505 | 3.792 |
| 23 | 1.319 | 1.714 | 2.069 | 2.5 | 2.807 | 3.485 | 3.768 |
| 24 | 1.318 | 1.711 | 2.064 | 2.492 | 2.797 | 3.467 | 3.745 |
| 25 | 1.316 | 1.708 | 2.06 | 2.485 | 2.787 | 3.45 | 3.725 |
| 26 | 1.315 | 1.706 | 2.056 | 2.479 | 2.779 | 3.435 | 3.707 |
| 27 | 1.314 | 1.703 | 2.052 | 2.473 | 2.771 | 3.421 | 3.689 |
| 28 | 1.313 | 1.701 | 2.048 | 2.467 | 2.763 | 3.408 | 3.674 |
| 29 | 1.311 | 1.699 | 2.045 | 2.462 | 2.756 | 3.396 | 3.66 |
| 30 | 1.31 | 1.697 | 2.042 | 2.457 | 2.75 | 3.385 | 3.646 |
| 60 | 1.296 | 1.671 | 2 | 2.39 | 2.66 | 3.232 | 3.46 |
| 120 | 1.289 | 1.658 | 1.98 | 2.358 | 2.617 | 3.16 | 3.373 |
| 1000 | 1.282 | 1.646 | 1.962 | 2.33 | 2.581 | 3.098 | 3.3 |
| Inf | 1.282 | 1.645 | 1.96 | 2.326 | 2.576 | 3.091 | 3.291 |

**Table 3.3 : T-Distribution Table**

Meanwhile for One-Way ANOVA test, it is suitable to determine any significant differences of means for more than two variable's data. According to Ostertagova & Ostertag (2013), if the sig. value is less or equal to 0.05 it means that there is significant difference between the variable's data, which is due to mental state, increment of age, decrement abililty to cope with stress and many more. However, if the sig. value is more than 0.05, it means that there is not statistically significat difference between the data.

To determine which part of the data's means are different, Post Hoc test need to be conducted and analysed where sig. value will be shown in Multiple Comparison Table according to Tukey method. This time the sig. value evaluation will be different as the sig. value were determine after comparing it with two data. There are two ways or

options to determine which data have the Mean Differences value, one of it is by the mark of star (*) near it. The other option are by comparing the sig. value with .05. If the sig. value is smaller than .05, it means that there is statistically significant differences between two data inside the multiple comparison table. Yet, if the sig. value is more than .05, it display that there is no statistically significant differences between the two data.

### 3.3.3 Study Plan (Gantt Chart)

| ITEM / WEEK | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PROPOSAL** | | | | | | | | | | | | | | |
| **JOURNAL ANALYSIS** | | | | | | | | | | | | | | |
| **INTRODUCTION** | | | | | | | | | | | | | | |
| **LITERATURE REVIEW** | | | | | | | | | | | | | | |
| **METHODOLOGY** | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| **REPORT PREPARATION** | | | | | | | | | | | | | | |
| **PROJECT PAPER** | | | | | | | | | | | | | | |
| **DATA COLLECTION** | | | | | | | | | | | | | | |
| **DATA ANALYSIS** | | | | | | | | | | | | | | |
| **DOCUMENTATION & REPORT PREPARATION** | | | | | | | | | | | | | | |

**Table 3.4 : Gantt Chart**

# CHAPTER 4

# RESULTS & FINDINGS

## 4.0 Result Overview

In this chapter, all findings and result from the research will be shown in various type of illustration according to the objectives in Chapter One. All data in this research came from questionnaire that taken by 12 respondents of Petronas Auxiliary Police shift staff. Furthermore, collected data for this research will undergoes several analyses from the Statistical Package for Social Science or also known as SPSS. In order to fulfil the objective of this research which is to find the factor that influence stress amongst the respondent and their stress level, several analyses were done based on the raw data from the provided questionnaire. The analysed data is then divided into several part according to their function and purposes in this research such as Descriptive Analysis, Paired-Sample T-Test and One-Way Analysis of Variances or also known as One-Way ANOVA. There are four variables that can be seen in this research such as age, gender, marital status and duration of service.

Each of the statistical analysis method carried different purposes where as for the descriptive analysis, each of the variable's data will shows tabulated frequency and their percentages according to the number of samples. Meanwhile for Paired-Sample T-Test, the purpose of this test is to find any statistically significant different and

comparison of 2 means from 2 measurements or variables from one sample. Then, for one-way ANOVA test, it is used to find or assess any significant differences in mean between variables or groups that is more than two such as age and duration of service.

## 4.1 Cronbach's Alpha value

Reliability analysis is a type of analysis that usually used by most researcher before they conduct or analyse their data, where it indicates whether the research data consist of minimum allowable limit of validity or also known as Cronbach's alpha or α-value.

