

E-PROCEEDING

# **NURTURING HOSPITALITY, TOURISM AND WELLNESS WORLD**

*WELLNESS CLUSTER*

**Editors:**

Normaizatul Akma Saidi, Siti Fatimah Ab Ghaffar, Velan Kunjuraman, Mazne Ibrahim & Raja Norliana Raja Omar

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## Depression, Anxiety and Level of Stress among University Malaysia Kelantan Staff

Nor Sharizan Nor Azman Efendy, Nurul Erni Nazira Nazari, Mohamad Fahmi Azman, Mohamad Arif Asyraf Mahadi & Nor Dalila Marican

Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan

Corresponding email: dalila.m@umk.edu.my

### ABSTRACT

This study aims to explore the depression, anxiety and level of stress among University Malaysia Kelantan staff. The questionnaire were distributed to 191 staff pursuing Administrative staff and Academic staff. The data collected was then analyzed using SPSS version 21. The findings of the study indicated that there were two factors influencing a staff: demographic (gender, marital status, religion, position, professionalism and income level) and Lifestyle (smoking, alcohol consumption and physical activity). The results also suggested that there were different significant relationships between demographic and lifestyle factors towards prevalence of depression, anxiety and level of stress among University Malaysia Kelantan staff.

**Keywords:** depression, anxiety, stress, Kelantan, demographic, lifestyle

### INTRODUCTION

Depression has become a major costly illness in America. Depression effect is as the same as heart disease or aids to the economy of U.S if left untreated, worthy over \$51 billion in absenteeism from work and result loss of productivity and other \$26 billion in direct treatment cost (Mental Health America, 2012). Depression usually affects people in their prime working years and could last a lifetime if neglected. Estimated more than 80% people are managed to be cured. Meanwhile in Malaysia, depression will be a big issue among Malaysians by 2020 as more people are expected to suffer this mental health problem due to work and family pressure (National Institute of Occupational of Safety and Health, 2012).

Anxiety is a response of body to observed threat which is initiated by an individual's feelings, beliefs and thoughts and expressed by worried thoughts and tension. Worldwide, anxiety disorders are the sixth-leading cause of disability (defined by years of lived with disability), with greater rates of disability occurring in females and in people aged 15 to 34 years (Baxter et al., 2014). Anxiety disorders are associated with a poorer quality of life in comparison to not having anxiety, including higher rates of divorce and unemployment (Olatunji et al., 2007). Anxiety disorders are associated with poor job productivity and short-and-long term work disability (Plaiser et al., 2010; Plaiser et al., 2012; Sanderson et al., 2007; Hendriks et al., 2015; Erikson et al., 2009), resulting more than \$4.1 billion in indirect workplace costs (American Psychiatric Association, 2004).

World Health Organization (WHO) defined workplace stress as the feedback of people may have when dealing with work demands or pressure that are not fit to their knowledge or abilities and which challenge their ability to cope. Health and Safety Executive (HSE) (2001) defined stress as the detrimental reaction a person has to excessive pressure or other types of demand placed upon them. D'Arcy (2007) affirmed that everyone experiences stress a little differently but overload of it is a different story. The studies explain that stress overload is caused by the overreaction or failure of the stress response to turn off and reset itself properly. Also according to D'Arcy (2007) stress is the body's way of rising to a challenge and preparing to meet tough situations with focus, strength, stamina and heightened alertness. However, higher level of stress were reported as arising from funding cuts to universities, heavier teaching loads, difficulty in securing research funds, lack of resources, poor relationships with colleagues and unrealistic expectations from management as reported by Winefield and Jarret (2001) and Ahmady et al. (2007).

This study aims to investigate the factors that influence depression, anxiety and symptom of stress among University Malaysia Kelantan staff using two independent variables which are demographic and lifestyle.

There are four objectives of this research:

1. To determine the prevalence of depression, anxiety and level of stress among UMK's staff.
2. To determine the level of depression, anxiety and stress among UMK's staff.
3. To identify the relationship between demographic characteristics (age, gender and marital status) with occurrences of depression, anxiety and level of stress among UMK's staff.

4. To identify the relationship between lifestyle factors with the occurrence of depression, anxiety and level of stress among UMK's staff.

### **Significance of the Study**

#### **Staff of University Malaysia Kelantan**

First, this study will give the benefits to the staff of University Malaysia Kelantan to make it as a reference to decrease or avoid themselves from depression, anxiety and symptom of stress. Then, we can help them to control their lifestyle in the future. It also can increase the knowledge and awareness towards depression, anxiety and symptom of stress among them. Awareness is important because they will be more careful and alert about changes in themselves. Other than that, the study can lead a student and staff to have a healthier lifestyle.

#### **Community**

This study also give an awareness to the community in University Malaysia Kelantan. It is because not only the staff in University Malaysia Kelantan will result in the depression, anxiety and symptom of stress but it can include many departments and many other institutions or company because they need to face with many barriers and problem in their life. This study will lead the community to be aware about the changes in themselves to avoid the uncontrolled situations that are caused by their demographic and lifestyle factors.

#### **Ministry of Health (MOH)**

Ministry of Health (MOH) in Malaysia can use this study as a reference or benchmark to take actions towards the serious problems nowadays that are caused by the depression, anxiety and symptom of stress among staff in the institution. For the example, the MOH can construct a training, talk and monthly online test to all the staff to see the prevalence and level of depression, anxiety and symptom of stress. It also can show the relationships between demographic and lifestyle with depression, anxiety and symptom of stress.

## **LITERATURE REVIEW**

### **Depression**

According to World Health Organization [WHO] (2005) 322 million people were estimated living in depression that leads to the cause of ill health and disability worldwide. This statistic has risen more than 18% since 2005, according to World Health Organization (WHO). The agency estimated that 50% of those with the disorder did not get treatment (Entis, 2017). The prevalence of depression in Malaysia ranges between 3.9 to 46%. Among the general community in Malaysia, the prevalence of depression was reported 6.3 to 13.9% based on research (Mukhtar & Oei, 2011). However, the prevalence of depression in clinical groups ranges from 3.9 to 46%. The prevalence of depression in Kelantan is the lowest in Malaysia which is 0.4% compared to the highest in Wilayah Persekutuan Kuala Lumpur, 4.2% according to (Maideen, Mohd. Sidik, Rampal & Mukhtar, 2014).

