

**PSYCHOLOGICAL AND SOCIO-ENVIRONMENTAL FACTORS AS CORRELATES  
OF QUALITY SLEEP AMONG IN-SCHOOL ADOLESCENTS IN SOUTHWESTERN,  
NIGERIA**

**BY**

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## ABSTRACT

Good quality sleep is essential for physical and mental alertness. However, evidence have shown that many in-school adolescents experience poor quality sleep which makes it impossible for them to adequately perform daily routine. Previous studies have focused largely on interventions aimed at improving quality sleep with little emphasis on psychological and socio-environmental factors. This study, therefore, was designed to examine the influence of some psychological (anxiety, depression, psychological stress and neuroticism, and socio-environmental (use of social media,' drug abuse and physical home environment) factors on quality sleep among in-school adolescents in southwestern, Nigeria.

The study was anchored to Oswald's Restoration Theory of Sleep, while the survey design was adopted. Multistage random sampling technique was used. Three states (Ekiti, Ogun, and Oyo) were selected, while three Local Governments Areas (LGAs) in each state were selected. Two Senior Secondary Schools (SSS) were sampled from each LGA. A total of 100 SSSII students were randomly selected from each school. Instruments used were Family Packed Questionnaire ( $\alpha=0.75$ ); Pittsburgh Sleep Quality Index ( $\alpha=0.85$ ); Beck Depression ( $\alpha=0.80$ ); Psychological Stress Adolescent ( $\alpha=0.82$ ); and Neuroticism ( $\alpha=0.88$ ) and Hamilton Anxiety ( $\alpha=0.78$ ) inventories; and Social-networking Time Use ( $\alpha=0.92$ ) and Adolescent's Drug Involvement ( $\alpha=0.93$ ) scales. These were complemented with in-depth interviews with selected in-school adolescents across the three states. Data were analysed using descriptive statistics, t-test, Pearson product moment correlation and Multiple regression at 0.05 level of significance, while qualitative data were content analysed.

Respondent's mean age was  $15.35 \pm 1.49$  years. Seventy percent had poor quality sleep, while 19.4% of the participants experienced good quality sleep. Psychological stress ( $r=0.25$ ), neuroticism ( $r=0.18$ ), depression ( $r=0.15$ ), drug abuse ( $r=-0.13$ ) social media use ( $r=0.10$ ), and anxiety ( $r=0.07$ ) had significant relationship with quality sleep, but physical home environment did not. Psychological and socio-environmental factors had a joint significant prediction on quality sleep ( $F_{(7;1792)}=27.99$ ;  $\text{Adj}R^2=0.99$ ) accounting for 9.9% of its variance. Psychological stress ( $\beta=0.20$ ) depression ( $\beta=0.13$ ), neuroticism ( $\beta=0.09$ ), use of social media ( $\beta=0.08$ ), adolescent drug abuse ( $\beta=-0.072$ ) and anxiety ( $\beta=-0.07$ ), contributed relatively to quality sleep. There was a significant difference between the quality sleep of male ( $\bar{x}=22.46$ ) and female ( $\bar{x}=20.01$ ) in-school adolescents. Problem of falling asleep, and waking up at night were major sleep problems experienced by the respondent. Also, adolescents experienced regular insomnia in the morning.

Psychological stress, depression, neuroticism, adolescent drug abuse and anxiety influenced quality sleep among in-school adolescents in southwestern Nigeria. Counseling and clinical psychologists should pay attention to these factors for improved quality sleep among adolescents.

**Keywords:** Quality sleep, In-school adolescents, Drug abuse, Home environment

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## **CERTIFICATION**

This project was carried out under my supervision by **Juliet Odion EBOMA (80610)** in the Department of Guidance and Counselling.

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## **DEDICATION**

This research is dedicated to my immediate family.

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## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

Sleep is a behavioural state that constitutes a natural part of every individual. Repose, indubitably is innately frequent activity that is depicted by dilute or deficiency of perception, comparatively suspended; tactile, visual, auditory and other sensory actions in human, and inaction of practically all unconstrained muscles. Certainly, human might have experienced the effects of inadequacy of sleep or excessive amount of it. The effects can either hinder human's daily activities or serve as benefits. Sleep is incredibly vital to human cognitive system because during sleep the brain is able to recharge and make room for new information. While resting, the body possessed the ability to recover from mental pressure or worry caused by human daily activities. People from all age brackets require the normal condition of rest in which the eyes are closed, the body not active and the mind not alert; the children, adolescents, adult and the elders and Quality of sleep expected of any individual depends on the age group.

Quality Sleep (QS) is a salient aspect of human physiology that underpins psychological workings, and behavioural manifestations. Good QS is the physical and mental necessity of the basic human performance, while inadequate sleep on the other hand can lead to daytime drowsiness and sleep deprivation which affects the consolidation of memory, attention and anger, the cardiovascular system, the immune system, the temperature, the glucose list and destroy the health of an individual (Gabriel, 2017). Most importantly, QS is good for a wide range of positive effects on everyday work for everyone. For example, good QS provide an opportunity for the body to physically and psychologically recover from the day, as well as the mind to store memories of the tasks that were learned that day (Wynter, 2012). Physiological resuscitation hits its peak as a result

of good quality, while the metabolism of the body is at its lowest levels. Also, the brain uses sleep to learn the tasks that have been practiced during the day. Good QS enables the brain to facilitate learning of new skills, even without further physical practice. That is, learning without practice becomes reality while unalloyed relaxation and optimum quality sleep occurred. Sleep is also vital for infusion and coordination of fresh recollection. As soon as brain accomplished fresh recollection, the intensity of performance and execution of tasks attains the optimum. Having accomplished required quality of sleep, the proficiency to refine knowledge as well as intelligence becomes reality, principally attainment of remarkable expansion in erudition. With good QS, ability to process new information is allowed for all forms of performance, especially academic achievement is increased. It helps school-going adolescents' ability to pay attention which is a key function of everyday life, without attention span, information is not processed and task can be neglected or forgotten.

Quality sleep is also an important index for maintaining cognitive development and overall normal functioning of adolescents. According to WHO's (2015) definition of juvenile, adolescent ages are between the ages 10 and 19. Adolescents need a good quality sleep because they are still undergoing physical and cognitive development. Quality sleep in this study is conceptualized as a situation that is influenced by explicit interference with undulation of the brain, circulation of blood, respiration, temperature of the body and other biological systems. Sleep not only aids the other physiological processes in humans but also, the psychological and social mechanisms. QS may be defined as a naturally occurring state of the body within relatively inhibited sensory activity, reduced metabolic rate and decreased interaction with the surrounding (Okubadejo, 2014). That is, sleep is a natural state whereby an individual is unconscious of what is happening around the surroundings.

Sleep is acknowledged as being indispensable to human and it is deduced that any inadequacy of it is detrimental to a part, probably the entirety of bodily functions while innumerable disorders in human healthiness ineluctably emerge. Notable malfunctions entail; mood problem, leading to externalizing behaviours, irritability, it impairs cognitive performance, and short attention span. Toroni and Silley (2014) argued that sleep is from brain. The vital roles of sleep reflect the intellectual evolution, the reduction of nervousness, flexibility, preparation, recollection consolidation, knowledge, and thought supports the conclusion that sleep is crucial to brain performance. That is, sleep is crucial not only to perform brain optimization but also to perform optimum work for the body as well. Significantly, sleeping satisfactorily is requisite to conquer everyday stress and avert accumulating dangers emerging as a result of protracted effects of stress human health.

There are different determining factors for quality sleep in human beings. While some individuals may agree that QS depends on the length of time a person sleeps, others may strongly concur with the view that it has to do with the liveliness of a person at time awake. This connotes that QS may be regarded as a subjective construct especially to different persons at different developmental stages, which may have varied feelings and reactions at time awake and at the level of consciousness. However, with recent findings in research, quality sleep could be objectively measured and determined when it meets certain criteria or yields a score on a range of standardized scores. However, whatever the perspective of any interested researcher in the field of sleep, it is important to enhance memory, learning and denial of results in drowsiness, neurological and cognitive weakness, psychological performance, learning abilities and academic performance output (Nojomi, 2009).

According to Argyropoulos (2008), Quality sleep mostly affects adolescents' sense of balance and coordination, feelings and mood, physical activities. It is imperative for adolescents to consistently have good QS for optimal body, mind development, and functioning, and stress-free living, as the adolescence stage is known to be a period of sharp storm and stress. The United States National Sleep Foundation (2017) asserted that the overall well-being of adolescents may be anchored on QS due to the fact that sleep is food for the brain. A number of biological, psychological and social components that emerge from inadequate sleep, interplay at juvenile, which one could describe as 'the perfect storm' (Carskadon, 2011). At this stage of human existence, it is inevitable that bodily changes emerge. Such changes which depend on whether or not standard QS is attained encompass; mental, psychological, intellectual, emotional and social aspect (for example physical development, cerebral development, attitudinal aspect, perception, attention, size of memory, performance in academics among others.). Approximately, it is suggested that the hours of sleep for adolescents, optimal functioning is 9 hours of sleep per night (Carskadon and Acebo, 2002). According to Ohayon, (2000); Carskadon, (2002); and Johnson, (2006) people need more sleep during adolescence than during pre-puberty.

Okubadejo (2014) pointed out that adolescents and older children suffer from lack of sufficient amount of sleep otherwise known as sleep deprivation. There are two reasons for this: Inability to sleep for adequate number of hours and not having quality sleep. The reasons for these may be because the adolescents get involved in school, studies after-school activities, electronic mobile devices, certain commitments, circumstances etc. A lot of negative health circumstances that are associated with poor sleep, which include type-2 diabetes, hypertension, obesity, and premature mortality as well as a advanced occurrence of mental health illnesses which includes depression, anxiety, eating disorders, and dementia. It has been observed that sleep of less than 7 hours



heightened the rates of mortality and has been seen as a major risk factor for the negative penalty cardiovascular system, endocrine, immune and nervous systems, such as obesity among adult children, diabetes, poor tolerance of glucose, heart disease blood vessels and hypertension, mood disorders, anxiety, drug abuse (Meerlo, Sgoifo and Suchecki, 2008).

Genes and the environment are organized sleep, such as all other complex phenotypes. Although many sleep problems take place in many families, very few have a fixed hereditary basis, but their number is increasing. Recent advances in molecular genetics have led to the finding of orexin shortages in narcolepsy, and refer to the need for similar approaches in order to understand the molecular basis of other sleeping problems (Morart, Duvelère, and Tavti, 2003). There are a large number of family sleeping problems which suggest that genetic factors may play an important role. Sleep is a complex behaviour and different aspects vary in its organization and interact with each other and the environment. Each of these aspects is likely to be under the control of many genes, so each element of sleep must be considered a complex feature. Any faulty expression and sleep regulation results in complex sleep problems that require integrated clinical and laboratory investigations. Genetic anatomy of well-privileged sleeping problems can improve our ability to better treatments as well as provide basic insights in the basic neurobiological foundations of normal sleep and alertness (Morart, Dovièrè and Tavti, 2003).

Sleep is grouped generally into two types: rapid-eye animation (REM) sleep and non-rapid sleep (NREM). Bicycles from side to side all of the sleep stages are long enough for the time required to be completely rested. There are four stages of sleep that ranges from drowsiness to deep sleep. In the early stages (first and second), individuals wake up easily and may not even know they were asleep. In the deepest (third and fourth) stages, waking is not easy. When individuals in the third and fourth phases were awakened, they might feel confused. Sleep in individual muscles that are

more stress-free when awake. Although the sleeper in the third and fourth phases is capable of moving, this does not occur because it is difficult for the brain to send signals to the muscles to move. The active sleep refers to Sara's sleep, which is when the dream happens. While sleeping Sara, breathing and heart rate becomes uneven, the eyes quickly move back and forth under the eyelids, body weakness and even the warmth of the sleeper does not sweat when hot or shiver when cold. Under the neck, however, the body is basically paralyzed because the nerve impulses of the muscles are clogged. Both REM and NREM sleep states grow before childbirth. Sleep patterns and amount of sleep changes necessary from infancy to infancy, but at age four, most children sleep 10 hours a night and cycle through sleep patterns like a lot of adults.

There is an important need to build on whether there is a genetic interpretation of poor quality among adolescents. Sleep problems are often discovered at childhood and adolescence, also family history is frequently present (Nunes, 2002). It is very diffuse and has represented the emerging worldwide epidemic (Tavti, Dufelaire and Excel, 2007)., Among other factors, lies in the results of the importance of diagnosing and treating the poor quality of children and that sleep and temper are important factors influencing school achievement. In dissimilarity to the luminous sequence in molecular genetics of the Chadian rhythms, little is known about the molecular basis of normal sleep. The question of sleeping job is still begging for an answer in biology (Macovitz, Shukla, Rummer, Gantite, Zimmerman and Naidu, 2007). Many sleep problems of family repetition but so far the research in molecular genetics of poor sleep is still surprisingly one of the last active fields (Bahammam, 2011). Genetics studies were mostly confined to the narcolepsy syndrome and restless legs and stopped breathing during obstructed sleep.

The lack of sleep among adolescents has been shown to be negatively correlated with poor attention, memory and problem-solving tasks, with negative effects on academic performance. Insufficient quantity and quality of sleep are connected with poor school performance, mental health problems, poor social capacity and behavioural problems, assaults, accidents, obesity development, and accompanying disorders in adolescents (Davila, 2010). During sleep deprivation, awake sleep cycles can become weak, usually leading to drowsiness in the daytime, when the individual does not sleep, and feels fatigue and focus on issues, making decisions, thinking clearly, suffers from a lack of appetite (Chessler, 2015). Although the loss of persistent sleep is uncommon, the accumulated lack of sleep all the time can lead to a 'sleep debt' which drastically interferes with the quality of life. The consequences include the high rate of mental difficulties, which includes depression and/or anxiety, over-anxiety/ruminants, internal conflict absorption and health concerns.