According to Pedhazur & Schmelkin (1991), stated that Cronbach's alpha often used in estimating the internal consistency for 85% of reliability. The result for the Cronbach's alpha is shown in Table 4.1, Table 4.2 and Table 4.3 below:

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 12 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 12 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .830 | .837 | 5 |

**Table 4.1 : Cronbach's Alpha coefficient (α-value) for factors that influence stress**

**Case Processing Summary**

| | | N | % |
|---|---|---|---|
| Cases | Valid | 12 | 100.0 |
| | Excluded[a] | 0 | .0 |
| | Total | 12 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|---|---|---|
| .832 | .823 | 10 |

**Table 4.2: Cronbach's Alpha coefficient (α-value) for stress level**

| Variables Scale | Alpha score (α-value) |
|---|---|
| Part 2 (Factors of Stress) | 0.830 |
| Part 3 (Stress Level) | 0.832 |

**Table 4.3 : Cronbach's alpha score**

Based on the above tables, it shows that both part in the questionnaire have Cronbach's alpha coefficient of 0.820 and 0.832, which is higher than minimum allowable limit of 0.7. According to Belias et al. (2013), when all answer is higher than the minimum allowable limit of .70, it shows that the data was considered as reliable data. From there, it can be assumed that the questionnaire for this research falls under high reliability level.

In addition, according to Peterson (2013) regarding to the validity of data, based on its Cronbach's Alpha coefficient shows that an average on .70 were used in most research related to psychological and social science. On the other hand, according to Higgins et al. (1995) when the variable or sample is higher than .50, it can be indicated that it has encountered and exceed the minimum allowable limit of validity.

## 4.2 Descriptive Statistic Analysis

Descriptive statistical analysis is a type of analysis that focus on the amount of sample according to variable which later on will shows the accumulated value of mean, mode, median, standard deviation, variance and etc (Nair, 2007).

### 4.2.1 Frequency and percentages tabulation according to gender

According to Table 4.4, it shows that the frequency tabulation for gender category in this research were dominated by male with sample size of 12 person. Meanwhile for the percentage's tabulation for male that taking part in this research is 100%.

| GENDER | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | MALE | 12 | 100.0 | 100.0 | 100.0 |

**Table 4.4 : Gender's frequency and percentages tabulation**

### 4.2.2 Frequency and percentages tabulation according to age

Table 4.5 below shows the tabulated data according to the age category that take part in this research. A total of 6 range of age were listed in the questionnaire, where it was dominated by 20-25 years old range with sample size of 5 persons which making a total 41.7 % out of 100%.

Meanwhile the second highest range that dominated the data tabulation falls on the 31-35 years old and above 45 years old range, where each range consist of 2

persons which making a total of 16.7% for each range. However, for 26-30 years old, 36-40 years old and 41-45 years old range consist of 1 person per range with 8.3% out of 100%.

| AGE | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | 20-25 YEARS OLD | 5 | 41.7 | 41.7 | 41.7 |
| | 26-30 YEARS OLD | 1 | 8.3 | 8.3 | 50.0 |
| | 31-35 YEARS OLD | 2 | 16.7 | 16.7 | 66.7 |
| | 36-40 YEARS OLD | 1 | 8.3 | 8.3 | 75.0 |
| | 41-45 YEARS OLD | 1 | 8.3 | 8.3 | 83.3 |
| | ABOVE 45 YEARS OLD | 2 | 16.7 | 16.7 | 100.0 |
| | Total | 12 | 100.0 | 100.0 | |

**Table 4.5 : Age's frequency and percentages tabulation**

### 4.2.3 Frequency and percentages tabulation according to marital status

Based on Table 4.6, it shows that most of the respondent are 66.7% married with a total of 8 persons out of 12 persons. While the rest of the respondent are single with 33.3% for 4 persons.

| MARITALSTATUS | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | SINGLE | 4 | 33.3 | 33.3 | 33.3 |
| | MARRIED | 8 | 66.7 | 66.7 | 100.0 |
| | Total | 12 | 100.0 | 100.0 | |

**Table 4.6 : Marital status's frequency and percentages tabulation**

### 4.2.4 Frequency and percentages tabulation according to duration of service

There are 3 type of range for the duration of service category for the shift staff of Petronas Auxiliary Police shown which shown in the Table 4.7. A total of 6 respondents has been working for 5 - 10 years with the percentages of 50%. Then, about 41.7% of the respondent has been working for more than 10 years, which is equivalent to 5 persons out of 12 persons. But there's only 1 person amongst the respondent that works as an Auxiliary Police at Petronas for less than 5 years with 8.3% out of 100%.

**DURATIONOFSERVICE**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | BELOW 5 YEARS | 1 | 8.3 | 8.3 | 8.3 |
| | 5-10 YEARS | 6 | 50.0 | 50.0 | 58.3 |
| | ABOVE 10 YEARS | 5 | 41.7 | 41.7 | 100.0 |
| | Total | 12 | 100.0 | 100.0 | |

**Table 4.7 : Duration of service's frequency and percentages tabulation**

## 4.3 Statistical Analysis for Factor that influence stress at workplace

### 4.3.1 Mean, standard deviation and variance score

There are 2 type of mean, standard deviation and variance score for this research, where these relationships will be elaborated according to two categories in the questionnaire which is the factors that influence stress and stress level at workplace. The relationship basically will show the highest, normal and lowest needed data in the questionnaire.

The part two in the questionnaire is a category used to identify the factors that influence stress at workplace. According to data shown in Table 4.9, the highest mean score is 3.92 for the factor 4 which is lack of communication among colleagues and superior. However, the lowest mean from part two is 3.17 for factor 1 which is lack of training and management involvement in staff welfare. From the data summary above shows that the value of standard deviation (1.505) is lower than mean (3.92), which indicate that the values in the data are near to the mean value. This condition considered as expected value in statistical analysis.