### **Anxiety**

According to the research (WHO, 2015), the global population with anxiety disorders is estimated at 3.6%. The total estimated people with an anxiety disorder in the world is 264 million. This number reflects from an increase of 14.9% since 2005. According to National Health and Morbidity Survey (2017), 29% of Malaysians had depression and anxiety disorder compared to 12% in 2011. This survey showed that the percentage of Malaysians who had depression and anxiety increased by 17% from 2011 to 2017. The exact prevalence of anxiety disorder in Kelantan is unknown as further research is needed to determine the prevalence in Kelantan.

### **Stress**

Based on a survey conducted by the Forth (2018), 37% of British residents feel stressed for at least one full day per week. After taking account the entire study group, an average of nine days per month that the British people feel stressed. Those who do not feel stressed at all is a minority at 15% and the remaining 85% are experiencing a clear level of stress regularly. Based on the article (Healthworks, 2015), Malaysians have a stress level at 63%. This percentage is very high compared to the average of 53% at that moment. Based on Abdul Hadi, Naing, Daud, Nordin and Sulong (2009) showed that the prevalence

of stress ranging of secondary teacher from mild to extremely severe was 34%. However, the majority of teachers had a mild level of stress at 17.4%.

### **Demographic**

Demographic is the study of population-based factors. Demographic encompasses age, gender, and marital status. Demographic is also used to standardize the population of studies into each of their characteristic.

#### **Age**

Based on the Substance Abuse and Mental Health Services Administration combined data from 2008 to 2010, young adult ages between 18 and 25 had the highest percentage of serious thought about suicide which is 7.4% (David Levine, 2017). Furthermore, the senior population ages above 50 that is having major depression is less than 1% to about 5% (David Levine, 2017).

Based on the research by Baxter, Vos, Scott, Ferrari, and Whiteford (2014), the age group between 20 and 24 have a peak level of anxiety which is 5.5%. This percentage shows that the peak level of anxiety is still moderate. The lowest level of anxiety is the group age between 32 and 34.

The stress level for people aged between 18 and 47 have a moderate level of stress which is 5.7 and it is the peak for the level of stress. Although, for ages between 48 and 66 comes second with 4.7. The last place comes with 3.7 is the people ages above 66. These were recorded according to the media American Psychological Association (2012).

#### **Gender**

Based on gender and health (World Health Organization, 2002) large number of studies provide strong evidence that women have the highest contribution to the prevalence of depression compared to men. Socially determined that roles, norms, and responsibility for women were far more frequently than men, in situations where they have little control over important decisions concerning their lives.

Studies about anxiety disorders across gender (Olivia Remes, 2016) show that women's level tend to be higher than man which is 7.1 than 4.0 in a lifetime. Women are likely to ruminate about them which can increase their anxiety, while men engage more in problem-focused coping. Other studies show that women received more physical and mental abuses than man.

Women are more stressed than man as they claim to suffer stress for three more days per month than man. 42% of women believe they are too stressed compared to 36% of men (Olivia Remes, 2016). Money is the most common cause of the stress amongst women, while men are work.

#### **Marital Status**

Marital status was related to depression in both men and women. Individuals who were divorced scored higher level for depression than married persons in the previous study (Jang, Kawachi, Chang, Boo, Shin, Lee, & Cho, 2009). The divorce might be the cause as they cannot cope to overcome their problems in marriage and this might trigger the depression.

The level of anxiety for married person is lower than single and divorced as they are too worried to maintain their relationship. People who are single tend to focus more on this relationship as they have not yet married and tend not to cope with problems easily (Emma McGowan, 2017). A single and divorced persons have more problems to solve than married people.

Based on previous studies (Mohd Zukri & Noor Hassim, 2009), the stress level for a single person is slightly higher than the married person. Stress percentage for a single person is 54.9% and for a married person is 40.9%. These previous studies show that it is not much different from the married people although the single person tends to be more stress than married people.

#### **Lifestyle**

Based on previous survey, it was found that 42% of all cigarettes consumed in England are consumed by those with mental illness (McManus, Howard and Campion, 2010). Furthermore, cigarette consumption in general population has shown a decrease over the past 20 years but consumption among smokers with mental illness has remained relatively unchanged

(Royal College of Physicians, 2013). Additionally, the association between smoking and depression may be bidirectional, with occasional starts of smoking used to endure the depression but in fact worsen the smoker over time (Munafò and Araya, 2010).

It is unclear why socially anxious individuals are at risk for smoking and nicotine dependence (Buckner and Vinci, 2013). The research suggested for future studies to employ different methodology to draw stronger inference (Fluharty, Taylor, Grabski and Munafò, 2017). Social anxiety is related to smoking to cope in social situations (Watson, VanderVeen, Cohen, DeMarree, and Morrell, 2012). Anxious individuals may also smoke because the effect of smoking is more reinforcing than other stimuli (Rodgers, Salès, and Chabrol, 2010).

These data are consistent with examinations of stress and smoking frequency that indicate that recent stress experiences would increase smoking behaviours. However, smoking behaviours did not increase the experience of stress (Wills, Sandy, and Yeager, 2002). Smoking may help individuals to reduce the effect of stress. (Kassel Stroud, and Paronis, 2003).

### **Alcohol Consumption**

The sedative effects of alcohol can be drawn as a kind of meditation that helps to distract from a persistent feeling of sadness (Watkins, 2019). Adolescence is viewed as a period of onset and escalation of alcohol use, and the extent and sample of alcohol consumption throughout adolescence predicts the risk to boost alcoholism, drug addiction, and temper problems later in lifestyles. (Van Waes, Darnaudery, Marrocco, Gruber, Talavera, Mairesse, Van Camp, Casolla, Nicoletti, Mathe, Maccari, 2011).

Addiction to alcohol is a complex phenomenon influenced by environmental determinants (Kendler, 2001). This effect can relieve anxiety disorder and provide them with confidence in some situations. At some point, the feeling of anxiety may strike back or more intense that may take their place (Christiansen, 2019). Alcohol may increase anxiety disorder once sedative from alcohol subsides.

Alcohol can cause stress on the body's physiological balance. Previous research (Buddy, 2018) found that alcohol may actually compound the effects of stress and takes a psychological toll on the body. As the stressful events continue in a long-term, heavy alcohol consumption might involve and can lead to an increase in the level of stress and developing alcohol use disorder (Kendler, 2011).