A study by Ludvigsson, (2008) noted the prevalence of poor quality sleep among adolescents. The National Commission on QS Research in America approximated that about 70 million of total population of the United State of America suffer from poor QS. And out of the estimated population, about 40 million have chronic sleep disorders. In Brazil, the study by Bernardo, Pereira, Louzada and D'Almeida (2009) acknowledged a prevalence of 39% of adolescents with short sleep duration. In United States of America, the prevalence of sleep instability among adolescents appears to be of significant degree affecting about one third of adolescents ranging from 10 – 48% (Aldabal and Bahammam, 2011). In Australia, many adolescents (66%) have sleep patterns indicative of sleep problems (Short, Gradisar, Gill and Camfferman, 2013). In Norway, Sivertsen, Pallesen, Stormark, Bøe, Lundervold and Hysing (2013) estimated the prevalence of Delayed Sleep Phase Syndrome(DSPS) in adolescents. This high prevalence of DSPS overlaps

with insomnia according to the authors. Among Chinese adolescents, sleep disturbance is prevalent, being associated with depressive symptoms (Guo, Deng, He, Deng, Huang, Huang, Gao and Lu, 2015).

Al-Hazzaa, Musaiger, Abahussain, Al-Sobayel and Qahwaji (2012) noticed a high prevalence of short sleep duration among Saudi Arabian adolescents 15- to 19-year olds. In Egypt, bedtime problems and daytime problems are common among adolescents. The prevalent sleeps are related to deliberate self-harm and aggressive behaviours (Sabri, 2017). In Nigeria, Igbokwe and Adeyemi (2012) observed that early insomnia was experienced by 57% of adolescents with Brain Fog Syndrome cases, while 55% of adolescents with non-Brain Fog Syndrome cases experienced early insomnia. These observations according to the authors point to clinically significant psychological breakdown and impairment in cognitive functioning among in-school adolescents. Likewise, Maduabuchi, Obu, Chukwu, Aronu, Manyike and Chinawa (2014) posited that about 71.9% adolescents have various sleep disorders ranging from sleep talking, sleep walking, teeth grinding (bruxism), restless legs syndromes, to acting out dreams. Also, Sanya, Kolo, Desalu, Bolarinwa, Ajiboye and Tunde-Ayinmode (2015) observed that a substantial number of secondary school teenagers in Nigeria have average night time sleep duration and so have potentials to transit into the problematic insufficient range of sleep disorders. Similarly, Balogun, Alohan and Orimadegun (2017) asserted that astonishingly poor sleep quality exists among about 50% schooling adolescents in Nigeria, and sleep problems are rampant, particularly among those with short sleep duration.

Adolescents' sleep behaviour differs from adults sleeping habits. This difference is noticeable in the strength and energy usually displayed by adolescents. Adolescence is characterized with change in sleep-patterns due to individuals' involvement in some activities that keep them awake

throughout the night. Notable activities include; chatting with friends, watching movies, making calls and surfing the internet. Nearly all the listed activities and other congruent ones reduce the duration of sleep the adolescents could observe per day and intensify the harmful effects on the generally well-being and life styles of the adolescents. Consequently, prolonged sleep disturbance could lead to sleep deprivation, poor QS and sleep disorder. Ferrara, (2001) pointed out that sleep problem is connected with gene, social, environment and psychological wellbeing of an individual. This means the number and timing of sleep and architecture (sleep stages) is single-minded by a number of factors. The most vital of these areas are: the environment; the rhythms of the circadian; the genetic mentality and the time awake. Jenie (2007) said that the deprivation of sleep in adolescents could lead to some cognitive difficulties such as: concentration difficulties, mental drift, exit in class, shorten the period of attention, poor memory, make bad decisions, lack of enthusiasm, delay, risk taking behaviour, slower physical reflexes, clumsiness, and tiredness. Thus, there are other factors that predict QS of adolescents that have not been adequately employed. It is based on this that this present study intends to investigate some psycho-genetic and socio-environmental factors as correlates of QS among juvenile students in the South-West, Nigeria.

Anxiety is one of the psychological factors that can affect quality sleep (QS). It was discovered that human anxiety has been raised from painful experience and a combination of genetic weakness (American Psychiatric Association, 2006). Fear is a strong psychological experience because of its crucial purpose in getting together the responses needed to stay alive. Natural anxiety is an evolutionary adjustment that everyone has experienced at one time or the other, but extreme fear is devastating and may show anxiety disorder. Diagnosis of anxiety is possible in the presence of sleep disorders. By contrast, the diagnosis of the basic sleeping problem can only be

done after the anxiety disorder is excluded (American Psychiatric Association, 2006). According to the DSM standards, the generalized anxiety disorder diagnosis is connected with three or more of the subsequent six symptoms: "Insomnia from a sensation of nervousness or on the edge; easily getting weary; inability to concentrate or having a mind going blank; touchiness; muscle tension and sleep disorders (American Psychiatric Association, 2006). According to the DSM criteria, the diagnosis Generalized Anxiety Disorder is connected with three or more of the following six symptoms: "restlessness of feeling keyed up or on edge; being easily exhausted; muscle tension and sleep disturbance. For this diagnosis in children, only one of these six symptoms is required. However, the DSM criteria do not address a potential long term, predictive association between anxiety and sleep problems. The existence of sleep problems in childhood might predict anxiety later on and vice versa. Hypothetically, in children, anxiety symptoms result directly in sleep problems; or sleep problems result directly in anxiety problems; or anxiety problems and sleep problems have a similar underlying risk factor X. Accordingly, research has identified several environmental factors strongly related to sleep, anxiety and the development of neurophysiologic systems, cognitions and behaviours that may underlie their connection (El-Sheikh, 2011; El-Sheikh and Erath, 2011).

Psychological stress is also noted to contribute to poor quality sleep. Early school start-up times and external obligations for adolescents, for example; work after school, extracurricular activities, lifestyle choices and social activities affect the quality of service (Carskadon and Esdisto, 2002; Johnson 2006). These external obligations and early study hours can have a strong negative impact on the performance of adolescents because of their negative effects on their day-care and sleep-related behaviours. For example, the timetable, school requirements, extracurricular activities and work may lead to a significant reduction in sleep and subsequent day-to-night

drowsiness, especially among adolescents (Carskadon, 2003). Family stress and maternal stress, as well as specific sleep-time practices, such as bed sharing, and a special bedroom with sleeping problems (Cherven, 2003) have been linked. Many of the contributory factors during the teenage years increase the demand for evening activities for teenagers competing for bedtime. The following are the demands the adolescents experienced which includes social activities, sports, part-time work, and increased workloads for academic work (Wolfson, 2003). The loss of sleep in adolescents who must wake up early to attend school (Wolfson, 2007) is compounded by this, coupled with late bedtime, leads to a decline in total sleep time, which is considered insufficient for sleeping syndrome.

Early depression (before the age of twenty-first) was a real concern because individuals have the longest episodes, higher repetition rates, and increased in hospitalization and upper overall rates of common pathological disorders, including drug abuse disorders (Greden, 2001). For teenagers, depression is associated with poor health and behavioural outcomes, including increased risks of subversive behaviours, and anxiety, drug abuse, non-mammogram sexual practices, and potential participation in battles (Saluga, 2004). In the school context, symptoms of depression are associated with low achievement in testing, low grades of rated teachers, and poorer relationships among peers. Having depression during adolescence may also lead to a low concentration of learning, which will have negative effects on career choices for life and socio-economic status. Although depression generally responds largely to treatment, the estimation and diagnosis rates are low among adolescents (Hirschfeld, 2007). According to Cohen, 2005, reasons for the low rates of recognition are relatively unknown, but individual, family and societal factors are likely to be important. Parents are believed to be particularly important because they often need the ability to recognize the symptoms of mental illness in order to begin the process of obtaining treatment for

their child. Proofs from the transition experience shows that living uniqueness are important indicators of psychological health (Katz, 2001; Leventhal and Brooks-Gunn, 2003).

People who suffer from depression always have difficulty sleeping well. Individuals with insomnia problem or sleep problems often have a higher risk of depression. Often more than not, not all individuals who suffer from depression and sleep challenges and not all who have trouble sleeping and depressed, it is more common only. Improved sleep may help to reduced depression. Depression and sleep problems may be reduced with exposure to bright light (outdoors or artificial). The bond between sleep disorders and major depression is a very strong one. The connection involving the two is so vital that suggestion made by some researchers that the diagnosis of depression in the absence of sleeps complaints should be carefully (Jindal and Thasi, 2004). Sleep disorders are some of the main symptoms of the disease; and this may be the rationale that depressed patients look out for help first, which is one of the few factors that proved the risk of suicide (Agargon, Kara and Sumaz, 2007). Sleep disturbed is a very worrying symptom whereby having a huge effect on the quality of life in depressed patients (Katz and Sherney, 2002).

The link between personality trait and the amount of an individual's sleep has so far gained a little attention in research. There are some evidence to show that characteristics of the neuroticismpersonality trait are to some extent linked to sleep problems. On the other hand, findings from research shows no clear structure of these links or provide a theoretical framework explaining relationships (Grey and Watson, 2002; Huck and Wellington, 2005; Swahner, Kennedy and Monk, 2007; Finance and Recekinen, 2009). Research on neuroticism and sleep association is based on experiences of sleep deprivation, touch-based measurements, personal sleep and sleep questionnaires. The importance of sleeping for issues such as confidence and mood states in general was decisive in studies that assess quantity and quality (bonnet, 2005; Blackshire and



Havect, 2006; Huck and Lexington, 2005), while the studies linking the five big features of sleepin which neuroticism is concentrated on are not sufficiently present in literature. According to the researchers in the personal project, the theme is a cohesive pattern of influence, cognition, and desires as it leads to behaviour.

The most common personal framework is the five major or five core dimensions of the personality model often referred to as the big five, features 5 themes in which neuroticism is majorly concentrated on in this study. The five personal broad features described by the theory are aversion, compatibility, openness, conscientiousness, and neuroticism. For example, it encompasses the features associated with aversion; sociable, resolute, cheerful, outgoing, lively, talkative, articulate, loving, friendly, amiable, and socially confident. People who are abroad tend to seek opportunities for social interaction. Harmonious is associated with the following features; Altruism, confidence, humble, humble, patient, sensitive, and useful. The lofty people in harmonious tend to be lovable, respectful and sensitive. Openness to experience is linked to the following features; Imagination, Insight, original, creative, and preference for diversity. An individual who is high in openness is likely someone who has a love of learning engages in a creative career and loves to meet new people (Lipowitz, 2016). The conscientiousness is associated with a continuous, ambitious, energetic and resourceful scheme. Someone who is high in consciousness is likely to be successful in school and career (Leibletz, 2016). Neuroticism which is the key personality trait concentrated on in this study is associated with the following features; awkward temper, a jealous, anxious, cautious, timid, unsure, overly sensitive. Those high in nerves are usually given to worry, sadness, anxiety, low self-esteem (Lebowitz, 2016).

Social Media use is a variable of interest in this study. It belongs to the category of social-environmental factors that may predict QS among school-going adolescents. It entails use of social media mechanisms like Facebook, WhatsApp, Instagram, Badoo, 2go, Yahoo messenger, internet communication like Twitter, Google messenger, Skype, Snap chat, BlackBerry messenger, and so on to exchange information and ideas among youth. Like the adolescents. According to Carskadon, 1998, there is substantial evidence that increased computer or mobile phone activity at night) and the presence of televisions and computers in the bedrooms has a significant delay in the onset of sleep in the age group (Johnson and Van den Buick, 2004; Age, 2006). But little is known about the associations between the use of social media and the quality and quantity of sleep. SM has been defined as a "software package that enables individuals and communities to gather, communicate and participate, and in some cases collaborate or play" (Microsoft Technology Research Festival, 2009) and "A collection of Web-based applications that build on ideological foundations The technological web 2.0, which allows the creation and exchange of content created by the user "(Kaplan and Hinlin, 2010). The rapid growth rate of social media use in recent years (Dujan, 2015) raises the alarm that the use of social media may have an unfavorable impact on the quality of sleep. With the increasing use of various electronic media, such as television, computers, video games, mobile phones and audio devices, it has become increasingly important to investigate how the use of the media influences the lifestyles of individuals.

Among the environmental mechanisms, research points to the role of the relationships and family environment as factors to consider in the connection between childhood anxieties and sleep disruption. For example, in a large longitudinal twin study, associations between sleep problems at age 3-4 years and anxiety at age 7 years were mediated by shared environment factors (Gregory, 2004). In another study, researchers found that maternal depression and family disorganization

(for example, lack of structure/routine/limit setting in the home) each accounted for 30% of the variance in the connection between sleep problems and anxiety at age 3-4 years (Gregory, 2005). While additional studies examining specific family and parenting factors are lacking, especially in clinically anxious youth, existing studies within each phenotype point to several overlapping factors for future research to examine.