As for standard deviation, it also shows that factor 4 has the highest score of it with the value of 1.505. Meanwhile, factor 4 also dominate for the highest variance score of 2.265 compared to the other 4 factors. This shows that most of the respondent believe that most of their stress at workplace were basically due to the lack of communication between colleague and superior which may be related to work, personal and other matter.

| FACTOR | DEFINITION |
|---|---|
| 1 | Inadequate of training and management involvement in staff welfare |
| 2 | Personal matter or conflicts outside working hour |
| 3 | Poor working condition and environment |
| 4 | Lack of communication among colleagues and superior |
| 5 | Have to work for a very long hour. |

**Table 4.8 : Definition of factor**

| Factors that influence stress at workplace for Petronas AP | | | | | | |
|---|---|---|---|---|---|---|
| | | FACTOR 1 | FACTOR 2 | FACTOR 3 | FACTOR 4 | FACTOR 5 |
| N | Valid | 12 | 12 | 12 | 12 | 12 |
| | Missing | 0 | 0 | 0 | 0 | 0 |
| Mean | | 3.17 | 3.58 | 3.67 | 3.92 | 3.75 |
| Median | | 3.00 | 4.00 | 4.00 | 4.50 | 4.00 |
| Std. Deviation | | 1.267 | 1.311 | 1.073 | 1.505 | 1.215 |
| Variance | | 1.606 | 1.720 | 1.152 | 2.265 | 1.477 |
| Minimum | | 1 | 2 | 2 | 1 | 1 |
| Maximum | | 5 | 5 | 5 | 5 | 5 |

**Table 4.9 : Descriptive analysis for factor that influence stress at workplace**

### 4.3.2 Bivariate Correlation for Factor influence stress at workplace

According to Samuel (2014), Pearson's correlation usually used in researches to measure the existence from the p-value and strength from the r-value between 2 variables. For Table 4.10 its shows a complete correlation matrix where every correlation will appear twice as the correlation correlated or intersect between each variable at the centre of the table.

The intersection between identical variable which produce a perfect 1 across the table. From there, the strongest correlation is able to be identified with the value of r = 0.906 between Question 3 and Question 5. This indicate that correlation coefficient is within the range of +1 to -1.

**Correlations**

| | | QUESTION1 | QUESTION2 | QUESTION3 | QUESTION4 | QUESTION5 |
|---|---|---|---|---|---|---|
| QUESTION1 | Pearson Correlation | 1 | .483 | .446 | .151 | .443 |
| | Sig. (2-tailed) | | .112 | .147 | .640 | .150 |
| | N | 12 | 12 | 12 | 12 | 12 |
| QUESTION2 | Pearson Correlation | .483 | 1 | .345 | .580* | .214 |
| | Sig. (2-tailed) | .112 | | .273 | .048 | .504 |
| | N | 12 | 12 | 12 | 12 | 12 |
| QUESTION3 | Pearson Correlation | .446 | .345 | 1 | .769** | .906** |
| | Sig. (2-tailed) | .147 | .273 | | .003 | .000 |
| | N | 12 | 12 | 12 | 12 | 12 |
| QUESTION4 | Pearson Correlation | .151 | .580* | .769** | 1 | .733** |
| | Sig. (2-tailed) | .640 | .048 | .003 | | .007 |
| | N | 12 | 12 | 12 | 12 | 12 |
| QUESTION5 | Pearson Correlation | .443 | .214 | .906** | .733** | 1 |
| | Sig. (2-tailed) | .150 | .504 | .000 | .007 | |
| | N | 12 | 12 | 12 | 12 | 12 |

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

**Table 4.10 : Bivariate Correlation for factor that influence stress**

According to Chee (2015), Pearson's r-value consist of 3 indication where for +1 is the perfect positive correlation. Meanwhile the -1 indicate the perfect negative correlation and 0 indicate no linear correlation detected within the data. Since the sample size, N is equal to 12 and it's 2-tailed significance, p = 0 which considered to be less than 0.05 which implies a high significant result. In shorts, the result from the correlation analysis shows that each pair of the variables are linearly related and the Pearson's correlation is considered as large.

As for scatter plot shown in Figure 4.1, shows an almost perfect straight line according to the pattern of the circle scattered. The pattern shown by the scattered circles implied that as the factor Question 5 increase, the factor Question 3 also increase significantly. This proves that the Pearson's r-value or correlation coefficient to be positive value.

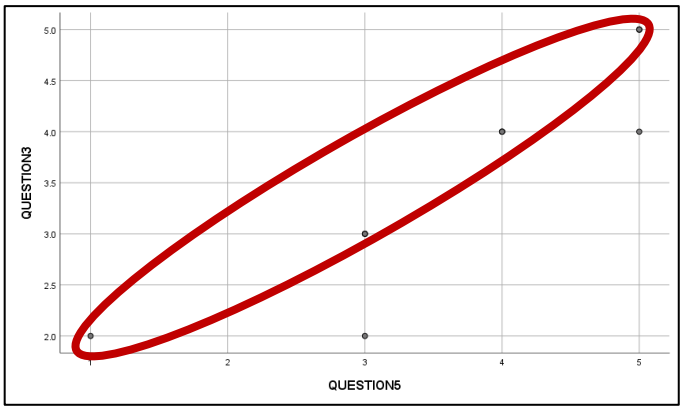


**Figure 4.1 : Scatter plot between Question 3 and Question 5**

### 4.3.3 Differences between variables and factor influence stress at workplace (Paired-Sample T-Test and One-Way ANOVA test)

In this analysis, the variable will be compared with the factor 4 which is lack of communication between colleague and superior as the main factor that influence stress at workplace for shift staff of PETRONAS Auxiliary Police. The comparison analysis will reveal if there are any differences detected between the variable's mean according to selected and suitable test. For variables that is not more than two data, will undergoes T-Test analysis and for variable with more than two data will undergoes One-Way ANOVA test.