### **Physical Activity**

The physical activity can treat depression which could avoid the physiologic side effects prescribed antidepressants (Mammen and Faulkner, 2013). The link between depression and physical activity are not entirely clear but, based on the previous study showed that increasing physical activity is an effective prevention strategy for depression (Mayo Clinic Staff, 2017).

The way in which exercising affects depression symptoms is nevertheless a source of speculation (Faulkner, and Carless, 2006). Physical activity may keep the mind from negative thoughts that lead to anxiety. This is a healthy coping strategy to manage anxiety. Getting in shape also can make people feel confident about their appearance (Mayo Clinic Staff, 2017).

Physical activity can help lower the overall stress level and improve the quality of life, both mentally and physically (Madell, 2016). It can improve the quality of sleep as the body have slowly free from previous stress. By improving the physical and heart health, there are less to be stressed about as the physical activity helps to moderate the stress level.

### **Research Hypothesis**

In this study, there were two hypotheses:

H1: There is a significant relationship between demographic characteristics (age, gender and marital status) with occurrence of depression, anxiety and level of stress.

H2: There is a significant relationship between lifestyle with occurrence of depression, anxiety and level of stress.

## Research Framework

A research framework has been constructed to investigate the connection between our study variables. With this framework, our study focuses only on occurrence of depression, anxiety and stress. Demographic and lifestyles have the same one because these variables cause depression, anxiety and stress among staff in University Malaysia Kelantan City Campus.

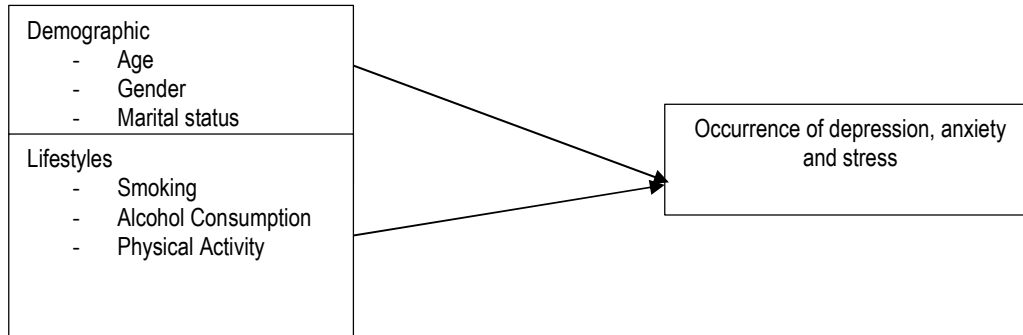


Figure 1: Research framework of depression, anxiety and symptom of stress

## METHODOLOGY

### Research Design

This study used the quantitative method that research on the occurrences of depression, anxiety and symptom of stress among UMK's staff. This design is used to provide a clear outcome to measure the relationship between demographic and lifestyles of UMK's staff and their level of depression, anxiety, and symptoms of stress at a specific point in time. This quantitative research design is relatively inexpensive and takes up little time to conduct.

### Data Collection

In the first stage, the data collection will be held in University Malaysia Kelantan, City Campus. The second stage of data collection was a fieldwork. A set of questionnaires was distributed to lecturer's room, Faculty of Hospitality, Tourism and Wellness, Faculty of Entrepreneur and Business, library, clinics, treasurer's office, hostel and the area inside of University Malaysia Kelantan City Campus only.

### Sampling

A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Purposive sampling is also known as judgmental, selective, or subjective sampling. The reasons why researchers choose University Malaysia Kelantan is because of certain factors that researchers think can be beneficial to the research findings.

The sampling method used in this study was the convenient sampling method. It (also known as availability sampling) is a specific type of non-probability sampling method that relies on data collection from population members who are conveniently available to participate in the study.

In achieving reliable and valid sample of this study, the researchers used the equation from Krejcie & Morgan (1970) to determine the sample size. The formula is shown as below:

$$S = \frac{x^2 N p (1 - p)}{e^2 (N - 1) + X^2 p (1 - p)}$$

n = sample size

N = population size

e = the degree of accuracy expressed as proportion (0.05)

$x^2$  = chi-square of degree of freedom 1 and confidence 95% (3.841)

p = proportion of population (if unknown, 0.5)

### Data Analysis

There were three types of data analysis used in this study, that were frequency analysis and descriptive analysis. The data obtained was analysed by using Statistical Package for the Social Science (SPSS).

### FINDINGS

Table 1 shows that the demographic background of 191 respondents, which include age, gender, marital status, religion, position, professionalism and monthly income. The average age was  $34.10 \pm 6.857$ . According to an investigation by Ministry of Health Malaysia in 2015, out of respondents, 20,940 of them were 16 years and above.

The number of respondents is based on gender. From the result, the number of female is higher as compared to male respondents. Female staff calculated about 55.5% while male staff are only 44.5%. Previous research has shown that the majority of respondents were female 87.6% (Cheung, et al., 2015).

Moving on the marital status variables, here researcher can see that married staff has recorded the highest number which is 133 with 69.6% compared with the single staff accounted for 55 of them which brings up 28.8% whereby divorced staff are only 3 person with 1.6%. In University Malaysia Kelantan City Campus, staff are mostly married. Several studies have revealed that depression is less for women than for single men, widows or divorcees as compared to married people (Andrew & Bulloh, 2017).

Table 1 shows that most of the respondents' religion is Islam with 96.9% followed by Indian and Christian with 1.6% equally. However, there is no respondent with Chinese religion at all. Baetz et al. (2004) offered several possible explanations for the observed association between religion and higher level of depressive symptom.

According to position status, the higher number of administrative staff with 131 of them with 68.6% as compared to academic staff with 60 of them with 31.4% only. According to the Human Resource Department, there are 373 total of staff in University Malaysia Kelantan City Campus.

Furthermore, variable professionalism status stated that non-professional is higher than professional with 88.5% compared to professional with 11.5% only. Megan Seto (2012) identifies, the current model has the effect of attracting a greater number of disciplinary problems with statistic suggesting that 40% to 75% of disciplinary actions are against lawyers who are mentally ill.