An extensive literature has highlighted specific parenting behaviours related to the development of both anxiety (Ginsburg, Siqueland, Masia-Warner and Hedtke, 2004; McLeod, 2007) and sleep problems (Erath and Kelly, 2011) in children. In particular, parental over control (e.g. excessively involved in regulation of children's activities and routines, granting little autonomy or psychologically controlling) (McLeod et al., 2007; Sadeh, Tikotzky and Scher, 2009; El-Sheikh, Hinnant, Kelly and Erath, 2010), unstructured or inconsistent parenting styles and rejecting parenting behaviours (low levels of parental warmth, approval, or responsiveness) (Adam, Snell, and Pendry, 2007; Bell and Belsky, 2008; Sadeh, Tikotzky and Scher, 2009) have been linked to increased risk for both pediatric anxiety and sleep problems. Within their respective literatures, these parenting behaviours have been proposed to impact sleep and anxiety by increasing maladaptive cognitions (perceptions of the environment as threatening, uncontrollable or unpredictable and the self as incompetent) and limiting self-regulatory skills (Scher, 2008; Affrunti and Ginsburg, 2011).

Accordingly, several studies provided corroborative evidences linking rejection, unpredictable and uncontrollable factors in the early care-giving environments with long-term alterations in functioning of the ANS and HPA-axis associated with anxiety and sleep (El-Sheikh and Erath, 2011; Nolte, 2011). Accessibility of computer or internet has immensely contributed main influences to adolescents' lives. Some cautionary voices were raised on the likely negative impacts

of excessive internet use on mental health due to the remarkable increase in internet use among adolescents in recent years, (Young, 1996; Armstrong, Phillips and Saling, 2000; Ryu, Choi, Seo and Nam, 2004). The most important concern appears to be the risk of “internet addiction”. Internet addiction may be defined as the use of internet which is extreme, out of control, and strictly upstrutting individuals’ lives (Johansson and Gotestam, 2004; Fioravanti, Dèttore and Casale, 2012). About one-third of U.S. adolescents had computer and one-fifth of the said fraction had internet access in their bedroom (National Sleep Foundation, 2006). Consequently, the likely connection between internet use and sleep habits may not be surprising. Some recent studies therefore have found a relationship between extreme computer and internet use and sleep problems in adolescents.

Drug and alcohol abuse have disturbing impact on sleep as well, particularly, ever-increasing the difficulty in maintaining sleep affecting the easiness of falling asleep, and changing the cycling of sleep stages from non-rapid eye movement (NREM) sleep to rapid eye movement (REM) sleep. Drinking alcohol and use of caffeine has adverse effects on sleep among adolescents (Millman, 2005). There are consequences of these effects on sleep and a significant impact on next-day function, as well as ever-increasing daytime sleepiness and impairing attentiveness. Too much sleepiness during the day time and alertness disturbances can be seen both during active substance use and during discontinuation of use. The definite uniqueness of the sleep/awareness disturbances for various substances of abuse have been reviewed elsewhere and the reader is directed to these reviews for substance-specific information (Roehrs and Roth, 2012).

The common complaint between people with substance use disorders are sleep challenges. This sleep problem can crop up during the withdrawal, but it can also last months and years in recovery and can be connected with a relapse into the use of materials (Brauer and Perron, 2010). The

common symptoms of alcoholism and other sleeping problems is insomnia. a lot of individuals with alcohol use disorder (AUD) and insomnia before starting treatment (Brauer, Kertzmann and Robinson, 2011). According to report, the rates of sleeping problems between individuals with AUD in treatment range from 25 to 72 percent. 8 a number of people in the recovery from AUD may keep on having sleep problems, as well as insomnia or sleep-disordered breathing (such as sleep apnea), at times after years of beginning abstinence. The most common problem among people abstaining from the use of chronic substances is sleep disorder. Most People trying to stop using marijuana can have problems sleeping in the early days of withdrawal, and these problems can last for weeks (Vandrey, Smith, McCann, Budney and Curran, 2011).

Even though there is a deep-rooted body of evidence that has evaluated sleep among adults and children, few have investigated the prevalence and influences of poor sleep among adolescents. Studies on psychological and socio-environmental factors of QS among Nigerian adolescents have not been adequately cited in literature. Although, there are studies on sleep disorder as a consequent effect of drug abuse among Nigerian adolescents (Fareo, 2012), sleep pattern and practice among Nigerian children and adolescents (Maduabuchi, 2014), and a study by Igbokwe, Ola, Odebunmi, Gesinde, Alao, Agbu, Ndom, Adeusi, Adekeye and Agoh (2016) have developed a sleep disorder questionnaire for Nigerian adolescents. There are still gaps in literature regarding the psychological and socio-environmental factors as correlates of QS among in-school adolescents in Nigeria. This provides justification for this study.

## **1.2 Statement of the Problem**

A considerable number of challenges and difficulties are offshoot of QS in individual's life. Poor QS or sleep deprivation was observed to pose a threat on individual's life and in so many areas of living, such as overall physical health, memory, metabolism, safety of others, attention, and ability

to complete daily tasks. Surprisingly, the majority of adolescents are becoming victims of inadequate sleep and unstable sleep-wake schedules, which has become menacing global health issues. Also, past studies have indicated that many of these adolescents who are at the productive stage of life are affected by lack of adequate sleep. Similarly, sleep deprivation has been reported to impede adolescents' learning ability, concentration in class and academic commitments, which invariably resulted to poor academic outcome, success or achievement. Not this one alone, but also have resultant effects on stability of emotion, intensified stress, irregularities in mood, motivational and behavioural reduction.

Many adolescents finds it difficult to perform daily task due to poor quality sleep, this may be due to the fact that they are faced with many challenges, For example, there cumbersome time periods for lessons, and also extra- curricular activities after school periods. With the increase in the use of social media, many adolescents are so addicted to the use of social media either playing video games, using the phone to chat, or on face book, twitter, what' app and many other which take their time till late night and reducing the time for quality sleep, this could bring about poor sleep and poor academic performance.

When sufficient number of sleep is not received, the general immunity of the body is largely. The vulnerability of the invulnerable system increases the probability of infection, viruses and diseases. This evidence shows the true meaning of adequate sleep. Not only is the immune system affected by lack of sleep, but also systems of metabolism and endocrine glands in the body. Endocrine system secretes hormones in the bloodstream in order to normalize some processes such as metabolism, growth, development, and tissue function. Of these processes, metabolism is affected more than sleep deprivation. The deprivation of sleep in adolescents can lead to the following in adolescent development, concentration difficulties, mental drift, graduation in class, and attention

summary, poor memory, poor decision-making, lack of care, delay, depression, aggression, risk of behaviour, physical reactions and fatigue

Not having enough sleep increases the risk of depression symptoms and low self-esteem both at once and over time. He also mentioned supposed mental ill health and low satisfaction with life with insomnia due to lack of sleep. Children's sleep problems include nightmares, night terrors, sleeping and talking, sleeping and walking, urinating in bed, grinding teeth (Prochet), and snoring. Even if the sleep disorders are short-lived, they may have long-term consequences and affect the entire family. Having put the specificity of poor quality in adolescence, and some of the causes of the problem of sleeping among adolescents, there is therefore an urgent need to study some of the factors that link adolescents who go to school. Based on this, the study tends to investigate some of the psychological and socio-environmental factors associated with quality among juvenile students in the south-west, Nigeria.

### **1.3 Purpose of the Study**

The general purpose of the study is to examine psychological factors (anxiety, psychological stress, depression, and neuroticism), and socio-environmental factors (social media use, drug abuse, and home environment) as correlates of QS among in-school adolescents.

Specific objectives of this study are to:

- examine the direction of the relationship among the independent variables and quality sleep among in-school adolescents
- determine the joint contribution of the independent variables to the prediction of quality sleep among in-school adolescents.
- investigate the relative contributions of each of the independent variables to quality sleep among in-school adolescents

#### **1.4 Significance of the Study**

The findings of this research would be of immense benefits in ameliorating the consequences of poor Quality sleep (QS) among juvenile students in Southwest, Nigeria and the entirety of Nigeria. The study would be beneficial in helping to improve QS among adolescents suffering from sleeping problems thereby reducing the negative consequence of socio-environmental and psycho-genetic factors causing sleeping problems among Nigerian adolescents in various schools that might have negative effects on their general performance. This study will be useful in planning preventive and curative measures for the students and clients with sleeping problem for the purpose of improving the challenges of poor QS.

In-school adolescents would find the outcome of this study relevant as it will provide them with adequate knowledge of factors that affects their QS such as anxiety, psychological stress, depression, neuroticism, social media use, drug abuse, and home environment. If this necessary consideration is given to this factor, it would go a long way in facilitating their QS and thereby enhance their academic productivity and success.

Public health practitioners and Clinical psychologists will benefit immensely from this study by making sure adolescents and significant others are well enlightened with respect to causes and solutions to the problem of poor QS and sleep disorders.

The study would be beneficial to Educational and counselling psychologists to play their roles by putting up psychotherapeutic strategies that are capable of enhancing sleeping process among adolescents. The clinical and counselling psychologist would also benefit by helping in-school adolescents recognize some of the reasons why sleep problem is peculiar to adolescence stage and it could be regulated. Secondary school teachers and students would gain from outcome of this research by understanding reasons why adolescents have sleeping problem and how to help them



address the situation. Parents and guardians will also benefit by seeking guidance counselling on how to guide the adolescents adjust to normal sleep and wake pattern.

Also, genetic psychologists and geneticists will benefit from the findings by understanding factors that are responsible for adolescents' QS. They will also be able to give proper counselling to parents and adolescents suffering from poor QS based on the factors mentioned in this study.

### **1.5 Scope of the Study**

This study focused on some psychological factors (anxiety, depression, psychological stress, neuroticism) and socio-environmental (social media drug abuse, home environment) factors influencing quality sleep among juvenile students in the South West Nigeria.

Three senatorial districts in each of the selected state were selected. A local government each from each of the senatorial districts in the selected states. That is, from Ekiti state; Ekiti central senatorial districts (Ado local government), Ekiti South-west Senatorial Districts (Ikere Local Government Area) and Ekiti East senatorial districts (Ido Local Government), from Ogun state; Ogun central senatorial districts (Abeokuta North Local Government Area), Ogun East senatorial districts (Sagamu Local Government Area) and Ogun West Senatorial Districts (Imeko Afon Local Government Area) and from Oyo State; Oyo Central (Lagelu Local Government Area), Oyo North (Ogbomosho North) and from Oyo South (Ibadan North). Six secondary schools both public and private from the local government area. 100 Senior Secondary School II students from each of the six selected secondary schools per local government; 600 students in each state. In all, the total number of 1,800 senior Secondary School Students took part in the study. Only adolescents between the ages of 13-19 years were used for the study.

## 1.6 Definition of Terms

The following terms are defined as used in the study.

**Quality sleep:** This refers to as the adolescents 'ability to awaken and fall asleep at socially acceptable times.

**Anxiety:** Anxiety is a situation where in-school adolescents have a feeling of worry, nervousness, or unease about something with an uncertain outcome.

**Depression:** This is an ill health that involves the body, mood, and thoughts and that affects the way a in-school adolescent eats, sleeps, feels about him or herself, and thinks about things.

**Psychological stress:** Is the disturbing and physiological reactions experienced when an individual confronts a situation in which the strain go beyond their coping resources.

**Neuroticism:** This refers to the in-school's inability to be calm and remain stable, always feeling depressed and nervous.

**Social Media:** The term Social Media refers to the use of web-based and mobile technologies to turn communication into an interactive dialogue among in-school adolescents.

**Drug Abuse:** This refers to the use of substance that could bring about a change in the organic function through its substance actions in adolescents life. It is also considered as a substance that modifies perceptions, cognition, mood, behavior and general body functions.

**Home Environment:** This comprises of social, arousing, and physical dimensions of the home environment provided to in-school adolescents

**In-School Adolescents:** The adolescents in this study are predominantly teenagers in their middle and late teenage years (13 – 19) who are still apron string under the auspices of their parents, and who are registered in a recognised secondary school.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter presents appropriate background literature which serves as foundation upon which the postulation of all the variables (dependent and independent) would be reviewed.

#### **2.1 Theoretical Review**

##### **2.1.1. Concept of Sleep**

Sleep is a natural and reversible state of **o**

reduced responsiveness to external stimuli and relative inactivity accompanied by loss of consciousness. Sleep is the golden chain that binds health and bodies together. Interrupted sleep, poor quality sleep, and difficulty falling asleep can all lead to mental health issues. Sleep disorders is classified into two main references, the DSM-IV-TR (APA, 2000), and the International Classification of Insomnia-second edition (ICSD-2) published by the American Academy of Sleep Medicine (2005). The DSM-IV-TR (2000) provides two main categories of sleep disorders. The first concerns problems with the sleep process (for example amount, quality or timing of sleep), called Dysomnia, and comprises primary insomnia, primary hypersomnia, narcolepsy, respiration-related sleep disorders and rhythm sleep Errors. The second category of sleep disorder is parasomnia. Such as Nightmare disorder, sleepwalking disorder and night terror disturbances, this addresses problems that occur during sleep or sleep-awakening transitions. Insomnia, which is having a problem falling asleep or maintaining sleep (APA, 2000). These difficulties may arise during sleep initiation, sleep maintenance or early awakening (Brotini and Luigi-Gigli, 2004; Estivill, Bove, Garcia-Borreguero, Gilbert, Paniagua and Pin, 2003) and can last for varying durations.