#### 4.3.3.1 Differences between gender and factor influence stress at workplace (Paired-Sample T-Test)

Since the respondent of the questionnaire for this research was fully dominated by male, paired-sample t-test is the most suitable method for this data analysis. As the degree of freedom (df) is 11 and the alpha coefficient is .05, the critical value (cv) can

be obtained from T-Distribution table shown in Chapter 3 (Table 3.3), with the value of 2.201.

Meanwhile the p-value in Table 4.11 is 0.000 which is smaller than the .05. In addition, according to Table 4.11, both the upper and lower value for the 95% of confidence interval (CI) are in negative value. This shows that the three condition for T-Test analysis are fulfil, which means that there is significant difference in gender variable since there is no data in female categories.

**Paired Samples Test**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | Mean | Std. Deviation | Std. Error Mean | Lower | Upper | | | |
| Pair 1 | GENDER - FACTOR4 | -2.91667 | 1.50504 | .43447 | -3.87292 | -1.96041 | -6.713 | 11 | .000 |

**Table 4.11 : Paired-Sample T-Test between Gender & Factor 4**

#### 4.3.3.2 Differences between age and factor influence stress at workplace (One-Way ANOVA test)

For variable related to age, it consists of six range of age which is from 20 to 25 years old, 26 to 30 years old, 31 to 35 years old, 36- to 40 years old, 41 to 45 years old and lastly above 45 years old. According to Table 4.12, shows that those within the range of 41-45 years old has the height mean value of 5.00. Meanwhile for the lowest mean value of 2.70 goes to those who is within the range of above 45 years old. However, based on Table 4.13 it shows the Sig. value of 0.018 which is smaller than 0.05. As the result reveal that f (5,54) =3.004, p=0.18 which indicate that there is significant difference between the age category which due to the decrement of ability to

cope with stress as the age increase. In order to identify which range of ages are difference, a Post Hoc Test need to be done right after the ANOVA test were analysed.

**Descriptives**

FACTORSTRESS

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
|---|---|---|---|---|---|---|---|---|
| | | | | | Lower Bound | Upper Bound | | |
| 20-25 YEARS OLD | 25 | 3.56 | 1.158 | .232 | 3.08 | 4.04 | 1 | 5 |
| 26-30 YEARS OLD | 5 | 4.00 | .000 | .000 | 4.00 | 4.00 | 4 | 4 |
| 31-35 YEARS OLD | 10 | 3.90 | .876 | .277 | 3.27 | 4.53 | 2 | 5 |
| 36-40 YEARS OLD | 5 | 3.60 | 1.949 | .872 | 1.18 | 6.02 | 1 | 5 |
| 41-45 YEARS OLD | 5 | 5.00 | .000 | .000 | 5.00 | 5.00 | 5 | 5 |
| ABOVE 45 YEARS OLD | 10 | 2.70 | 1.337 | .423 | 1.74 | 3.66 | 1 | 5 |
| Total | 60 | 3.63 | 1.235 | .159 | 3.31 | 3.95 | 1 | 5 |

**Table 4.12 : Descriptive of One-Way ANOVA test between Age & Factor 4**

**ANOVA**

FACTORSTRESS

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | 19.573 | 5 | 3.915 | 3.004 | .018 |
| Within Groups | 70.360 | 54 | 1.303 | | |
| Total | 89.933 | 59 | | | |

**Figure 4.13 : One-way between subjects ANOVA**

In Table 4.14 which is known as Multiple Comparison under Tukey test, shows most of the sig. value are more than .05 except for two values of .007 which is less than .05. The sig. value of .007 is the comparison between the 41 to 45 years old with above 45 years old range. This conclude that between amongst six range of the age variable, the range that related to the significant difference are between the 41 to 45 years old with above 45 years old range.