The last variable is monthly income. Majority of staff who has income RM1001-RM3000 with 101 of them equal with 52.9%. In the second rank who is earning between RM3001-RM5000 with 54 of them with 28.3 percentage. In addition, the third rank revenue is more than or equal RM5001 with 22 of them with 11.5%. Lastly, the lowest revenue of staff is  $\leq$ RM1000 with 14 of them with 7.3%. According to the Department of Statistic Malaysia, the mean monthly household income for Malaysia increased to RM5228 in 2016.

### DISCUSSION & RECOMMENDATION

#### Objective 1: To determine the prevalence of depression, anxiety and level of stress among University Malaysia Kelantan staff.

Table 2 shows the data of prevalence of depression among staff in University Malaysia Kelantan. Based on the table above, it shows that staff with depression has recorded 108 with 56.5% whereby staff who mentioned no are 83 of them with 43.5%. Therefore, majority of the respondents are having depression. The findings of this study found a high prevalence of depression which is 56.5% among staff in University Malaysia Kelantan. Comparatively, low reporting rates was reported at 35.8% (Teris, Paul & Yip, 2015). According to Kuo et al. (2015), a low reporting rates was 27% of the prevalence of depression.

The data of prevalence of anxiety among staff in University Malaysia Kelantan is shown in the table 4.2. It shows that staff with anxiety has recorded 110 with 57.6% whereby staff who mentioned no are 81 of them with 42.4%. The findings of this study found a prevalence of anxiety which is 57.6% among staff in University Malaysia Kelantan. The findings were lower with the previous studies reported at 40% (Allison, 2002) and 15.6% (Daniel Eisenberg, 2007).



Table 2 shows the data of prevalence of stress among staff in University Malaysia Kelantan. Based on the table above, it shows that staff with anxiety has recorded 62 with 32.5% whereby staff who mentioned no are 129 of them with 67.5%. Studies have found that the prevalence of stress among the medical students was 29.6% which was lower than our research (Zaid, Chan, Ho, 2007). The prevalence of stress among Debre Birhan governmental and non-governmental regular health science college participants is 3.6 and this is a very low reporting rates (Ayele Mamo Abebe, Yilma Girma Kebede and Fikir Mengistu (2016).

The results reveals that, majority of UMK's staff have anxiety as compared to depression and stress. This is because number with anxiety respondents is over depression and stress.

**Objective ii: To determine the level of depression, anxiety and symptoms of stress among UMK's staff.**

Table 3 shows the level of depression, anxiety and stress among staff of University Malaysia Kelantan. According to the table above, there are five stages of each depression, stress and anxiety level. The stages are normal, mild, moderate, severe and extremely severe. Scoring for each of the level are determined using Depression Anxiety Stress Scale. Scoring for depression, normal: 0-4, mild: 5-6, moderate: 7-10, severe: 11-13 and extremely severe:  $\geq 14$ . Meanwhile for anxiety, normal: 0-3, mild: 4-5, moderate: 6-7, severe: 8-9 and extremely severe:  $\geq 10$ . Then, for stress, normal: 0-7, mild: 8-9, moderate: 10-12, severe: 13-16 and extremely severe:  $\geq 17$ .

From table 3 above, we can observe that firstly for depression most UMK's staff are having Normal level of depression involving 83 respondents with 43.5%, highest as compared to others. Next, for Mild score, there are 39 staff experienced it with 20.4%. It is followed by Moderate level with 48 of them with 25.1%. Then, moves to Severe level with 12 of them with 6.3%. The lowest score is Extremely Severe with just 9 of them with 4.7%.

Secondly, moves to the level of anxiety's score, we can see that Normal scale took place as the highest score with 81 of respondents or 42.4%. Next for Mild, scoring is 39 staffs with 20.4%. It is followed by Moderate score with 25 of them with 13.1%. Meanwhile for Severe score, there are 26 staffs experienced it with 13.6%. The lowest score is recorded by Extremely Severe with only 20 of them at 10.5%.

Thirdly, is the level of stress's score, for the Normal scale researcher finds out that there are 129 respondents with 67.5%. It is followed by Mild, scored by 22 staffs with 11.5%. Next, moves to Moderate scale; the score is 26 with 13.6%. Meanwhile, for the Severe scale, the score is recorded at also 11 staffs with 5.8%. Last, Extremely Severe scale is the lowest with only just 3 of respondents at 1.6%.

From this study, we can conclude that for each of Depression, Anxiety and Stress level, the Normal scale recorded the highest respondents as compared to others with respectively Depression scored by 83 with 43.5%, Anxiety at 81 with 41.5% and Stress at 129 with 67.5%. Even though the percentage is high and categorised as normal, the respondents who answered may have the symptoms but the respondents thought that they do experience a little symptom of depression, stress and anxiety. Meanwhile, Extremely Severe scale captured the lowest of respondents among all levels with Depression only 9 with 4.7%, Anxiety took 20 of them with 10.5% and Stress just 3 with 1.6%.

For the level of depression that scored by 43.5% is still counted as normal because even though the respondents who answered the questionnaire do have depression, but their level of depression are too low as compared to those respondents who are having mild, moderate, severe and extremely severe because they did have the symptoms of depression. This indicates that occupational stress among academicians is a problem, but not acute; it is just perceived differently among academicians. The findings is consistent with the studies conducted by Reddy and Poornima (2012), Raza (2012) and Zaheer et al. (2016) which documented moderate level of stress perceived by university teachers. On the contrary, Sliskoric and Sersdic (2011) conducted a study on work stress among university teachers and suggested that teachers in higher education are exposed to high level of occupational stress.

**Objective iii: To identify the relationship between demographic characteristic (gender, marital status, religion, position, professionalism and income) with the occurrence of depression, anxiety and symptom of stress among University Malaysia Kelantan staff.**

Table 4 shows the relationship between demographic characteristics with the occurrence of depression among UMK's staff. There is a significant relationship that existed between two variables when the P-value is less than 0.05.