Hypersomnia is the excess sleepiness, is a condition in which a person is struggling to stay awake during the day. People with hypersomnia can fall asleep. Insomnia portrays difficulty in falling

asleep or inability to support sleep; some other people have Hypersomnia, that is, people who suffer from excessive daytime sleepiness. According to the DSM-IV-TR, the major characteristics of this disorder is "extreme sleepiness for at least one month (or less so recurrent), as showed by long-term sleep episodes or diurnal sleep episodes that occur almost Daily (APA, 2000, p. 268). particularly, those with hypersomnia do not have a good refreshing sleep and also have trouble waking up early in the morning or after a nap (Bassetti, Pelayo, and Guilleminault, 2005). There are several possible contributing factors that causes excess drowsiness, it is therefore important to find the source. For example, Hypersomnia may be caused by neurological disorders (for example, epilepsy, stroke or tumor), other sleep disorders (for example, insomnia, sleep disturbances related to breathing, circadian rhythm disturbances, or Restless for example, syndrome), behavioural disorders (for example chronic fatigue syndrome), or medical conditions (for example infection, muscular disease or metabolic disorders (Kohrman, 2005). In addition, a subtype of hypersomnia exists that is idiopathic hypersomnia. This subtype is diagnosed when all other causes have been discarded and no pathophysiology can be determined (Bassetti, Pelayo and Guilleminault, 2005). The next of dyssomnias is narcolepsy. It can be referred to as excessive drowsiness that cannot be managed throughout the day. It is a long-term disorder that creates severe sleepiness during the day. Narcolepsy is characterized by "overpowering attacks of sleep that takes place every day for at least three months" (APA, 2000, p. 269). A person with narcolepsy may feel very sleepy almost all of the time, but then there will be sleep episodes lasting twelve to 20 minutes and attentive, refreshed (Thorpy, 2001). During this siesta, unexpected loss of muscle, hypnopompic or hypnagogic hallucinations (sleep and wake-up hallucinations during sleep or waking), or sleep paralysis (conscious awareness of failure to move the body during sleep and arising transitions) are also experienced (Hishikawa and Shimizu, 2005). This is a problem because siesta is intentional

and can occur at any time and during any activity, such as driving (Green and Stillman, 1998). Although narcotic pathogens aren't known, it is generally accepted that the imbalance of neurotransmitters and genetic factors plays a role in the disorder Dauvilliers, Billiard and Montplaisir, (2003).

Sleep-related problems apply to many different respiratory malocclusions ranging from chronic or usual snoring to upper respiratory resistance syndrome (UARS) to overt obstructive sleep disorder (OSA). According to DSM-IV-TR (APA, 2000), sleeping related sleep disorders (BRSD) are a defect in the fourth growth and are estimated to impact 2% to 4% of men and women (Young, et al., 2007). BRSD is diagnosed when insomnia or excessive drowsiness occurs due to a complete cessation of airflow (for example, apnea) or partial inhibition of airflow (for example, hypopnea), which contributes to low levels of oxygen in the blood while asleep. Due to hypoxia, the individual becomes aroused and wakes up, ultimately causing reduced quality and/or amount of sleep. Apnea and hypopnea events last from 10 to 20 minutes and can take place at varying intervals during the night (McCoy, Koopmann and Taussig, 1981). Old, male, and obese are all risk factors that increase an individual's risk of BRSD (Bliwise, Feldman, Bliwise, Carskadon, Kraemer and North, 1987).

The problems of daily sleep are synchronous internal disorders (internal or integrated) in the daily rhythms, which is the internal clock of the body. Final Sleep Disorder is a regular sleep disorder that they arise when a person cannot sleep at the usual bedtime, late in the evening, although he can sleep at any other time. With these disorders, disturbances occur credited to mismatching sleep cycles and waking up with the environment, triggering severe drowsiness or insomnia (APA, 2000). The arrhythmia is seen as two main types: modifications in our physical environment in relation to the interior rhythm of the individual, and those where the internal systems do not match

the external environment (Okawa and Uchiyama, 2007). The first subtype includes Jetlag (that is, when sleep cycles are interrupted by travel through time zones) and problems associated with nighttime shift work. In these instances, the daily rhythm of the individual is no longer synchronized with external signals such as light (Minkel and Dinges, 2009). The second subtype comprises the late sleep and the sleep/wake it does not work 24 several hours. In late sleep, a person might not exactly feel sleepy until early morning and sleep until late in the morning or in the afternoon. In the 24-hour sleeping and wake pattern, is often observed in impaired individuals, the individual's internal clock is over a 25-hour plan rather than a 24-hour routine (Uchiyama and Lockley, 2009). Flight disturbance and the changeover from daily disturbances are not chronic problems, while the late type is far more sustainable (Arendt, Stone and Skene, 2005).

There are two primary references that arrange sleep issue, the DSM-IV-TR (APA, 2000), and the International Classification of Insomnia-second version (ICSD-2) distributed by the American Academy of Sleep Medicine (2005). The DSM-IV-TR (2000) gives two fundamental classifications of sleep issue. The first is Dysomnias, which concerns issues with the sleep procedure (for example, sum, quality or timing of sleep), and involves essential a sleeping disorder, essential hypersomnia, narcolepsy, breath related sleep issue and mood sleep disorders. Bad dream issue, sleepwalking issue and night fear aggravations make up the second classification of sleep issue, parasomnia, tending to issues that happen amidst sleep or sleep-arousing changes sleeping disorder, which is having an issue nodding off or looking after sleep (APA, 2000). These troubles may emerge in the middle of sleep, sleep upkeep or early arousing (Brotini and Luigi-Gigli, 2004; Estivill, Dettore and Casale, 2003) and can keep going for changing terms.

Hypersomnia is the abundance sleepiness, is a condition in which a man is attempting to remain conscious during the day. Individuals with hypersomnia can nod off. A sleeping disorder depicts

trouble in nodding off or powerlessness to help sleep; other individuals experience the ill effects of extreme daytime sleepiness known as Hypersomnia. According to the DSM-IV-TR, the primary component of this issue is "over the top tiredness for no less than one month (or less so intermittent), as appeared by long-haul sleep scenes or diurnal sleep scenes that happen Daily (APA, 2000, p. 268). In particular, those with hypersomnia have sleep that isn't reviving and experience issues awakening at a young hour toward the beginning of the day or after a rest (Bassetti, Pelayo and Guilleminault, 2005). It is vital to discover the wellspring of what causes overabundance sleepiness in light of the fact that there are a few conceivable contributing variables. For instance, Hypersomnia might be caused by neurological clutters (for example., epilepsy, stroke or tumor), another sleep issue (example., a sleeping disorder, sleep aggravations identified with breathing, circadian cadence unsettling influences, or Restless leg disorder), behavioral disarranges (for example., endless exhaustion disorder), or therapeutic conditions (for example., contamination, solid sickness or metabolic issue; (Kohrman, 2005). What's more, a subtype of hypersomnia exists that is idiopathic hypersomnia. This subtype is analyzed when every single other reason has been disposed of and no pathophysiology can be resolved (Bassetti, Pelayo and Guilleminault, 2005).

The following of dyssomnias is narcolepsy. It can be alluded to as unnecessary sluggishness that can't be overseen for the duration of the day. It is a long haul issue that makes extreme sleepiness by the day. Narcolepsy is portrayed by "overwhelming assaults of sleep that happens each day for no less than three months" (APA, 2000, p. 269). A man with narcolepsy may feel exceptionally sleepy constantly, however then there will be sleep scenes enduring twelve to 20 minutes and mindful, invigorated (Thorpy, 2001). At this break time, sudden loss of muscle, hypnopompic or hypnagogic mental trips (sleep and wake-up mind flights when sleeping or waking), or sleep loss

of motion (cognizant attention to inability to move the body when sleeping and emerging changes) are additionally experienced (Hishikawa and Shimizu, 1995). This is an issue since rest is purposeful and can happen whenever there is any movement, for example, driving (Green and Stillman, 1998). Albeit opiate pathogens aren't known, it is by and large acknowledged that the lopsidedness of neurotransmitters and hereditary components assumes a part in the turmoil (Dauvilliers, Billiard and Montplaisir, 2003).

Sleep-related issues apply to a wide range of respiratory malocclusions running from unending or common wheezing to upper respiratory protection disorder (UARS) to clear obstructive sleep issue (OSA). According to DSM-IV-TR (APA, 2000), sleeping related sleep issue (BRSD) are a deformity in the fourth development and are assessed to affect 2% to 4% of men and ladies (Young, Palta, Dempsey, Skatrud, Weber and Badr, 2007). BRSD is analyzed when a sleeping disorder or intemperate laziness happens because of a total discontinuance of wind current (for example, apnea) or incomplete hindrance of wind current (for example, hypopnea), which adds to low levels of oxygen in the blood while asleep. Because of hypoxia, the individual winds up stimulated and awakens, at last causing lessened quality or potentially measure of sleep. Apnea and hypopnea occasions last from 10 to 20 minutes and can occur at different interims by the night (McCoy, Koopmann and Taussig, 2001). Old, male, and large are all-hazard factors that expansion a person's danger of BRSD (Bliwise, Feldman, Bliwise, Carskadon, Kraemer and North, 1987).

The issues of everyday sleep are the synchronous interior issue (inner or coordinated) in the day by day rhythms, which is the inward clock of the body. Last Sleep Disorder is a customary sleep issue. That they emerge when a man can't sleep at the standard sleep time, late at night, in spite of the fact that he can sleep at some other time. With these disarranges, unsettling influences happen credited to jumbling sleep cycles and awakening with the earth, activating extreme laziness or a sleeping



disorder (APA, 2000). The arrhythmia is viewed as two fundamental writes: alterations in our physical condition in connection to the inside beat of the individual and those where the inner frameworks don't coordinate the outside condition (Okawa and Uchiyama, 2007). The main subtype incorporates Jetlag (that is, when sleep cycles are hindered by movement through time zones) and issues related to evening time move work. In these examples, the day by day cadence of the individual is never again synchronized with outside signs, for example, light (Minkel and Dinges, 2009). The second subtype includes the late sleep and the sleep/wake it doesn't work 24 a few hours. In late sleep, a man may not precisely feel sleepy until early morning and sleep until late toward the beginning of the day or toward the evening. In the 24-hour sleeping and wake design, is frequently seen in debilitated people, the person's inner clock is over a 25-hour design as opposed to a 24-hour routine (Uchiyama and Lockley, 2009). Flight aggravation and the changeover from every day unsettling influences are not unending issues, while the late kind is significantly more practical (Arendt, Stone and Skene, 2005).

The rapid eye movement sleep includes four phases, changing from tiredness to significant sleep. In the beginning periods (I and II), people wake up effectively and may not realize that they are sleeping. In the more profound stages (third and fourth), it is difficult to stir up. While getting up, people in the third and fourth stages may feel confounded. In non-quick activity sleep, the person's muscles are more peaceful than conscious. Despite the fact that the sleeper in the 3<sup>rd</sup> and fourth stages can move, this does not occur in light of the fact that the cerebrum won't send signs to muscle to move. REM sleep alludes to dynamic sleep, which happens when the fantasy happens. During REM sleeping, breathing and heart rate are uneven. The sight moves rapidly forward and backward under the eyelids, debilitating the whole body with the goal that the sleeper does not sweat when it is hot or when it is nippy. Be that as it may, under the neck, the body is chiefly

incapacitated in light of the fact that the nerve motivations of the muscles are shut. Both REM and NREM sleep conditions create before birth. Sleep cycle designs and the measure of sleep required change from childhood to childhood, however at four years old, most children sleep 10 hours consistently and travel through rest designs simply like individuals.

#### **2.1.1.1 Poor Quality Sleep Among Adolescents**

Adolescence is a formative stage related to less sleep time and expanded laziness amid the day. Albeit behavioural and ecological variables, regulating advancement, sleep forms as well as sleep issues have been appeared to influence immature sleep, the hereditary inclination may likewise assume a part. While hereditary examinations don't give sufficient pre-adult sleep issues, the writing gives confirmation of hereditary consequences for the sleep of preschool and school children and grown-ups. For instance, Den Van Ord, Verheolst and Pomsma (1996), found in the three-year-old twins that 69% of sleep issue variety was because of inherited components, while 31% was expected to non-shared natural impacts. Furthermore, Gregory (2008) in the investigation of 8-year-old twins found that most changes in paracycna and dysomnia were because of inherited components (51% and 71%, individually) with the rest of the variety being computed as a non-shared condition. With respect to particular sleep issues, Nguyen et al. (2008) found that sleep anxiety following year and a half and 30 months was deciphered as inherited (44% and 42% individually) and non-basic natural components (56% and 58%, separately). At last, a current longitudinal examination by Gregory, Furling, Lowe and Dahl Wiley (2009) found that sleep issues stayed stable for 8-10 years and that the greater part of the variety could be clarified by hereditary and non-shared natural impacts in every one of 8 Years (63% hereditary variables, 32% non-basic condition) and 10 years (66% hereditary elements, 7% of the regular condition, 27% of the non-shared condition). In a blend, prove demonstrates that hereditary components assume a

critical part of sleeping issues for babies.

Correspondingly, no less than one investigation of grown-up couples ages 17 to 88 (Heath, Kindler, Yves, and Martin, 2000) assessed that hereditary components spoke to 33% of the variety in sleep quality and distress and 40% of the variety in sleep designs. While there was no impact family condition. What's more, this examination found a decrease in the measure of the hereditary commitment with age. This present study therefore investigated the psychological and socio-environmental factors as correlates of quality sleep among in-school adolescents in south-western Nigeria. Many adolescents experienced poor quality sleep due to some psychological factors such as psychological stress, anxiety, depression, use of social media and many others factors which makes it difficult for them to adequately perform daily task. Adolescents experiencing poor sleep should consider these factors in other to improve their sleep quality so that their performance academically would not be affected.