**Multiple Comparisons**

Dependent Variable: FACTORSTRESS

| | (I) AGE | (J) AGE | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval Lower Bound | 95% Confidence Interval Upper Bound |
|---|---|---|---|---|---|---|---|
| Tukey HSD | 20-25 YEARS OLD | 26-30 YEARS OLD | -.440 | .559 | .969 | -2.09 | 1.21 |
| | | 31-35 YEARS OLD | -.340 | .427 | .967 | -1.60 | .92 |
| | | 36-40 YEARS OLD | -.040 | .559 | 1.000 | -1.69 | 1.61 |
| | | 41-45 YEARS OLD | -1.440 | .559 | .121 | -3.09 | .21 |
| | | ABOVE 45 YEARS OLD | .860 | .427 | .348 | -.40 | 2.12 |
| | 26-30 YEARS OLD | 20-25 YEARS OLD | .440 | .559 | .969 | -1.21 | 2.09 |
| | | 31-35 YEARS OLD | .100 | .625 | 1.000 | -1.75 | 1.95 |
| | | 36-40 YEARS OLD | .400 | .722 | .993 | -1.73 | 2.53 |
| | | 41-45 YEARS OLD | -1.000 | .722 | .736 | -3.13 | 1.13 |
| | | ABOVE 45 YEARS OLD | 1.300 | .625 | .313 | -.55 | 3.15 |
| | 31-35 YEARS OLD | 20-25 YEARS OLD | .340 | .427 | .967 | -.92 | 1.60 |
| | | 26-30 YEARS OLD | -.100 | .625 | 1.000 | -1.95 | 1.75 |
| | | 36-40 YEARS OLD | .300 | .625 | .997 | -1.55 | 2.15 |
| | | 41-45 YEARS OLD | -1.100 | .625 | .500 | -2.95 | .75 |
| | | ABOVE 45 YEARS OLD | 1.200 | .510 | .192 | -.31 | 2.71 |
| | 36-40 YEARS OLD | 20-25 YEARS OLD | .040 | .559 | 1.000 | -1.61 | 1.69 |
| | | 26-30 YEARS OLD | -.400 | .722 | .993 | -2.53 | 1.73 |
| | | 31-35 YEARS OLD | -.300 | .625 | .997 | -2.15 | 1.55 |
| | | 41-45 YEARS OLD | -1.400 | .722 | .390 | -3.53 | .73 |
| | | ABOVE 45 YEARS OLD | .900 | .625 | .703 | -.95 | 2.75 |
| | 41-45 YEARS OLD | 20-25 YEARS OLD | 1.440 | .559 | .121 | -.21 | 3.09 |
| | | 26-30 YEARS OLD | 1.000 | .722 | .736 | -1.13 | 3.13 |
| | | 31-35 YEARS OLD | 1.100 | .625 | .500 | -.75 | 2.95 |
| | | 36-40 YEARS OLD | 1.400 | .722 | .390 | -.73 | 3.53 |
| | | ABOVE 45 YEARS OLD | 2.300* | .625 | .007 | .45 | 4.15 |
| | ABOVE 45 YEARS OLD | 20-25 YEARS OLD | -.860 | .427 | .348 | -2.12 | .40 |
| | | 26-30 YEARS OLD | -1.300 | .625 | .313 | -3.15 | .55 |
| | | 31-35 YEARS OLD | -1.200 | .510 | .192 | -2.71 | .31 |
| | | 36-40 YEARS OLD | -.900 | .625 | .703 | -2.75 | .95 |
| | | 41-45 YEARS OLD | -2.300* | .625 | .007 | -4.15 | -.45 |

**Table 4.14 : Multiple Comparison ANOVA**

#### 4.3.3.3 Differences between marital status and factor influence stress at workplace (Paired-Sample T-Test)

As for marital status category, there are two variables data which consist of single and married. According to Table 4.15, it shows that the degree of freedom (df) value is 11 and after referring to the T-Distribution Table, the critical value (cv) is equivalent to 2.201. With that shows t = 5.046 is larger than cv. For the second condition, the p-value = 0.000 which is smaller than .05. As for the third condition, both of the upper and lower value for 95% of confidence interval (CI) are in negative value, which shows that the CI-value did not cross zero. This indicate that there are significant differences in the marital status category.

| Paired Samples Test | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Paired Differences | | | | | | | |
| | | | | | 95% Confidence Interval of the Difference | | | | |
| | | Mean | Std. Deviation | Std. Error Mean | Lower | Upper | t | df | Sig. (2-tailed) |
| Pair 1 | MARITALSTATUS - FACTOR4 | -2.25000 | 1.54479 | .44594 | -3.23151 | -1.26849 | -5.046 | 11 | .000 |

**Table 4.15 : Paired-Sample T-Test between Marital Status & Factor 4**

#### 4.3.3.4 Differences between duration of service and factor influence stress at workplace (One-Way ANOVA test)

For duration of service variable, there three range of it which consists of less than 5 years, 5 to 10 years and more than 10 years of services. Based on Table 4.16 which is about the duration of service for the shift staff of PETRONAS Auxiliary Police, shows the highest mean of 3.76 for those who worked for 5 to 10 years. Meanwhile, the lowest mean of 3.40 for those who worked less than 5 years. From there, according to Table 4.17 the one-way between subject ANOVA shows Sig. value of 0.733 which is more than .05. When the Sig. value is higher than .05, it indicates that there are not significant differences between the duration of service category.

| Descriptives | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| FACTORSTRESS | | | | | | | | |
| | | | | | 95% Confidence Interval for Mean | | | |
| | N | Mean | Std. Deviation | Std. Error | Lower Bound | Upper Bound | Minimum | Maximum |
| BELOW 5 YEARS | 10 | 3.40 | .966 | .306 | 2.71 | 4.09 | 2 | 5 |
| 5-10 YEARS | 25 | 3.76 | 1.128 | .226 | 3.29 | 4.23 | 1 | 5 |
| ABOVE 10 YEARS | 25 | 3.60 | 1.443 | .289 | 3.00 | 4.20 | 1 | 5 |
| Total | 60 | 3.63 | 1.235 | .159 | 3.31 | 3.95 | 1 | 5 |

**Table 4.16 : Descriptive of One-Way ANOVA test between Duration of Service & Factor 4**

**ANOVA**

FACTORSTRESS

| | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| Between Groups | .973 | 2 | .487 | .312 | .733 |
| Within Groups | 88.960 | 57 | 1.561 | | |
| Total | 89.933 | 59 | | | |

**Table 4.17 : One-way between subject ANOVA**

## 4.4 Statistical Analysis for stress level

### 4.4.1 Mean, standard deviation and variance score

As for the third part of the questionnaire, which is to identify the stress level amongst the respondent shows mean score of 1.50 with standard deviation of 0.52 (Table 4.18). This also shows that the standard deviation scores lower than mean, which means that data's value in the analysis are near to mean value. This condition also considered as expected value in most statistical analysis.