Table 4 presents, the gender variable shown that there is 78 of respondents with 91.8% of male who have a depression and 7 of them with 8.2% do not have a depression. Therefore, the table also recorded that there is 84 respondent with 79.2% of

female who have a depression and 22 of them with 20.8% do not have a depression. Based on the analysis, there is a significant relationship between gender variable with the occurrence of depression among University Malaysia Kelantan staff. ( $X^2 = 5.741$ , P-value = 0.017). The result is preferred that female respondents have the higher occurrences of depression than male in the general population (Weissman & Klerman, 1977; Lynn & Martin, 1977; Cyranowski et al., 2000; Kendler et al., 2001; Nolen-Hoeksema, in press). The number of potential biological, psychological, genetic and social explanations have been formulated to explain this association, as it has integrative theories of depression (Veijola et al., 1998).

The marital status shows that the married recorded the highest data, 109 of them with 67.3% that have depression rather than single represented by 53 respondents with 32.7%. There are 24 married with 82.8% and 5 single respondents with 17.2% who do not have any occurrences of depression. The P-value between marital status and occurrences of stress among UMK's staff is 0.227 and the chi-square test value is 2.968. According to this analysis, there is no significant relationship existed between marital status and prevalence of depression among University Malaysia Kelantan staff.

From the religion variable, 156 of Muslim with 96.3% and 6 of Non-Muslim with 3.7% respondent have an occurrence of depression, however 29 of Muslim with 100% do not have prevalence of depression. The P-value between religion and occurrence of depression among University Malaysia Kelantan staff is 0.292 and the chi-square test is 1.109. Based on the analysis, there is no significant relationship existed between religion and occurrence of depression.

As illustrated in table 4, position variable stated that 117 of administrative staff with 89.3% and 45 academic staff with 75% that have an occurrence of depression. Although, 14 administrative staff with 10.7 and 15 academic staff with 25% do not have any occurrences of depression. Based on the analysis, there is a significant relationship existed between position and occurrence of depression among University Malaysia Kelantan staff. ( $X^2 = 6.546$ , P-value = 0.011).

The professionalism variable showed that, 151 of non-professionals with 89.3% and 11 of professional people with 50% have an occurrence of depression. Then, 18 non-professional respondents with 10.7% and 11 of professionals with 50% do not have a prevalence of depression. According to the analysis, there is a significant relationship existed between professionalism with the occurrence of depression among University Malaysia Kelantan staff. ( $X^2 = 23.405$ , P-value = 0.000).

The final segment is income level. There are 106 respondents with 65.4% of low income level and 34.6% of high income who have an occurrence of depression. Therefore, 9 respondents with 31% of low income category and 20 respondents with 69% of high income do not have a prevalence of depression. According to this analysis, there is a significant relationship existed between income level and the occurrence of depression among University Malaysia Kelantan staff whereby is the chi-square is 12.148 and P-value is 0.0\*. Since the P-value is greater than 0.05, researcher does not reject the null hypothesis. Rather, the researcher concludes that there is not enough evidence to suggest relationship between income level and a prevalence of depression.

Table 5 shows the relationship between demographic characteristics with the occurrence of anxiety among UMK's staff. There are significant relationships between two variables which is gender and income level.

Table shows a gender variables, 75 of male with 88.2% and 84 of female with 79.2% have occurrence of anxiety, but 10 of male and 22 of female with 11.8% and 20.8% do not have any occurrences of anxiety. The chi-square test showed the 2.734 and the P-value at 0.098. According to this analysis, there is a significant relationship existed between gender and the occurrence of anxiety among University Malaysia Kelantan staff.

Next is a marital status, 112 of married respondents with 70.4% are recorded as having an occurrence of anxiety rather than singles that only recorded 47 with 29.6%. Other than that, 21 of married with 65.6% and 11 of single with 34.4% are recorded not having any occurrences of anxiety. The P-value between marital status and occurrence of anxiety is 0.589 and the chi-square is 0.292. Based on this analysis, there is no significant relationship existed between marital status and the occurrence of anxiety among University Malaysia Kelantan staff.

The table of religion variable shows 153 of Muslim with 96.2% and 6 of Non-Muslim with 3.8% of them recorded as having an occurrence of anxiety. Therefore, the other 32 respondents do not have occurrence of anxiety. The P-value between religion and prevalence of anxiety is 0.264 and the chi-square test is 1.247. According to the analysis, there is no significant relationship between religion and the occurrence of anxiety among University Malaysia Kelantan staff.

Position variable showed 111 of administrative staff with 84.7% and the academic staff 48 of them with 80.0% as having occurrences of anxiety. Other than that, 20 of administrative staff with 15.3% and 12 of academic staff with 20.0% as do not have an occurrence of anxiety. The P-value between position and the occurrence of anxiety is 0.661 and the chi-square test

is 0.416. Based on this analysis, there is no significant relationship existed between position and the occurrence of anxiety among University Malaysia Kelantan staff.

The professionalism are divided by two variables which is non-professional and professional. Based on the table above, 142 of non-professionals and 17 of professionals with 84.0% and 77.3% as having an occurrence of anxiety. Although, 27 of non-professionals and 5 of professionals with 16.0% and 22.7% respectively are recorded as not having any occurrences of anxiety. The P-value between professionalism and the occurrence of anxiety is 0.636 and the chi-square test is 0.426. According to this analysis, there is a significant relationship existed between professionalism and the occurrence of anxiety among University Malaysia Kelantan staff.

Last segment in the table above is income level variable. There is 104 of respondents with low income level with 65.4% recorded as the highest group that has an occurrence of anxiety however 11 respondents of low income with 34.4% do not have occurrence of anxiety. The P-value between income level and the occurrence of anxiety is 0.001 and the chi-square test is 10.709. Based on the analysis, there is a significant relationship existed between income level and the occurrence of anxiety among University Malaysia Kelantan staff.

Table 6 shows the relationship between demographic characteristics with an occurrence of stress. There is a significant relationship between two variables which are professionalism and income level with prevalence of stress among University Malaysia Kelantan staff.

Table shows gender variable, 90 of female with 84.9% and 73 of male with 85.9% are recorded as having a prevalence of stress. Then, 16 of female with 15.1% and 12 of male with 14.1% are recorded as not having any occurrence of stress. The P-value between gender and the occurrence of stress is 0.85 and the chi-square test is 0.036. According to this analysis, there is no significant relationship existed between gender and the occurrence of stress among University Malaysia Kelantan staff.