### **2.1.2 Concept of Anxiety**

In accordance with the American Psychiatric Association (2000), people at different circumstances in human life are worried about things, for example, wellbeing, accounts or family tension. Not at all like direct nervousness caused by a specific occasion and vanishes after a brief period, (for example, giving an open discourse or a work meet), the most extreme uneasiness can hold on for no less than a half year and can deteriorate if not treated. It is basic to feel anxious and considerably endure gentle to-direct levels of uneasiness every now and then. This is normal on the off chance that one is engaged with numerous exercises that force different requests on the individual (for example. scholastics, work, family duties, and so forth.). Notwithstanding, if an individual has a consistent feeling of tension that meddles with one's capacity to appreciate life, at that point one may experience the ill effects of a more problematic level of concern. At the point

when tension achieves this level, an individual may need to talk about it as opposed to needing or planning to pass without anyone else's input. Here and there uneasiness is joined by a progression of extreme frenzy, dread, or dread that the individual may experience the ill effects of chest torment, shortness of breath, acid reflux, wooziness, and/or stomach distress. Concern can show up as undesirable and dull considerations and urgent practices that appear to be difficult to stop. Once in a while nervousness is identified with a particular circumstance, for example, standing up, riding a lift, or confronting a risky creature.

### **2.1.2.1 Symptoms of Anxiety**

- Extreme worry or compulsive feelings (most times often thinking about what takes place or happen every day even if there is little or no reason)
- Trouble relaxing or resting
- Intolerance or feeling on edge
- Weariness
- Trouble concentrating
- Mind "going blank"
- Bad humor
- Having muscle tension or muscle aches
- Wobbling
- nervous or being easily startled
- Trouble falling asleep or staying asleep
- Sweating, nausea or diarrhea
- Shortness of breath or rapid heartbeat
- Avoidance of activities as a means of reducing distress.

### **2.1.3 Concept of Psychological Stress**

In accordance with Cohen, Janiciki-Deverts and Miller (2007), stress happens when an individual comprehends that ecological requests are saddling or surpassing the limit of adjustment. Stress considers offer thoughtfulness regarding the occasion of natural occasions judged as duties on a person's adapting capacity. That is accepted upsetting circumstances influence the reason for physical sickness by activating negative passionate states (for example, sentiments of pressure and dejection), which apply an immediate effect on organic systems or behavioural lines that influence the danger of malady (Cohen, Kessler and Gordon, 1995). Endless pressure exposures are most poisonous in light of the fact that they are probably going to prompt long haul or long haul changes in passionate, physiological and behavioural reactions that influence powerlessness and illness (McEwen, 1998a). This incorporates upsetting occasions that keep going for a long stretch (for example., nurturing a life partner with dementia) or central occasions that keep on suffering personality boggling after a long measure of expiry (for example., encountering sexual manhandle).

Behavioural changes happen as adjustments or answers to adjust to pressure factors; for example, expanded smoking, decreased exercise and rest, and poorer adherence to restorative frameworks give a critical manner by which stretch elements influence the danger of ailment. The pressure safe endocrine reaction gives another real pathway. According to Miller and Cohen, (2001), at the present time there are two kinds of endocrine reaction frameworks that collaborate with pressure: the hypothalamic-pituitary-adrenal cortex (HPA) and the adrenergic-adrenergic (SAM) framework. Cortisol, the essential recipient of HPA initiation in people, modifies an assortment of physiological procedures, including mitigating reactions and digestion of starches, fats and proteins. Additionally, catecholamines, discharged because of SAM account enactment, act as a

team with the autonomic sensory system to apply administrative outcomes on the cardiovascular, chest, liver, musculoskeletal, skeletal, and invulnerable frameworks. Drawn out or rehashed enactment of HPA and SAM frameworks can meddle with one's control of other physiological frameworks, expanding the danger of physical and mental issue (Cohen, Janiciki-Deverts and Miller, 2007). The HPA and SAM frameworks intervene the effect of weight on the malady and are upheld by observational proof from both creature and human investigations that demonstrate an assortment of stress jolts that invigorate these frameworks. By the by, stress may affect the danger of sickness through their impacts on different frameworks. For instance, the stretch has been found to debilitate the vaginal tone, which can support the danger of ailment, cardiovascular ailment. The results of weight on directing invulnerable and fiery procedures have the prospect to influence despondency.

The passionate pressure may tweak capacity of invulnerability by contaminating the lymphatic tissue, by discharging and adjusting the hormones of HPA and SAM that are related with the elements of dynamic safe cells and by behavioural changes creating from pressure, for example, expanded smoking. Human subjects subjected to intense clinical weight demonstrated a direct change in a few pointers of regular invulnerability, however a general concealment of particular resistant capacities (Segerstrom and Miller, 2004). People live by acclimating to the requirements of an evolving domain. For this audit, the stress is distinguished as a genuine or saw lopsidedness between the natural requests for survival and the ability people to adjust to these requirements (Lazarus and Folkman, 1984). This fundamental model is a worry as a component of a persistent procedure in which deliberate ecological conditions (for example stresses) are evaluated by the person as either not versatile or distressing (for example, introducing any danger, hazard, change, or test to a man's prosperity or survival). On the off chance that the individual perspectives the

conditions as upsetting, this evaluation will trigger a progression of stress reaction components comprising of physiological, behavioural and mental endeavours incorporated to adjust to natural requests.

Most models recommend that physiological, behavioural, and enthusiastic procedures may straightforwardly influence well-being in particular ways. Physiological instruments engaged with infection and sicknesses are the autonomic sensory system and the anxious endocrine middle people that influence the insusceptible, intestinal, neurological, musculoskeletal, and different frameworks (McEwen, 2008; McEwen and Stellar, 1993). Intense administration of these frameworks adds to here and now versatile physiological changes, notwithstanding a full scope of physical manifestations, (for example, rapid heart rate, expanded sweat, and gastrointestinal movement) that can be thought about side effects of sick wellbeing (Chrousos and Gold, 2002). Albeit physiological enactment has here and now versatile advantages, it is trusted that constant actuation of these frameworks improves vulnerability to cardiovascular infection, immunosuppressive ailments and different ailments (Chrousos, 2002; McEwen, 1998; McEwen and Stellar, 1993) Changes in the focal sensory system and the structure of the mind itself (Sapolsky, 2005).

#### **2.1.4 Concept of Depression**

As indicated by the World Health Organization, (2012) discouragement is a distinctive psychological problem that happens with a discouraged state of mind, loss of intrigue or delight, low vitality, blame or low confidence, sleep issue or hunger, and bad focus. Also, melancholy regularly accompanies uneasiness side effects. These issues can wind up interminable or repeating and prompt critical deterrents to the person's capacity to deal with his or her day by day obligations. In the most pessimistic scenario, misery can prompt suicide. Almost one million individuals kick

the bucket every year from suicide, which converts into 3,000 passing consistently. For every individual finishing suicide, at least 20 individuals may endeavour to end their lives (WHO, 2012). While melancholy is the main source of incapacity for the two guys and females, the weight of discouragement is half higher for female guys (WHO, 2008). Actually, misery is the fundamental driver of the weight of malady on ladies in high-wage nations and low-and centre salary nations (WHO, 2008). Research in creating nations recommends that maternal melancholy might be a hazard factor for poor development in youthful children (Rahman, Malik, Sikander, Roberts and Creed, 2008). This hazard factor can imply that maternal psychological wellness in low-salary nations may significantly affect childhood development, with the impacts of melancholy influencing this age as well as the people to come. Side effects of sadness incorporate manifestations, for example, discouraged inclination, loss of intrigue, joy and expanded exhaustion. Contingent upon the number and seriousness of the manifestations, the sorrow scene can be delegated gentle, direct or extreme. A person with a mellow depressive scene will experience issues in proceeding with ordinary work and social exercises, yet may not quit working totally. Then again, it is impossible that a man experiencing social, work or family exercises will have the capacity to proceed, with the exception of extremely restricted cases. The bipolar passionate issue generally comprises of funny and depressive scenes isolated by times of ordinary disposition. Inclinations incorporate high states of mind and expanded vitality, bringing about hyperactivity, discourse weight and a lessened requirement for sleep.

### **2.1.5 Neuroticism Personality Type**

Neuroticism is a fundamental personality trait in the study of psychology. It is an enduring tendency to experience negative emotional states. Neuroticism has an inherent negative denotation (Bradshaw 1997) although (sometimes reversed and called Emotional Stability), an enduring tendency to



experience negative emotional states and such feelings such as anxiety, anger, guilt, and depressed mood (Matthews and Deary, 2000). Similarly, Goleman (1998) found that they respond more poorly to environmental stress, are more likely to interpret ordinary situations as threatening and minor frustrations as hopelessly difficult. They are often self-conscious and shy, and they may have trouble controlling urges and delaying gratification. Neuroticism is associated with low emotional intelligence, which involves emotional regulation, motivation, and interpersonal skills. It is also a risk factor for "internalizing" mental disorders such as phobia, depression, panic disorder, and other anxiety disorders traditionally called neuroses (Hettema, Neale, Myers, Prescott and Kendler 2006). Individuals who are high in neuroticism may show more emotional reactions whenever confronted with stressful situations (Bakker, Van der Zee, Lewig and Dollard 2006). Moreover, they seem to use avoiding and distracting coping strategies, such as denying, wishful thinking, and self-criticism, rather than more approaching strategies (Heppner, Cook, Wright and Johnson 1995). Ineffective coping with stressful situations in the work environment makes individuals who are high in neuroticism more vulnerable to the symptoms that are typically associated with burnout (Bakker, Van der Zee, Lewig and Dollard 2006).

According to Laney, (2002) individuals who score high on neuroticism are more likely than the average to experience such feelings as anxiety, anger, guilt, and depressed mood. They respond more poorly to environmental stress, and are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. They are often self-conscious and shy, and they may have trouble controlling urges and delaying gratification. Neuroticism is associated with low emotional intelligence, which involves emotional regulation, motivation, and interpersonal skills (Costa and McCrae, 1992). It is also a factor for "internalizing" mental disorders such as phobia, depression, panic disorder, and other anxiety disorders..On the opposite end of the spectrum, individuals who score low

in neuroticism are more emotionally stable and less reactive to stress. They tend to be calm, even tempered, and less likely to feel tense or rattled. Although they are low in negative emotion, they are not necessarily high on positive emotion. That is an element of the independent trait of extraversion. Neurotic extraverts, for example, would experience high levels of both positive and negative emotional states, a kind of "emotional roller coaster". Individuals who score low on neuroticism (particularly those who are also high on extraversion) generally report more happiness and satisfaction with their lives. Like other personality traits, neuroticism is typically viewed as a continuous dimension, rather than as a distinct type of person. People vary in their level of neuroticism, with a small minority of individuals scoring extremely high or extremely low on the dimension. Because most people cluster around the average, neuroticism test scores approximate a normal distribution, given a large enough sample of people. Neuroticism is one of the most studied personality traits in psychology, and this has resulted in a wealth of data and statistical analysis. It is measured on the EPO, the NEO PI-R, and other personality inventories (Harris, 2006).

Block (2008) reported that neuroticism has also been studied from the perspective of bio-psychological theory of personality, using a scale that measures personality along two dimensions: the Behavioural Inhibition System (BIS) and the Behavioural Activation System (BAS). The BIS is thought to be related to sensitivity to punishment as well as avoidance motivation, while the BAS is thought to be related to sensitivity to reward as well as approach motivation. Neuroticism has been found to be positively correlated with the BIS scale, and negatively correlated with the BAS scale (Cobb-Clark and Schurer, 2012). Neuroticism appears to be related to physiological differences in the brain. Eysenck (1991) theorised that neuroticism is a function of activity in the limbic system, and his research suggests that people who score highly on measures of neuroticism have a more reactive sympathetic nervous system, and are more sensitive to environmental stimulation. Behavioural

genetics researchers have found that a significant portion of the variability on measures of neuroticism can be attributed to genetic factors (Laney, 2002).

A study with positron emission tomography has found that healthy subjects that score high on the NEO PI-R neuroticism dimension tend to have high alanserin binding in the frontolimbic region of the brain — an indication that these subjects tend to have more of the 5-HT<sub>1A</sub> receptor in that location. Another neuro-imaging study using magnetic resonance imaging to measure brain volume found that the brain volume was negatively correlated to NEO PI-R neuroticism when correcting for possible effects of intracranial volume, sex, and age. Other studies have associated neuroticism with genetic variations, e.g. with 5-HTTLPR — a polymorphism in the serotonin transporter gene. However, not all studies find such an association (Block, 2008; Soto and Gosling, 2011). A Genome-Wide Association study (GWA study) has associated single-nucleotide polymorphisms in the MDGA2 gene with neuroticism; however the effect sizes were small. Another GWA study gave some evidence that the rs362584 polymorphism in the SNAP25 gene was associated with neuroticism (Block, 2008). Soto John, Gosling and Potter (2011) further discovered that the mean reaction times (RTs) will not differ between individuals high in neuroticism and those low in neuroticism, but that there is considerably more trial-to-trial variability in performance reflected in RT standard deviations. In other words, on some trials neurotic individuals are faster than average, and on others they are slower than average. It has been suggested that this variability reflects noise in the individual's information processing systems or instability of basic cognitive operations (such as regulation processes), and further that this noise originates from two sources: mental preoccupations and reactivity processes.