**Statistics**

STRESSLEVEL

| | | |
|---|---|---|
| N | Valid | 12 |
| | Missing | 0 |
| Mean | | 1.5000 |
| Std. Deviation | | .52223 |
| Variance | | .273 |
| Minimum | | 1.00 |
| Maximum | | 2.00 |

**Table 4.18 : Mean, Standard Deviation and Variance for stress level**

### 4.4.2 Stress Level Score

In this research, the stress level questionnaire where taken from the American Institute of Stress (AIS) survey which is known as Workplace Stress Survey. The questionnaire or survey were given to the respondent which is Petronas Auxiliary Police to answer. Table 4.19 shows the actual Stress level score indicator according to the American Institute of Stress that developed in the year of 1998. The indicator divided into three level which is handle stress well, moderately well and poorly.

| SCORE | INDICATION |
|---|---|
| 10-30 | Handle stress well |
| 40-60 | Handle stress moderately well |
| 70-100 | Handle stress poorly |

**Table 4.19 : Stress Level score indicator**

The analysis of the collected data shown in Table 4.20, shows an equal score between handle stress well and handle stress moderately well with total frequency number of 6 for each level mentioned above. Thus, this indicated that most of the respondent are in good state of stress and managed to handle stress at workplace well and moderately well.

**STRESSLEVEL**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | HANDLE STRESS WELL | 6 | 50.0 | 50.0 | 50.0 |
| | HANDLE STRESS MODERATELY WELL | 6 | 50.0 | 50.0 | 100.0 |
| | Total | 12 | 100.0 | 100.0 | |

**Table 4.20 : Stress Level Score**

### 4.4.3 Bivariate Correlation for Stress Level

As for the correlation of stress level amongst the shift staff of PETRONAS Auxiliary Police, Table 4.20 shows that the strongest correlation value of r = 0.968 as the intersection point of Question 6 and Question 9. This indicate that correlation coefficient is within the range of +1 to -1, where the Pearson's coefficient almost reaching the perfect positive correlation and considered as large. Based on Table 4.20 shows a straight diagonal line of 1 which indicate the perfect correlation between the analysed data. Inside the table 4.21 also revealed the 2-tailed significance, p=.000 which is smaller than .05. This indicate that there is presence of relationship between the stress level and its relationship considered as statistically significant.

**Correlations**

| | | QUESTION1 | QUESTION2 | QUESTION3 | QUESTION4 | QUESTION5 | QUESTION6 | QUESTION7 | QUESTION8 | QUESTION9 | QUESTION10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| QUESTION1 | Pearson Correlation | 1 | .300 | -.454 | .449 | .374 | .576 | .109 | .075 | .572 | .538 |
| | Sig. (2-tailed) | | .344 | .138 | .143 | .231 | .050 | .736 | .816 | .052 | .071 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION2 | Pearson Correlation | .300 | 1 | -.247 | .389 | .392 | .558 | .384 | .549 | .544 | .113 |
| | Sig. (2-tailed) | .344 | | .440 | .212 | .208 | .060 | .218 | .065 | .068 | .728 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION3 | Pearson Correlation | -.454 | -.247 | 1 | .380 | -.197 | .095 | .378 | -.112 | -.021 | .119 |
| | Sig. (2-tailed) | .138 | .440 | | .223 | .540 | .769 | .226 | .728 | .948 | .713 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION4 | Pearson Correlation | .449 | .389 | .380 | 1 | .522 | .885** | .747** | .248 | .779** | .306 |
| | Sig. (2-tailed) | .143 | .212 | .223 | | .081 | .000 | .005 | .438 | .003 | .333 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION5 | Pearson Correlation | .374 | .392 | -.197 | .522 | 1 | .624* | .508 | .527 | .595* | -.267 |
| | Sig. (2-tailed) | .231 | .208 | .540 | .081 | | .030 | .092 | .078 | .041 | .401 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION6 | Pearson Correlation | .576 | .558 | .095 | .885** | .624* | 1 | .582* | .401 | .968** | .234 |
| | Sig. (2-tailed) | .050 | .060 | .769 | .000 | .030 | | .047 | .197 | .000 | .463 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION7 | Pearson Correlation | .109 | .384 | .378 | .747** | .508 | .582* | 1 | -.063 | .448 | .024 |
| | Sig. (2-tailed) | .736 | .218 | .226 | .005 | .092 | .047 | | .847 | .144 | .940 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION8 | Pearson Correlation | .075 | .549 | -.112 | .248 | .527 | .401 | -.063 | 1 | .453 | -.221 |
| | Sig. (2-tailed) | .816 | .065 | .728 | .438 | .078 | .197 | .847 | | .139 | .490 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION9 | Pearson Correlation | .572 | .544 | -.021 | .779** | .595* | .968** | .448 | .453 | 1 | .104 |
| | Sig. (2-tailed) | .052 | .068 | .948 | .003 | .041 | .000 | .144 | .139 | | .747 |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| QUESTION10 | Pearson Correlation | .538 | .113 | .119 | .306 | -.267 | .234 | .024 | -.221 | .104 | 1 |
| | Sig. (2-tailed) | .071 | .728 | .713 | .333 | .401 | .463 | .940 | .490 | .747 | |
| | N | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

**Table 4.21: Correlation for stress level**

Scatter plot in Figure 4.2, shows a familiar pattern from the scattered circles that almost shows an underlying straight line, which state that the Pearson's coefficient in the table to be positive value. When the circle in the scatter plot are closed to each other and almost creating a straight line, it indicates that the linear correlation exists and strong between the data.