Next, the marital status variable, 110 of married with 67.9% get the highest number of respondents that have an occurrence of stress rather than single. Then, 23 of married with 82.1% of them do not have an occurrence of stress. Single variable had 53 of them with 32.5% that have an occurrence and 5 of them with 17.9% do not have a prevalence of stress. The P-value between marital status and the occurrence of stress is 0.119 and the chi-square test is 2.428. Based on this analysis, there is no significant relationship existed between marital status and the occurrence of stress among University Malaysia Kelantan staff.

Other than that, religion variable stated 157 of Muslim with 96.3% have an occurrence of stress and 28 of them with 100% do not have an occurrence of stress. Non-Muslim recorded that 6 respondents with 33.7% have an occurrence of stress. The P-value between religion and occurrence of stress is 0.302 and the chi-square test is 1.064. According to this analysis, there is no significant relationship between religion and the occurrence of stress among University Malaysia Kelantan staff.

Then the position variable, there is 118 of administrative staff with 90.1% and 45 of academic staff with 75.0% are recorded as having an occurrence of stress while 13 of administrative staff with 9.9% and 15 of academic staff with 25.0% do not have occurrence of stress. The table above also shows that the P-value between position variable and the occurrence of stress is 0.006 and the chi-square test is 7.477. According to this analysis, there is a significant relationship existed between position and the occurrence of stress among University Malaysia Kelantan staff.

The professionalism variable, 152 of non-professionals with 89.9% and 11 of professionals with 50.0% are recorded as having an occurrence of stress. There is 17 of non-professionals with 10.1% and 11 of professionals with 50.0% of them do not have an occurrence of stress. The table above shows that the P-value between professionalism and occurrence of stress is 0.000 and the chi-square test is 24.822. Based on the analysis, there is a significant relationship existed between professionalism and the occurrence of stress among University Malaysia Kelantan staff.

The final segment is income level, 105 respondents that had low income with 64.4% recorded as having an occurrence of stress rather than the respondents that had high income level which only have 58 of respondents with 35.6% of them. There is only 10 of respondents from low income with 35.7% do not have an occurrence of stress. The table 4.6 shows the P-value between income level and the occurrence of stress is 0.004 and the chi-square test is 8.217. The analysis can be concluded based on the table above is that there is a significant relationship existed between income level and the occurrence of stress among University Malaysia Kelantan staff.

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**Objective iv: To identify the relationship between lifestyle factor (smoking habits, alcohol consumption, and physical activity) with the occurrence of depression, anxiety and stress among UMK's staff.**

Table 7 shows the relationship between the Social Lifestyle with the occurrence of depression. There is a significant relationship existed between two variables when P-value is less than 0.05.

Table 7 shows that for smoking variables, 13 respondents that were smoking have the occurrence of depression with 86.7% and only 2 of the smoking respondents do not have the occurrence of depression with 13.3%. 149 respondents that were non-smoker have the occurrence of depression with 84.7% and 27 respondents that non-smoker do not have the occurrence of depression with 15.3%. Based on the analysis, it stated that there is no significant relationship existed between smoking lifestyle and the occurrence of depression as the  $X^2 = 0.043$  and P-value = 0.835. Author discovers that 73% of the smoker with the occurrences of depression (Fluharty, Taylor, Grabski, Munafò, 2016). According to Khademalhosseini, Ahmadi, and Khademalhosseini (2015), most smokers from Iranian high school students have some degrees of depression and heavy smoking which are related to each other (Rashid, Kanagasundram, Danaee, Abdul Majid, Sulaiman, Ahmad Zahari, Ng, Francis, Wan Husin and Su, 2019). Being depressed will increased the risk of the smoker to use cigarettes daily, major depression has been associated in the past with increased rates of daily smoking and elevated rates of nicotine dependence.

From the table 7 shows that there is no association of alcohol consumption from the respondents. This explain that majorities of the respondents are Malays and Muslims in religion. In another study, Singh, Kaen, Hei, Tuthill, Allotey and Reidpath (2018) examined that 103 respondents that are Malays placed in Kuala Lumpur and have the lowest 5% in the binge drinking category. Previous study of Abdul Mutalip, Kamarudin, Manickam, Abd Hamid and Saari (2011) stated that only 0.9% of the Malays respondents drinks the alcohol in Malaysia. The result is consistent with Latiff, Tajik, Ibrahim, Abubakar and Albar (2016), indicating that Malays respondent is not the highest to drink alcohol among the secondary school students in Malaysia.

Physical activity recorded that 104 respondents with 81.9% that like to do physical activity have the prevalence of depression while 23 respondents with 18.1% do not have the prevalence of depression. 58 respondents with the highest 90.6% of having the prevalence of depression do not like to have physical activity and the other 6 respondents with 9.4% without having the prevalence of depression do not like to have physical activity. This study has found that the value  $X^2 = 2.521$  and P-value = 0.112. Since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between physical activity and prevalence of depression. This study findings was supported by previous study of Ku, Fox and Chen (2009) and Rothon, Bhui, Viner, Taylor and Stansfeld (2010). However, the previous study by Harvey, Hotopf, Overland and Mykletun (2010) has the different result that shows the significant relationship between the physical activity and prevalence of depression. The reason of discrepancy is not readily apparent, the association maybe due to factor such as the sample size of the study. Harvey et al. (2010) sample study was 33,925 participants. The other factor suggested was the lack of physical activity facilities provided for the staff in University Malaysia Kelantan.

Table 8 shows the relationship between social lifestyle and the prevalence of anxiety. There is a significant relationship existed between two variables when P-value is less than 0.05. The social lifestyle based on the Table 4.8 are smoking habits, alcohol consumption and physical activity with the total sample of (n=191).

Table 8 shows that 11 respondents who are smoking has the prevalence of anxiety with 73.3% than the 4 respondents who are smoking but do not have the prevalence of anxiety with 26.7%. 148 respondents with 84.1% are not smoking but have the prevalence of anxiety while 28 respondents with 15.9% aren't smoking and do not have the prevalence of anxiety. Based on the analysis, it stated that with  $X^2 = 1.147$  and P-value = 0.284. Since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between physical activity and the prevalence of depression. Based on the previous study (Rashid et al. 2015) also shows that the prevalence of anxiety is higher among the smokers than the non-smokers. There is no support for statistical interaction between smoking and anxiety as  $P = 0.93$  (Bjorngaard, Elvestad, Smith, Krokan, Vatten & Romundstad, 2012). However, based on the study made by McClave, Dube, Strine, Kroenke, Caraballo and Mokdad (2009), it shows that there is significant relationship between the smoking habits and the prevalence of anxiety which is the P-value<0.001. The reason for discrepancy is the different factors of geographic as the previous study was placed in United State while this study was placed in Universiti Malaysia Kelantan (UMK). The other factors suggested that the lifestyle in UMK was lack of respondents who are smokers. From this study, other factors that suggested to be applied for further study such as the smoking place and cafeteria may result in the significant contribution to smoking habits.