Identity measures depend on the five-factor show (the Big Five model) (Costa and McCrae, 1985). This hypothetical structure is broadly utilized as a part of ebb and flow explore. It depicts identity as a mix of five unique attributes that exist in various gatherings inside every person. These

highlights incorporate neuroticism, comprehensiveness; receptiveness to involvement, assent and inner voice which portrays the trademark characteristic level of enthusiastic dependability. In this study, neuroticism is concentrated on. A man described by high neuroticism is portrayed by low enthusiastic security and presentation to pressure, which is shown in various kinds of negative impacts (for example. tension, outrage, wretchedness). Mental issues incorporate uneasiness, dejection, antagonistic vibe, mindfulness, defenselessness and powerlessness (Costa and McCrae, 2002). Franticness is depicted by getting ready for positive feelings, inclining toward social association and authority. These highlights incorporate warmth, insight, emphaticness, action, energy, fervour and positive feeling (Costa and McCrae, 2002). Receptiveness to encounter is portrayed by characteristics, for example, creative energy, the profundity of sensation, interest, acknowledgement of new thoughts and the requirement for decent variety. Transparency incorporates parts of creative energy, style, emotions, activities, thoughts and qualities (Costa and McCrae, 1985). Late highlights do exclude assent and inner voice some other angles. Consistency is depicted in a positive way to deal with communication, put stock in, tending to others, collaboration and benevolence. The heart is depicted as the requirement for achievement, association, determination, desire and self-control (Costa and McCrae, 2002).

It is essential to comprehend the improvement of sleep for endoscopy about potential basic components that connection identity and sleep together. The improvement of sleep, the capacity to sleep by the night, creates in the early years of life, an essential for the advancement of good sleep (Sadeh and Anders, 1993; the improvement of sleep in childhood happens an expansion in stationary sleep and diminished dynamic sleep (rapid sleep of eye movement). Third, collaboration factors, including the nature of the child's association with the mother and the exercises completed at sleep time, influence sleep development (Sadeh and Anders, 2003). For

instance, the trademark attributes of the child and the individual methods for connecting with the child can prompt distinctive results in the improvement of sleep (Sadeh and Anders, 2003).

### **2.1.6 Concept of Social Media Use**

Social networking has turned into an indispensable piece of online life, with long range interpersonal communication destinations and applications. Most customary online media incorporates social parts, for example, remark fields for clients. In business, web-based social networking is utilized to advertise items, advance brands, interface with existing clients and advance new business. There is expanding proof that sleep cleanliness factors, for example, over the top utilization of media at sleep time, regularly in the room itself, likewise influence sleep (Gupta, Saini, Acharya and Miglani, 2004). All the more particularly, these elements are essential in postponing sleep time and can form into lacking sleep disorder. In an investigation among pre-school children, Owens, Spirito, McGuinn, and Nobile (2006) observed that Television viewing was connected to sleep protection, sleep fears, and postponed sleep beginning, bringing about deficient sleep. Indeed, all media, for example, PC recreations, mobile phones and PCs are a similar issue when they meddle with sleep wellbeing (Gupta, Saini, Acharya and Miglani, 2004). The media presentation at sleep time must be unequivocally underlined by guardians and parental figures of school-age children. The particular setting may appear to be a vital factor in insufficient sleep issue in this age gathering. This is troubling given that confirmation proposes that vast scale TV seeing at the period of immaturity and pre-adulthood may add to the advancement of sleep issues in early adulthood (John and Gross, 2004). There is abundant confirmation that expanded portable or versatile movement around evening time is overwhelming among adolescents (Carskadon, Carskadon, Wolfson, Acebo, Tzischinsky and Seifer, 1998) and that the nearness of TVs and PCs in rooms has a critical postponement at the beginning of sleep in the age gathering

(John and Gross, 2004). Given the pre-adult propensity to sleep late because recently melatonin discharge and resulting tiredness (Wolfson and Carskadon, 2003), these poor sleep propensities can contribute essentially to late sleep and contribute together to an abnormal state of deficient sleep cleanliness. Weakness practices, for example, these not just defer the beginning of sleep specifically on account of their tedious nature yet in addition since they might be adequately animating, (for example, energizing computer game substance) to expand carefulness and meddle with the beginning of ordinary sleep at sleep time.

Sleep hardship is additionally exacerbated in adolescents who need to wake up right on time in school (Wolfson, and Carskadon 2003). Adolescents, substance abuse, and the treatment of insomnia and daytime sleepiness which in later sleep prompts a diminishment in all-out sleep time, an absence of sleep disorder. Satisfactory sleep disorder in numerous adolescents might be a sensible aftereffect of both naturally and socially restricted sleep times, which happens in contrast with pre-adolescence. As indicated by the National Sleep Foundation, directed by the National Sleep Foundation in 2006, all youngsters had no less than one electronic gadget in their room. A few instruments have been accepted about how to drop media to sleep (Munezawa, Kaneita, Osaki, Kanda., Minowa, Suzuki and Ohida, 2011). One is that the utilization of media uproots sleep straightforwardly. Also, electronic media takes into consideration more noteworthy cooperation between companions. Associate collaboration does not significantly affect school sleep, but rather greatly affects immature sleep throughout the end of the week (Arora, Hosseini-Araghi, Bishop, Yao, Thomas and Taheri 2013). There are upgraded courses for adolescents to impart electronically (Calamaro, Mason, and Ratcliffe, 2009). Another potential instrument for the destructive impacts of gadgets amid sleep is that light from electronic gadgets may disturb the rhythms of the organic clock by smothering melatonin, bringing about a powerlessness to sleep at

a sensible time (Moore, 2011). The utilization of media can build sleep unsettling influence and mental, enthusiastic and physiological excitement (Brand, Gerber, Kalak, Kirov, Lemola, Clough, Pühse and Holsboer-Trachsler, 2014b.).

### **2.1.7 Concept of Drug Abuse**

As indicated by Diagnostic and Statistical Manual of Mental Disorders (2000), substance abuse is described as a ‘maladaptive’ pattern of substance use leading to clinically significant impairment or distress. According to Nowinski, (1990), drug abuse is the taking of a drug which harms or threatens to harm the physical or mental health or social well-being of an individual or other individuals or society at large, or which is illegal. A medication like cocaine and "crystalline folklore" invigorates the cerebrum pathway that triggers dopamine, which gives a man a feeling of prosperity and satisfaction (Seraphim, 2005). At the point when these medications generally progress toward becoming, they can be destroyed to the client, as the reward way works. The World Health Organization (2010) recognized abuse of substances as abuse or psychotropic substances, including liquor and illegal medications.

The utilization of these medications among adolescents is a worldwide phenomenon that sustains on the texture of our general public. This medication is a substance that alters recognitions, observation, state of mind conduct and general body capacities (Balogun, 2006). Numerous understudies utilize legitimate medications, for example, caffeine, nicotine or liquor without much idea on the grounds that their utilization is socially worthy. Youngsters "get" high manhandle substances, for example, inhalants, liquor, cannabis and others. It is regularly accepted those immature movements and advance from lawful to illicit and from less risky to more perilous medications. Fayombo (2008) distinguished medication mishandle as the utilization of disposition change substances wrongfully, exorbitantly and socially unsatisfactory. Medications extend from

those that ought not to be assumed control over-the-counter as cocaine, amphetamine, heroin, weed and LSD (source) to socially satisfactory beverages, for example, bourbon, a neighborhood in, brew and other mixed drinks. Odigide (2007) considered medication mishandle to be the uncalled for utilize or utilization of medications by a man without legitimate medication learning and without a remedy from a qualified specialist. This definition centrearound psychotropic medications; all medications can be mishandled to the point where addicts can't quit taking medications in spite of antagonistic consequences for the client's social, individual and monetary life.

### **2.1.8 Concept of Home Environment**

A noteworthy supporter of poor sleep incorporates the home condition. For instance, extreme clamour or light, an awkward sleeping surface, the low temperature in rooms, and constrained space may influence sleep adversely. Extra factors identified with the social condition of the home may likewise assume a part. For instance, family stress, stress or maternal melancholy and additionally particular sleep time practices, for example, bed-sharing (Quine, 2001). Among every one of these components, the connection between an imperative component of child-rearing style and the sleep example of children at home has not been very much considered. In spite of the perception of social, sexual and social stratification contrasts (Steinberg and Lamborghini, 2004), confirm recommends that steady child rearing is warm or responsive and gives a level of control or control yet not coercive (particularly with adolescents) the Wide scope of wellbeing fields (Golan, 2004). Two examinations inspected the connection between child-rearing style and children's sleep that child-rearing styles are predictable with expanded "watchfulness" at sleep time (for example, checking the room to check whether the children are sleeping, killing the room on weeknights) and not "laxity (logical inconsistency, The Catch 22 of train) with sound sleep results



in children (Laberge, Petit and Simard, 2001).

## **2.1.9 Theoretical Framework**

### **2.1.9.1 Evolutionary/Hibernation Theory**

Developmental hypothesis, otherwise called versatile sleep hypothesis, recommends that times of action and dormancy advanced as an approach to save vitality. Sleep work fills in as versatile reason Sleep designs have advanced normally to upgrade survival. Hibernation hypothesis (Meddis, 1974) is one of a few developmental speculations of sleep. Developmental hypotheses recommend that sleep has advanced in light of the fact that it permits the life form a more noteworthy shot of survival in a threatening situation. In particular, transformative speculations propose that sleep has developed on the grounds that it lowers the person to save vitality. People who bolster vitality will probably make due than people who don't remain. In this way, the medication that encourages them spare vitality is probably going to move to the people to come. Sleep may serve a versatile capacity as opposed to a remedial capacity. Sleep was picked as it advances survival. Sleeping species have made due to repeat and convey sleep to the cutting edge as versatile conduct. Meddis (2005) recommended that sleep adjusts in light of the fact that sleep movement makes creatures safe from predators and happens when typical exercises, (for example, nourishing) are unthinkable. Meddis (2002) proposed the hypothesis of hibernation which recommends that sleep modification work is vitality preservation. Notwithstanding, these clarifications may not be valid for human sleep today since predators never again represent a danger. Sleep examples may change after some time as advancement is a progressive procedure. In this way, our present examples might be because of the postponement of the genome, which happens on the grounds that the earth changes significantly more rapidly than the qualities.

### **a. Limitations of Evolutionary Theory**

Low adaptive value - In some species if sleep were simply adaptive then it should have been selected out.

**i. Lacks scientific validity:** Evolutionary theories are post hoc, i.e. they have been proposed in retrospect and consequently lack empirical support and so they lack scientific validity and the difficulty to dismiss and so they are neither verifiable nor falsifiable.

**ii. Deterministic and Reductionist:** Evolutionary theories are deterministic as they ignore free will. People can and do choose when they want to sleep. Sleep is far more complex a process to have evolved solely as protection as this does not explain why we have the different stages and cycles of sleep or why we need to catch up on some of our missed sleep. Evolutionary theories ignore the physiological and psychological functions of sleep and so are unlikely to provide a full explanation for sleep.

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### **2.1.9.2 The Neuro Substance Theory**

The theory of neural substance theory recommends that sleep includes a particular capacity inside the mind, a specific kind of recuperation theory (Penty, 1999). REM sleep gives off an impression of being controlled by the climbing exploiters appreciate an extensive measure of rapid eye movement sleep, and REM hardship has been found to diminish dejection (Vogel, 1975). Serotonin has been related to rapid eye movement or moderate wave sleep. In the event that serotonin is lessened with a few medications, this impacts the measure of non-rapid sleep, which diminishes. This proposes the pathway that depends on serotonin is expected to get non-rapid sleep eye movement, which is fundamental for examines upheld by patients with despondency. Patients experiencing monopolistic discouragement experience the ill effects of powerlessness to sleep. They were worn out, however they woke up throughout the night at a young hour toward the beginning of the day and when they came to sleep; Green's trials at Harvard demonstrate that sleep is connected to particles that show up inside the body. These mixes are called adenosine triphosphate (ATP), a segment of (adenosine assumes an essential part in the biochemical procedure, for example, vitality exchange; it is additionally a neurotransmitter and is accepted to

assume a part in advancing sleep and smothering fervor, with expanding levels with consistently in the living being Awake). Adenosine can be the way to why we sleep. As in felines, when adenosine levels transcend a basic level, they feel sleepy and sleep longer in REM sleep and NREM (Hobson, 1995). They audit the primary speculations of sleep and create three levels of investigation.

Physically, sleep keeps the vitality in circumstances where it might be required, for instance, while looking for nourishment, or finding a partner when conditions are troublesome or when there is a drop in atmospheric temperature. This demonstrates sleep is ideal in a less solid state. It is additional time to combine the torment or family gathering to fortify the relationship by being as one either amid the individual prompting sleep or likewise at sleep. In theory, mind structures can develop, convey and create before being added to work and this is identified with the theory of rebuilding. Metabolic changes, for example, changes in circulatory strain and hormone discharge happen when sleeping.

### **2.1.9.3 Restoration Theory of Sleep**

This theory recommends that quick sleep of eye movement is imperative to reestablish physiological capacities while REM sleep is critical to bring back mental capacity. Sleep reclamation was from Oswald (1980). Recuperation speculations propose that the capacity of sleep is to settle and re-establish the mind and body. In the event that this does not occur, the mind and body execution will crumble. Oswald (1980) proposes that distinctive sleeping are basic to reestablish diverse organic capacities. REM rest is vital for mind development, repair, and reworking. Amid REM sleep propensities for mind movement change to enable this to happen, Slow Wave Sleep (SWS) is fundamental for physical development and repair. Amid SWS, development hormone is discharged, which is essential for protein union. For what reason do a few

of us sleep? It appears to be sensible to accept that the body utilizes sleep to repair itself. Oswald (1966) was one of the first to point away from that sleep - particularly sleep in moderate waves - is imperative in enabling the body to rest and repair itself before the rigors of one more day. This could include:

- Minor injuries repair
- Removal of chemical waste in muscles

Adam and Oswald (1983) noted that REM sleep had a noteworthy part - reestablishing the cerebrum and sensory system. This sort of can likewise incorporate retouching and recharging neurotransmitters in the sensory system. Since prove, they pointed away from that issue for the on edge framework is related to longer phases of REM sleep. Sleep is separated into essential sleep (REM and SWS) and discretionary sleep. It is proposed that cerebrum repair and rebuilding happens amid fundamental sleep. Physical rebuilding happens amid alternatively accessible sleep, yet can likewise happen regularly (e. g. Recuperation theory depends on the accompanying estimates. At times of cerebrum development or revamping, there will be an expansion in the measure of REM sleeping that a man has. Sleep increments when the body is developing or experiencing repair. In the event that a man is denied of sleeping for quite a while, he will attempt to get up to speed with the sleep he has lost. Sleep starvation will prompt a shortfall in mental execution and have a negative effect on physical procedures. Then again, there is proof against the possibility that the body needs to sleep to work. Horne (1978) clarified that sleep hardship does not meddle with members' capacity to practice and would not make them in weakness.