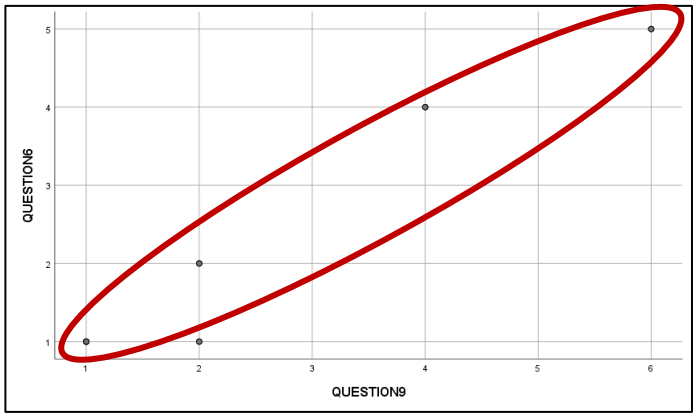


**Figure 4.2 : Scatter plot between Question 6 and Question 9**

## 4.5 Result & findings summary

As a conclusion for result and finding in this chapter, shows that main factor that influence stress at work for shift staff of Petronas Auxiliary Police is due to lack of communication between colleague and superior. However, based on result shown above, indicate that the second higher score for factor that influence stress is have to work for a very long hour with different mean score of 0.17. On the other hand, the lowest score for factor that influence stress is inadequate of training and management involvement in staff welfare. Other than that, a total of 12 Petronas Auxiliary Polices shows a positive result on their stress level while working in shift which is able to handle stress well and moderately well. This indicate that Petronas Auxiliary Police

have a very healthy mental health as none of the respondent were categorised handling their stress poorly.

# CHAPTER 5

# CONCLUSION

## 5.0 Research summary

This research has been carried out on shift staff of PETRONAS Auxiliary Police with total number of 12 respondents. Each respondent carried different characteristic or details such as age, gender, marital status and duration of service. The main objective of this research is to identify factor that influence stress at workplace and their stress level.

The Statistical Package for the Social Science or also known as SPSS has been use as the main software to analysis collected data in the earlier stage of this research. Through the analysis, various method was used through the SPSS software such as the Descriptive Analysis, correlation, paired-sample t-test, reliability test and one-way ANOVA test. Each of the analysis carried different purposes in order to analysed raw data from provided questionnaire in this research.

To identify which factor influence stress the most amongst the shift staff of PETRONAS Auxiliary Police, Descriptive Analysis from SPSS were used which consists mean, standard deviation and variance for each variable. From that analysed data, the first objective of this researched are identified. On the other hand, in order to identify the stress level of shift staff of PETRONAS Auxiliary Police, questionnaire from American Institute of Stress (AIS) where used for this research. The questionnaire

for identifying the stress level consist of 10 questions with different identity. Each question has 10 Likert Scale and will be total according to American Institute of Stress (AIS) indicator.

## 5.1 Research Conclusion

In conclusion, both of the research's objective which is to identify the factor influence stress amongst the shift staff of PETRONAS Auxiliary Police and their stress level has been obtained through several test and analysis by using the Statistical Package for Social Science or also known as SPSS.

According to analysed result in Chapter 4, indicate that the main factor that influence stress amongst the respondents are lack of communication between colleague and superior. This result was obtained from the Descriptive Analysis where the mean and standard deviation were compared among the second part's questions in the questionnaire.

Then for the second objective of this research which is to determine the stress level of the shift staff of PETRONAS Auxiliary Police were obtained according to the American Institute of Stress (AIS) standard and indicators. The result also obtained from the Descriptive analysis obtained from the SPSS which is able to handle stress well and able to handle stress moderately well.

However, to obtained reliable result that can be used for further research, each part of the questionnaire undergoes another three test or analysis such as the correlation

test, paired-sample T-test and one-way ANOVE. As for the correlation test, both part of the questionnaire shows that each of the variable from their part have close relationship with the factor that influence stress according to the bivariate correlation test and related scatter plot. For factor influence stress, the highest correlation was detected amongst the Question 5 and Question 3, which is have to work for a long time and poor working condition and environment. In addition, correlation in stress level shows that an intersection and correlation between Question 6 and Question 9. Both questions about discrimination in workplace and argument with colleague, superior or customer present a strong relationship and statistically significant.

The other test carried out within this research are paired-sample T-test and one-way ANOVA test. Both tests were used to determine any statistic significant difference between the variable once compared with the main factor influence stress. Since T-test can be used on variables that is not more than 2, only gender and marital status variable were considered suitable for the test. Meanwhile, since age and duration of service's variable consists of more than 2 data, the most suitable test to analyse the data are by using one-way ANOVA test.