Based on table 8, since the P-value is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between alcohol and prevalence of anxiety. The reason for this was there is no respondent that consume alcohol and this factor cannot be used for this study. For this study, other factor can be implied

for further study such as music therapy, sleeping order and eating habits, which may have the significant contribution to prevalence of anxiety.

Table 8 shows that 98 respondents with 77.2% like to have physical activity and have the prevalence of anxiety while 29 respondents with 22.8% like to have physical activity but do not have the prevalence of anxiety. 61 respondents with 95.3% do not like to have physical activity and have the prevalence of anxiety while only 3 respondents with 4.7% do not like to have physical activity and do not have the prevalence of anxiety. This study has found that there is a significant relationship between physical activity and the prevalence of anxiety ( $X^2 = 10.048$ ,  $P\text{-value} = 0.002$ ). Active adults report fewer symptoms of anxiety than inactive adults. (Biddle and Asare, 2011). This shows that this study has the different result than the previous study. Taracki, Yeldan, Mutlu, Baydogan and Kasapcopur (2011) shows different result as the study has no significant relationship between two variables. The reason for discrepancy was due to the different sample size in study, there were 52 research participants involved in Taracki et al (2011). The other reason for discrepancy also due to the different set of questionnaire as this study used DASS set of questionnaire while the past study (Taracki et al., 2011) used the Screen for Child Anxiety Related Emotional Disorder (SCARED) set of questionnaire. Other factors should be implied for further study is such as the set of questionnaire that is more specific for the research sample.

Table 9 shows the relationship between the social lifestyle and the prevalence of stress. There is a significant relationship existed between two variables when  $P\text{-value}$  is less than 0.05. The social lifestyle based on the Table 4.9 are smoking habits, alcohol consumption and physical activity with the total sample of 191 ( $n=191$ ).

Based on the table 9, it shows that 11 respondents with 73.3% were smoking and have the prevalence of stress while 4 respondents with 26.7% were smoking but do not have the prevalence of stress. 152 respondents with the highest percentage of 86.4% were not smoking and have the prevalence of stress while 24 respondents with 13.6% were not smoking and do not have the prevalence of stress.  $X^2 = 1.876$  and  $P\text{-value} = 0.171$  were not statistically significant. Since the  $P\text{-value}$  is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between smoking and prevalence of stress. However, the previous study made by Gupta and Mehta (2011) shows that there is a significant relationship between smokers and the prevalence of stress as the sample research study were university students in Australia. Mediation analysis indicated that two negative emotions fully mediated the link between stress and intensity of smoking (Wang, Chen, Gong and Yan, 2016). Stress exposure led to significant increased nicotine craving and impulsive responding in smoker (Schepis, McFetridge, Chaplin, Sinha & Sarin, 2011).

Based on table 9, since the  $P\text{-value}$  is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between alcohol and prevalence of stress between alcohol consumption and the prevalence of anxiety. The reason for this was there is no respondent that consume alcohol and this factor cannot be used for this study. Almost all of the respondents are Muslim and respondents may conceal alcohol consumption. For this study, other factors can be implied for further study such as music therapy, sleeping order and eating habits, which may have the significant contribution to prevalence of anxiety.

Table 9 shows that 105 respondents with 82.7% like to do the physical activities and have the prevalence of stress while the 24 respondents with 18.3% like to do physical activity but do not have the prevalence of stress. 58 respondents with 90.6% do not do the physical activity although have the prevalence of stress while the lowest 6 respondents with 9.4% do not do the physical activity and do not have the prevalence of stress. Based on the statistic,  $X^2 = 2.149$  and  $P\text{-value} = 0.143$ . Since the  $P\text{-value}$  is greater than 0.05, we do not reject the null hypothesis. Rather, we conclude that there is not enough evidence to suggest an association between physical activity and prevalence of stress. Study from Roskoden, Charles, Krüger, Vogt, Gärtner, Hannich, Steveling, Lerch, and Aghdassi (2017) also has stated that there is no significant difference were found for overall physical activity. In a 2013 cross-sectional, correlational study among a sample of Thai nursing students, those with high stress levels reported poorer physical health, which was strongly associated with their psychological distress (Shankar and Park, 2016). Based on previous study by Michels, Nathalie, Sioen, Boone, Braet, Vanaelst, Huybrechts, and Henaau (2015), bidirectional relations were examined with cross-lagged analyses resulted that certain stress aspect increased the physical activity. There are factors that should be implied for further study which is the type of physical activity such as walking, swimming and cycling, that may change the statistic results.

## CONCLUSION

In conclusion, the prevalence of stress was highest among depression and anxiety. As for the level, researcher can conclude that UMK's staff have the highest normal level in stress compared to depression and anxiety. This is just a sample from 191 respondents. For relationship between demographic characteristic with the occurrence of depression, anxiety and stress, researcher can conclude that religion has the highest occurrence between other variables. Besides, for the relationship between lifestyles factors, physical activity has the highest prevalence in depression, anxiety and stress.