In any case, Horn and Harley Davidson (1988) trust body repair isn't the essential capacity of sleep. Rather, they recommend that extreme exercise can warm the brain, prompting longer sleep, not wear and tear. This was then discovered that 4 out of sixth members had a longer sleep period than

the moderate wave. McGinty and Zimosica (1990) concur that sleep has benefits for the overburdened cerebrum, including security from hurt, and the help of resistant framework safeguard. Analysts in memory space progressively assert that sleep isn't about cerebrum repair, however, enables them to play out an essential mental rearrangement. This can incorporate combining recollections that are incidentally situated by the day. As Rush and Bourne (2013) say, different undertakings can happen effortlessly when sleeping, without the requirement for the person to dispose of awareness - which has an evolutionary cost due to a serious hazard. As a rule, the idea the body sleeps to settle itself appears to be excessively shortsighted, and it has turned out to be evident that sleep assumes a noteworthy part of keeping up scholarly execution.

A straightforward perception of creatures can persuade anybody that rest and rest (as an evolutionary & further developed variant of rest) are therapeutic strategies. Any helpful conduct must be a directed partner, and this is unquestionably reality with sleep: the more extended sleep hardship proceeds with, significantly more probable the inspiration to sleep is communicated (Carskadon and Dement, 1979). In addition, the continuous increment in sleep recuperation that occurs after sleep hardship (following 6 evenings, 56% alongside twelve evenings, 90%) demonstrates the event of a substrate that expects to gather, to be seen. In tests with rats, Rechtschaffen found that sleep hardship might be lethal, as a result of this of the crumple of warm control (Rechtschaffen Bishop, Helms, Krsteyska, Roehrs and Roth 1989). The greater part of the above affirmations leads us to a few fundamental suspicions: sleeping is essential for survival; REMS and NREMS, in any event at some level, must have diverse capacities. Sleep in all has in excess of one capacity: it is conceivable to recognize its fundamental capacity from reliance capacities.

The basic perception is that people sleep at whatever point we feel tired. "Weakness" does not just

mean physical weariness; theoretically, one can allude to it as "apprehensive exhaustion", a confusion caused by every one of those exercises that the focal sensory system encounter amid the past time of waking, for example, cognizance action. Every movement initiates a visual/sound-related/material way, and so on: This enactment can be halfway (implying that it has been caught at a specific avocation in its encouraging) or can be finished (prompting cognizant awareness or motor reaction or capacity as memory). Countless have endeavoured to translate the part of sleep as a time of physical reclamation that goes about as a minute for advance and repair of the body, yet much remains obscure. As of late, Schmidt (2014) proposed a uniform sleep theory in view of the need to designate constrained vitality assets ideally to fundamental natural procedures, the vitality distribution show for sleep. As per this theory, the cycle of sleep and arousing to the execution of special and fundamental natural strategies while sleeping advanced as an approach to lessen vitality requirements of watchfulness and decrease add up to day by day vitality use.

The principal contention for the therapeutic recuperating capacity of sleep is the perception that human hormones discharged amid sleep have predominant anabolic capacity, for example, development hormone, rather than awakening human hormones, which for the most part have a corrective impact, for example, cortisol, which is smothered amid sleep, Intravenous steroidal medications because of sleep limitation (Joeyn, Balbo and Messi, 2014). The vast majority of the development garbage driving forces happen through the moderate sleep of the surf (SWS), where most heartbeats happen not long after the beginning of sleep in the principal period of SWS sleep (Van Cauter and Plat, 1996) with the development hormone essentially diminished while asleep hardship (Van Cauter, Blackman and Roland, 1991).

Sleep is believed to be important to spare vitality, with vitality costs saw amid sleep and sleep hardship related to an expansion in all out everyday vitality use. A low metabolic rate of sleep may permit natural procedures that happen amid sleep to be finished at a lower general cost contrasted with waking time. In spite of the fact that there is constrained confirmation, different components that can impact vitality digestion incorporate enactment of thyroid hormones and sugary shellfish. There likewise have all the earmarks of being numerous extra factors that may assume a part, since sleep hardship changes hunger direction and is related with expanded nourishment desires, craving and eating.

Immunological administrative capacities for rest are still inadequately perceived, yet late work recommends sleep as a crescendo to advancing the beginning time of safe reaction. Furthermore, loss of rest may prompt an expansion of more than 3-overlay in a translation of ribonucleic corrosive 6 connector delivery person 6 and a 2-overlap grasp the tumor rot factor of the RNA ambassador RNA (source) was because of more dinners, higher calories got from fat at late evening time hours. Epidemiological examinations have discovered that both long sleep and short sleeping span are related with an expanded danger of death toll from all causes. Sleeping shorter or longer than 7 a few hours is related with an essentially higher danger of death from all triggers, with a regular sleep time of 7 hours related with the most minimal demise rate (Tamakoshi and Ohno, 2004). In men, sleep was short (under 6 hours for every night) and exasperates sleep was not freely connected with cardiovascular mortality, but rather there meant that any higher hazard among men who had both. In ladies, short sleep and tired sleep are related freely with cardiovascular malady fatalities. It ought to be specified that in this analyze, none of the sleep parameters was related with death because of disease or different triggers.



## **2.2 Empirical Review**

### **2.2.1 Sleep Problems among Juvenile Students**

The consequences of sleep problems whether due to insufficient sleep or an untreated sleep disorder can be serious. Sleep problems have been associated with deficits in attention and academic performance, drowsy driving, risk-taking behaviour and depression, impaired social relationships, and poorer health (Cummings, Koepsell, Moffat and Rivara, 2001; Pagel, Forister and Kwiatkowi, 2007; O'Brien and Mindell, 2005; Carney, Edinger and Meyer, 2006; Smaldone, Honig and Byrne, 2007). Wolfson and Carskadon (2003) reported that reduced sleep time, later bedtime and awakening, irregular sleep/wake patterns, and poor sleep quality negatively impacted adolescents' school performance. The National Sleep Foundation (2008) found that high school students who reported insufficient sleep or daytime sleepiness also reported depressed mood and lower grades, whereas 80% of students who reported getting enough sleep made As and Bs in school, students who carried a full academic load, reported poorer sleep. In a similar vein, a study on sleep problems has shown that insomnia, for instance, is a risk factor for the development of mental disorders and poor quality sleep.

Research finding by Alhola and Polo-Kantola, (2007) on adolescents suggest that waking up may in fact, is an earlier sign of rest deprivation or chronic general sleep restriction. A study by Wolfson, Carskadon and Acebo, (2003) which evaluated the QS habits in 1, 120 high college students, found that sleep fell by 40-50 minutes between the ages of 13 and 19. Afterwards, the sleep was late and the early rise. Routine sleep for women is more organized, each goes to sleep early and think earlier than males, but that is not a good sign of well-being (Tsai, Lee, Lin and Lee, 2016).

There is a range of causes and potential outcomes for the quality of adolescent sleep, and psychiatric morbidity appears to be an important and appropriate factor. Some studies have been associated with psychiatric illness, for example, depression/anxiety, with adolescent rest. Research of the romantic association between anxiety, depression and sleep in a non-clinical sample between 6 and 11 years of age found that children with sleep disorders had a higher risk of depression and stress (Johnson, Chilcoat and Breslau, 2000). The investigator found that extreme stress was predicted by the problems of sleep continuous in adolescence. Other psychological variables of big importance to the quality of young sleep were family work, although there was a lack of studies that focused on the marriage between these two factors (Adam, Snell and Pendry, 2007). A study by Wolfson and Carskadon, 1998) focusing on the perceived QS, healthy behaviours and psychological factors uncovered that a good home environment was necessary for the product quality and quantity of quality, between adolescents. Signs of poor sleep quality are the problems of starting and maintaining sleep among children and adolescents who have differing prevalence estimates. Extreme daytime sleepiness (EDS) is one of the most common clinical outcomes of inadequate sleep, a major prevalence among adolescents (Millman, 2005). Daytime drowsiness is closely related to rest habits developed and monitored by adolescents during adolescence and is associated with mood disorders and psychological illnesses (Leotta, Carskadon, Acebo, Seifer and Quinn, 1997).

Numerous studies have shown that sleep behaviours and sleep quality, in adolescents, are associated (Regestein, Natarajan, Pavlova, Kawasaki, Gleason, and Koff, 2010; Colten and Altevogt, 2006). In fact, sleep habits vary by age, adjustments in sleeping schedules and time spent in bed should be done (Millman, 2005). The use of electronic equipment is a key point affecting young sleep. According to some studies which have shown that among the most important

downsides of good sleep quality are adolescents' habits, such as watching TV set (Thaxton and Myers, 2002). However young people who have fewer hours of rest, watch television at night time, also get a higher amount of caffeine (Thaxton and Myers, 2002). In fact, psychotropic substances are also associated with sleep quality in adolescents. A review centering on caffeine and sleep found that in children and adolescents, poor QS and caffeine are associated (Roehrs and Roth, 2001). Adolescents younger than twenty-five minutes on average were more likely to have difficulty at school, class inability and increased drowsiness during the day according to Wolfson et al (2003). Individuals who slept 8 hours and 15 minutes a night got optimal rest and were very likely to get higher grades. Wolfson, Spaulding, Dandrow and Baroni (2007) examined the connection between various characteristics of sleep habits and psychological health. The results indicated that 8 hours of good night rest should be sufficient for individuals aged 20 years. The results showed that rest lifelong 7 hours or less, or 9 several hours or maybe more, led to further depression among individuals among those who slept between 7 and 9 several hours on average. Further studies focusing on sleep duration have shown that reduced sleep duration is an indication of low scores, low self-esteem, increased symptoms of depression, as well as unintentional injuries and unhealthy weight among adolescents (US Department of Health and Human Services. 2015; Watson, Badr and Belenky, 2015). If children show signs of sleeplessness, it seems relatively important to intervene (Alhola and Polo-Kantola, 2007). In 2002, a sample of 943 adolescents was questioned of their sleep problems and a quarter of the reported sample needed more sleep and felt depressed, anxious and easily distracted if they do not get enough sleep.

Quality sleep according to previous studies depends much about how long we sleep rather than good sleep (Ginsburg, Siqueland, Massia-Warner and Hedtke, 2004; Colten and Altevogt, 2006)). Earlier studies have focused much on the sleep period in order to determine the sleep quality of

participants (Gehrman, Seelig, Jacobson, Boyko, Hooper, Gackstetter and Smith, 2013; Lauren, Asarnow, Eleanor and Allison, 2013). Pilcher, Ginter and Sadowsky (1997) suggested that professionals focus on the QS rather than the amount of sleep as well as understanding and calculating adolescent mental health and well-being. (2000), which evaluated whether a longer period of sleep predicted an improved standard of living associated with health, assessed by the quality of the welfare scale (Kaplan, Hirshman and Hernandez, 2017) demonstrated that increased sleep was not associated with additional well-being. Little research has been done on gender differences in sleep habits and sleep disorders (Blatter, Graw, Münch, Knoblauch, Wirz-Justice and Cajochen, 2006). During the age of puberty, dramatic changes in the mental health of ladies between 11 and 13 years of age occur and are more inclined to be narrowed and are more inclined to be experienced by an anxiety disorder or depression in children (Cyranowski, Frank, Young, and Shear, 2000; Lewinsohn, Gotlib, Lewinsohn, Seeley and Allen, 1998).

A study by Liu, Zhang and Li, (2012) examined the quality sleep habits among 237 students (aged 18-24) and asked students to keep a 7-day sleep record. The results showed that although girls had a more structured sleep routine than boys (before bedtime and earlier thought), girls were more likely to be boys than boys. It raises the question of why sexuality research in relation to distress and sleep has not yet been as important as the search for sleep (Javaheri, Storfer-Isser, Rosen and Redline, 2008; Kaneita, Ohida, Uchiyama, Takemura, Kawahara, Yokoyama and Fujita, 2006). Sleep quality is important for the healthy growth of adolescents and young people, as well as their success in school and place of work. (Lindolt and Gillin 2001) Good sleep for the day is as important for good health as healthy eating and exercise. In 2011, two-thirds of adolescents reported poor sleep quality, as performed one-third of young people (Healthy People, 2011). In adolescence, insufficient sleep, insufficient sleep quality, irregular sleep patterns, poor moods,

increased risk of stimulant use, higher levels of risk behaviours, poor school performance, and increased risk of unintentional injury (boutique, Radosevici and Vidcek, 2009). More than a quarter of high school students reported sleeping at least once a week (National Sleep Basis 2006). At the age of majority, inadequate sleeping was associated with a lack of mental health insurance and mental distress (Steptoe, Peacey and Wardle, 2006). Developing evidence supporting the importance of sleep and the negative impact of poor rest quality has brought attention to public welfare workers.