According to the above tests, shows that for the gender variable, there is a significant difference as the respondents were dominated by male compared to female. This can be seen as all three condition of determining significant differences in T-test is true. Meanwhile, for the age variable shows a statistic significant difference between the 41 to 45 years old with above 45 years old range. For this phenomenon, it is believed due to likely to feel less responsible for their job makes older people have less

relationship with stress. Plus, the age range that has significant difference are those who is within the oldest range of age (Aldwin, 1991).

Furthermore, for the marital status variable consist of two variable's data which consists of single and married. This number of data is suitable to be analysed by t-test to find any statistic significant differences. From the analysed data, it turns out that there is a statistically significant differences between the marital status variable. According to Emmanuel & Collins (2016), married person tend to have abit higher stress compared to single person as there are an additional or extra responsibilities outside the working environment. The additional responsibility are those kind of commitment that need to be fulfil for the sake of providing better life for their family. This is the reasons why there is a significant differences in marital status variables.

Lastly, for the duration of service variables consists of three variable's data which is less than 5 years, 5 to 10 years and more than 10 years of service. Since the variable are more than two, one-way ANOVA test were used and shows that there are no significant differences between the three variables. According to Vanagas, Bihari-Axelsson, & Vanagiene (2004), different working duration did not influence stress at workplace as for those who is a senior which has been working for years, already know and familiar with their job scope. While for those who is just starting their career in few years, might not totally affected with stress at workplace as they are still tryng to adapt and cope with the job scope and working environment. This able to show why there is not signinficant differences in duration of service  with stress at workplace.

## 5.2 Recommendation and implications of research

Through this research on stress at workplace, it is recommended to have a proper work management in order to maintains or improve their lifestyle and at the same time reduce any stress obtained while working. A good communication amongst colleague and superior also helps in providing solution to the highest factor influence of stress at workplace according to this research.

There are two category of study that contributed in this study which is the factor that influence stress at workplace and stress level of the respondents. From the findings in Chapter 4, it is important to urge all level of management and workers to take seriously stress at workplace though some are able to handle their stress well or moderately well. Prolong accumulation of stress able to caused several major consequences toward the person, work and company. Therefore it is advice for any multinational company to have a one-to-one communication with their worker in order to track or determine the stress level of their worker from time-to-time.

## 5.3 Limitation of research & recommendation for further research

This research has been done on small number of respondents which is the shift staff of PETRONAS Auxiliary Police that located at the Headquarters office. Sometimes a small number of sample caused several error in data analysis and the result also mighth not be accurate as the number of data were limited.

The only recommendation suggested for future research related to this topic are to increase the sample number or respondent, in order to have accurate result and at the same time able to reduce the possibility of gainning errors for several test.

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**APPENDIX A**

## QUESTIONNAIRE

(This questionnaire is for educational purpose only)

### PART 1 : PERSONAL DATA

1. Gender

| | | | |
|---|---|---|---|
| Female | | Male | |

2. Age

| | | | | | |
|---|---|---|---|---|---|
| 20-25 years old | | 26-30 years old | | 31-35 years old | |
| 36-40 years old | | 41-45 years old | | Above 45 years old | |

3. Marital Status

| | | | |
|---|---|---|---|
| Single | | Married | |

4. Duration of service

| | | | | | |
|---|---|---|---|---|---|
| Below 5 years | | 5-10 years | | Above 10 years | |

### PART 2

**OBJECTIVE 1 - TO IDENTIFY FACTORS THAT INFLUENCE SRESS AT WORKPLACE**

**Please put tick mark (√) on selected column after reading the question/statement.**

1= Strongly Agree 2= Agree 3= Neutral 4= Disagree 5= Strongly Disagree

| | Question / Statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 1. | Inadequate of training and management involvement in staff welfare | | | | | |
| 2. | Personal matter or conflicts outside working hour | | | | | |
| 3. | Poor working condition and environment | | | | | |
| 4. | Lack of communication among colleagues and superior | | | | | |
| 5. | Have to work for a very long hours.<br>(Extra working hour (OT) before or after designated working hour) | | | | | |

### PART 3

**OBJECTIVE 2 – TO IDENTIFY THE STRESS LEVEL**

**Enter a number from the sliding scale below, which best describes you**

| STRONGLY DISAGREE | | | | AGREE SOMEWHAT | | | STRONGLY AGREE | | |
|---|---|---|---|---|---|---|---|---|---|
| **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** | **9** | **10** |

| | Question / Statement | Score |
|---|---|---|
| 1. | I can't honestly say what I really think or get things off my chest at work | |
| 2. | My job has a lot of responsibility, but I don't have very much authority. | |
| 3. | I could usually do a much better job if I were given more time. | |
| 4. | I seldom receive adequate acknowledgement or appreciation when my work is really good. | |
| 5. | In general, I am not particularly proud or satisfied with my job. | |
| 6 | I have the impression that I am repeatedly picked on or discriminated against at work. | |
| 7 | My workplace environment is not very pleasant or safe. | |
| 8 | My job often interferes with my family and social obligations, or personal needs. | |
| 9 | I tend to have frequent arguments with superiors, co-workers or customers. | |
| 10 | Most of the time I feel I have very little control over my life at work. | |
| | TOTAL JOB STRESS SCORE | |