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## APPENDICES

Table 1: Number of respondents by variables (n=191)

Variables	Mean (SD)	Frequency (n=191)	Percentage (%)
Age	34.10(6.857)		
Gender			
• Male		85	44.5
• Female		106	55.5
Marital Status			
• Single		55	28.8
• Married		133	69.6
• Divorce		3	1.6
Religion			
• Islam		185	96.9
• Indian		3	1.6
• Christian		3	1.6
• Chinese		0	0
Position			
• Academic Staff		60	31.4
• Administrative Staff		131	68.6
Professionalism			
• Professional		22	11.5
• Non- professional		169	88.5
Monthly Income			
• ≤RM1000		14	7.3
• RM1001-RM3000		101	52.9
• RM3001-RM5000		54	28.3
• ≥RM5001		22	11.5

Table 2: Prevalence of Depression, Anxiety and Stress

Variables	Frequency (n=191)	
	Yes (%)	No (%)
Depression	108 (56.5)	83(43.5)
Anxiety	110 (57.6)	81(42.4)
Stress	62 (32.5)	129(67.5)

Table 3: level of depression, anxiety and stress

Variables	Frequency (n= 191)	%
Depression		
• Normal	83	43.5
• Mild	39	20.4
• Moderate	48	25.1
• Severe	12	6.3
• Extremely severe	9	4.7
	81	42.4
	39	20.4
	25	13.1
Anxiety	26	13.6
• Normal	20	10.5
• Mild		
• Moderate	129	67.5
• Severe	22	11.5
• Extremely severe	26	13.6
	11	5.8
	3	1.6
Stress		
• Normal		
• Mild		
• Moderate		
• Severe		
• Extremely severe		



Table 4: The relationship between demographic characteristic with the occurrence of depression among UMK's staff.

Variable	Occurrences of Depression		x <sup>2</sup>	P-value	
	Yes n (%)	No n (%)			
<b>Gender</b>					
	Male	78 (91.8)	7 (8.2)	5.741	0.017*
	Female	84 (79.2)	22 (20.8)		
<b>Marital Status</b>					
	Single	53 (32.7)	5 (17.2)	2.786	0.095
	Married	109 (67.3)	24 (82.8)		
<b>Religion</b>					
	Muslim	156 (96.3)	29 (100.0)	1.109	0.292
	Non-Muslim	6 (3.7)	0 (0.0)		
<b>Position</b>					
	Academic Staff	45 (75.0)	15 (25.0)	6.546	0.011*
	Administrative Staff	117 (89.3)	14 (10.7)		
<b>Professionalism</b>					
	Non-professional	151 (89.3)	18 (10.7)	23.405	0.000*
	Professional	11 (50.0)	11 (50.0)		
<b>Income</b>					
	Low Income	106 (65.4)	9 (31.0)	12.148	0.000*
	High Income	56 (34.6)	20 (69.0)		

\*significant less than 0.05

Table 5: The relationship between demographic characteristic with the occurrence of anxiety among UMK's staff.

Variable	Occurrence Of Anxiety		x <sup>2</sup>	P-value
	Yes n (%)	No n (%)		
<b>Gender</b>				
Male	75 (88.2)	10 (11.8)	2.734	0.098
Female	84 (79.2)	22 (20.8)		
<b>Marital Status</b>				
Single	47 (29.6)	11 (34.4)	0.292	0.589
Married	112 (70.4)	21 (65.6)		
<b>Religion</b>				
Muslim	153 (96.2)	32 (100.0)	1.247	0.264
Non-Muslim	6 (3.8)	0 (0.0)		
<b>Position</b>				
Academic Staff	48 (80.0)	12 (20.0)	0.661	0.416
Administrative Staff	111 (84.7)	20 (15.3)		
<b>Professionalism</b>				
Non-professional	142 (84.0)	27 (16.0)	0.636	0.425
Professional	17 (77.3)	5 (22.7)		
<b>Income</b>				
Low Income	104 (65.4)	11 (34.4)	10.709	0.001
High Income	55 (34.6)	21 (65.6)		

\*significant at p-value less than 0.05

Table 6: The relationship between demographic characteristic with the occurrence of stress among UMK's staff.

Variable	Occurrence Of Stress		x <sup>2</sup>	P-value	
	Yes n (%)	No n (%)			
<b>Gender</b>					
	Male	73 (85.9)	12 (14.1)	0.036	0.85
	Female	90 (84.9)	16 (15.1)		
<b>Marital Status</b>					
	Single	53 (32.5)	5 (17.9)	2.428	0.119
	Married	110 (67.9)	23 (82.1)		
<b>Religion</b>					
	Muslim	157 (96.3)	28 (100.0)	1.064	0.302
	Non-Muslim	6 (3.7)	0 (0.0)		
<b>Position</b>					
	Academic Staff	45 (75.0)	15 (25.0)	7.477	0.006
	Administrative Staff	118 (90.1)	13 (9.9)		
<b>Professionalism</b>					
	Non-professional	152 (89.9)	17 (10.1)	24.822	0.0*
	Professional	11 (50.0)	11 (50.0)		
<b>Income</b>					
	Low Income	105 (64.4)	10 (35.7)	8.217	0.004
	High Income	58 (35.6)	18 (64.3)		

\*significant at p-value less than 0.05

Table 7: The Relationship between the social lifestyle and the Prevalence of Depression

	Prevalence Of Depression		x <sup>2</sup>	p-value
	Yes n (%)	No n (%)		
<b>Smoking</b>				
• Yes	13(86.7)	2(13.3)	0.043	0.835
• No	149(84.7)	27(15.3)		
<b>Alcohol</b>				
• Yes	0(0)	0(0)	0.000	0.000*
• No	162(84.8)	29(15.2)		
<b>Physical Activity</b>				
• Yes	104(81.9)	23(18.1)	2.521	0.112
• No	58(90.6)	6(9.4)		

\*Significant at p-value less than 0.05

Table 8: The relationship between social lifestyle and the prevalence of anxiety

	Prevalence Of Anxiety		$\chi^2$	p-value
	Yes n(%)	No n(%)		
<b>Smoking</b>				
• Yes	11(73.3)	4(26.7)	1.147	0.284
• No	148(84.1)	28(15.9)		
<b>Alcohol</b>				
• Yes	0(0)	0(0)	0	0
• No	162(84.8)	29(15.2)		
<b>Physical Activity</b>				
• Yes	98(77.2)	29(22.8)	10.048	0.002
• No	61(95.3)	3(4.7)		

\*Significant at p-value less than 0.05

Table 9: The relationship between the social lifestyle and the prevalence of stress

	Occurrence Of Stress		$\chi^2$	p-value
	Yes n(%)	No n(%)		
<b>Smoking</b>				
• Yes	11(73.3)	4(26.7)	1.876	0.171
• No	152(86.4)	24(13.6)		
<b>Alcohol</b>				
• Yes	0(0)	0(0)	0	0
• No	162(84.8)	29(15.2)		
<b>Physical Activity</b>				
• Yes	105(82.7)	24(17.3)	2.149	0.143
• No	58(90.6)	6(9.4)		

\*Significant at p-value less than 0.05