Presently there are several factors adding to the lack of rest in adolescence and youngsters. Insufficient sleep during this critical growth period occurs from physiological, behavioural, socio-cultural and environmental changes. Minor is known about the effects of sleep among young people. Factors that affect adolescents at the same time often take place, including hormonal transition and early study times: In early adolescence, adolescents change their daily rhythm, causing the production of the peak of melatonin, a sleep hormone, to happen later in Later in the day, around 11 pm to 8am. The change in natural sleep cycles is complicated by school schedules. These kinds of start times start their day before they rest the recommended hours for 8 hours or more. Approximately 70% of adolescents have 7 hours or less of sleep in an average school night time. This "sleeping religion" at night can lead to chronic sleep deprivation.

### **2.2.2 Anxiety and Qaulity Sleep among In-School Adolescents**

There is a significant relationship between stress and sleep. The adrenal cortex of the pituitary gland forms an important part of physiological stress. HPAA is slowly activated in stressful situations and is often associated with long-term stress reactions (Toates, 1995). Through the net effect of hormone secretion, the action of the HPA axis leads to corticosteroid secretion from the adrenal cortex. Cortisone is often referred to as stress hormones (Toates, 1995). Cortisol secretion

was high in unpredictable and possibly stressful situations, and therefore presumably associated with predicting stressful events (Arthur, 1987).

Several studies on the effect of emotional states on sleep, including stress and sleep anxiety have been investigated by some researchers (Jansson and Linton, 2006; Morphy, Dunn, Lewis, Boardman and Croft, 2007). For example, Doane and Thurston (2014) found that high daily stress among adolescents was associated with low sleep time. Using similar samples, Short, Graysar, Locke, Wright and Dean (2013) found that adolescents are more likely to sleep than non-anxious adolescents. Moore, Solan, Mayndell, Harbor and Camp (2011) discovered that socialization is the strongest indicator of sleep problems because of the long period time adolescents spent talking with their peers during the evening. Finally, Bartel's analysis, by Graissard Williamson, showed a meta-analysis of 40 studies involving more than 85,000 adolescents sleeping before bedtime due to sleep problems and delayed sleep.

Many studies have found that teens and young people have similar effects of stress and anxiety over sleep, (Morphy, Dunn, Lewis, Boardman and Croft, 2007; Wright and Dean, 2013). Doane and Thurston (2014) discovered that those who see the use of mobile phones as stress showed the greatest risk of sleep problems. Similar effects of sleep anxiety were found in college students in the United States (2015), Canada (2013), and Hungary (2015). Similar to the effect of friction on adolescent sleep, Galambos and Thomee (2013) discovered that while the predictive stress of all sleep indicators was more than a 4-year study, social support was a positive indicator of sleep intake. A number of studies have given attention on the quality of service and the amount associated with stress. Individuals with family histories of depression or anxiety and who manifest lifelong depression and anxiety beginning in childhood are at uniquely high risk for sleep disorder at midlife (Goldman-Mellor, Gregory, Caspi, Harrington, Parsons, and Poulton, 2014; Morphy,

Dunn, Lewis, Boardman and Croft, 2007). Moreover, a research documented a high prevalence of sleep problems among clinically-anxious youth (Forbes, Bertocci, Gregory, Ryan, Axelson and Birmaher, 2008) as well as elevated levels of anxiety and stress in students (Storch, Murphy, Lack, Geffken, Jacob and Goodman, 2008). Being stressful in life events raises the disparity in quality of sleep of individuals. It also seems personal to mediate relationships between stress and sleep.

### **2.2.3 Psychological Stress and Quality Sleep among In-School Adolescents**

Psychological factors indicate all the factors that may lead to psychological stress which may exasperate sleep and sleep-identified with designs. Among the numerous variables that influence stress, three fundamental elements were underscored. In the first place, new social circumstances, for example, new associate gatherings, (moving to college and new games clubs) may prompt night social life and along these lines to new weights (Vignau -Victorri, Dailly, and Veyrac, 2007). It is also confirmed that family helplessness is generally identified with sleep issues among children matured 16 years. Vignau -Victorri, Dailly, and Veyrac (2007) further demonstrated that out of 763 secondary school understudies, around 41% griped of the issue.

The impacts of stress on sleep have delivered confounding and conflicting outcomes (Dagan, Singer and Lavie, 1997). A few studies have connected sleep issues in babies, children, and grown-ups (Cartwright and Wood, 2001; Pillar, Malhotra and Lavie, 2000), be that as it may, different investigations have neglected to distinguish these clusters or have reported more adaptable sleep with stress or post-awful stress issue (Dagan, Singer and Lavie, 2007; Pillar, Pillar, Malhotra and Lavie, 2000). A semi-observational investigation depended on presentation to an extremely troublesome period in the life of youthful college therapists who apply for graduate projects in clinical brain science. The most serious period is the week in which understudies are met and assessed for the program. A significant number of them consider this basic period in their

vocations that will decide their capacity to seek after a more alluring profession way. Past perceptions and individual reports demonstrated that understudies view this period as a standout amongst the most troublesome periods (Keinan and Sivan, 2001).

The diverse stressors that are commonly encountered in the daily environment resulted in several changes in sleep architecture, but it is difficult to see any consistent patterns because of the differences among the study populations and the variant nature of daily life stresses. In studying the effects of stressful life events on sleep, many researchers tried to control for the confounding effect of depression. Williamson, Dahl, Birmaher, Goetz, Nelson and Ryan (1995) measured sleep and stressful life events in normal adolescents and adolescents with major depressive disorder. They found that decreased rapid eye movement and increased rapid eye movement sleep time were found only in the normal controls having a high life events score. On the other hand, increased stressful life events correlated with decreased SWS in both groups.

Reynolds, Hoch, Buysse, Houck, Schlernitzauer and Pasternak (1993) measured sleep in 27 non-depressed bereaved elderly and non-bereaved controls. They found no significant difference in sleep measures except that rapid eye movement (REM) density increased after 23 months of bereavement. Cartwright and Wood (1991) found that ongoing marital separation in non-depressed persons resulted in less delta sleep, a higher REM sleep percentage, and shorter rapid eye movement latency. Hall, Buysse, Dew, Prigerson, Kupfer and Reynolds (1997) also reported that more stressful event-related intrusive thoughts and avoidance behaviors were associated with longer sleep latency and lower delta sleep ratio. Hall, Baum, Buysse, Prigerson, Kupfer and Reynolds (1998) also reported that greater frequency of intrusion and avoidance was significantly correlated with longer sleep latency and greater awake time during the first Non-Rapid Eye Movement (NREM) period. In quantitative Electroencephalography (EEG)



analysis, stress-related intrusive thoughts were associated with higher beta power, and increased subjective stress burden was associated with decreased delta power (Hall, Buysse, Nowell, Nofzinger, Houck and Reynolds, 2000).

In an investigation, Vgontzas, Bixler, Lin, Prolo, Mastorakos, Bueno, Kalis and Chrousos, (2001) recognized sensitivity as appeared by measures, including cortisol, heart rate, electromagnetic, electrophysiological, and metabolic factors, as markers of pathology of energy in essential a sleeping disorder. In a current investigation of 24-hour cortisol levels in a sleeping disorder and controls, the pre-sleep level of cortisol was more noteworthy in a sleeping disorder contrasted with control members (Stepanski, Zorick, Roehrs, Young and Roth, 2008). In addition, in patients with a sleeping disorder, those with sleep issue demonstrated larger amounts of cortisol previously and when sleeping, showing a brokenness of volatility, particularly inside the pituitary hub. Contrasts in energy have indicated sleep deprivation and controls at the psychological level, and people who experience the ill effects of a sleeping disorder themselves are all the more promptly accessible while physiologically asleep contrasted with nanoparticles (Perlis, Giles, Mendelson, Bootzin and Wyatt, 1997). Together, these outcomes show a generous distinction in subjective and physiological energy amongst sleep and a sleeping disorder and ceaseless controls.

#### **2.2.4 Depression and Quality Sleep among In-school Adolescents**

Past studies have shown that mood disorders (especially severe depression) in adult scientific trials show a bilateral relationship with sleep disorders (Hawkins, Taub, and Van de Castle 1985; Van Reeth Blackman and Roland, 2000). Sleep problems have increased both the relative risk of developing depression and reversing relapse (Chen, Burley and Gotlib, 2012; similar results were seen in children and adolescents, particularly with respect to the association between insomnia) Difficulty in starting and/or maintaining a personal associated with depressive disorder (Lofthus,

Gilcrest and Splinegard, 2009). Although studies of the sleep structure of depressed adolescents never have regularly replicated distinctions in multi-core outcomes in depressed people (i.e., increased rapid eye movement or decreased quick eye movement during response), there may be other indications of electrical growth during sleep, such as Sleeping and Sleep Activity Bloodstream pressure was linked in McDermatt (Lopez and Hoffman and Hermitage, 2010) to the most appropriate for adolescents, with population financial debt for university students increasing the chance of reporting symptoms of depression (Regestein, Natarajan, Pavlova, Kawasaki, Gleason and Koff, 2010).

Matza, Revichi, Davidson, and Stewart (2003) studied atypical depression and the different components of it. One defining element for atypical depression is usually hypersomnia. There are different diagnostic approaches, but according to Matza, Revichi, Davidson, and Stewart (2003), “the reversed vegetative approach identifies atypical depression based on hypersomnia and hyperphagia, in contrast to the insomnia and weight loss commonly found in melancholic depression” (p.818). Their study used this diagnostic approach. The findings from their study suggest that there is a significant difference between people that have atypical depression and other depressed people. They found that people with atypical depression tended to have an earlier age of onset which would be consistent with the study by Hawkins and Van de Castle (1985), where they found that younger depressed people tended to oversleep instead of suffering from insomnia. Thus, age or time of onset may play a role in distinguishing those who have depression with insomnia versus those with hypersomnia. Matza, Revichi, Davidson and Stewart, (2003) also stated that atypical depression can be severe and may be associated with increased distress and disability.

Likewise, in high school students, short school time was connected with depressive symptoms and

daytime sleepiness while serious behaviours were related with self-reported sleep problems and abnormal sleep patterns rather than sleep loss. These results are similar to the results of the Longitudinal Teenagers Health Study, which expected possible insomnia symptoms (such as sleep and morning fatigue) with serious behaviors (drinking, driving, smoking and delinquency) after controlling for symptoms of depression (O'Brien and Mendel, 2005); By which sleep, fatigue, nightmares and long-term sleep problems) with psychological symptoms, including anxiety/depression and withdrawal (Coulombe, Reid, Boyle and Racine, 2011), and self-reporting, Less influence (Hassler, Buysse and Klaghofer, 2004).

Many previous studies have given attention on the probable relationship between rest and suicidal thinking (Dai, Chiu, Conner, 2011; Liu, 2004). Sleeping for less than 8 hours at night appears to be associated with an increased risk of suicide almost three times after controlling a number of perplexing variables). Adolescents do not face an increased risk of suicide, But the dangers of adolescents whose parents do not have enough sleep may also increase, raising some interesting questions about multigenerational and as well as or genetic factors (An, Ahn and Bhang, 2010) Teenagers suffering from sleep disorders at nighttime or later That they are more likely to become debt-laden with a fief A female suicide bomber who sleeps before 10 pm hours or earlier will probably prevent pre-determined sleep dates for parents from teenage depression and suicidal thinking Finally, both sleep (less than 5 hours) or increased (more than 10 hours) and increased time The chance of suicide compared to full sleep for 8 several hours (Fitzgerald, Misas, and Buysse, 2011) appears to be increasing, however, the increased risk of more serious types of suicide (treatment attempt) is associated with shortest sleep time (total rest time less than 4 hours) ). In brief, sleep has an important effect on mood and the introduction of symptoms of depressive disorder in adolescents. Although insufficient sleep and drowsiness during the day appear to

acquire a more powerful relationship with the mood disorder, poor sleeping quality and irregular rest patterns are also associated with depressed mood. The relationship between sleep loss and suicidal increase among children is particularly worrisome, and obviously, it is important that pediatricians recognize this.

### **2.2.5 Neuroticism Personality and Quality Sleep among In-School Adolescents**

This evidence critically extends prior findings on subjective sleep quality (e.g. Stephan, Sutin, Bayard, Krizan and Terracciano, 2017), showing that more neurotic and less conscientious individuals also show more behaviourally recorded disturbances during their sleep. Whereas the current data cannot provide definitive answers as to why neuroticism and conscientiousness were so important for sleep, prior findings offer hints as to the nature of their connection. Stress and emotional disturbances have been implicated as predisposing, precipitating, and perpetuating factors for insomnia (Espie, 2002). Because neuroticism constitutes a general propensity towards emotionally distressing (e.g. depression) and physiologically arousing (e.g. anxiety) states, these states may be responsible for why more neurotic individuals are at a higher risk for poorer sleep (Cellini, Duggan and Sarlo, 2017; Van de Laar, Verbeek, Pevernagie, Aldenkamp and Overeem, 2010). Clinical research linking anxiety and depression to objectively assessed sleep discontinuity is consistent with these conclusions (Benca, Obermeyer, Thisted and Gillin, 1992; Fuller, Waters, Binks and Anderson, 1997). More neurotic individuals also showed more nightly variability in future sleep duration and continuity, perhaps reflecting more unpredictable sleep displacement due to unexpected worries or unpredictable stressors (Tavernier, Choo, Grant, and Adam, 2016).

Gray and Watson (2002) further discovered that the number of sleep does not relate to neuroticism, while positive sensitivity strongly predicts the quality sleep. Neurological and emotional mental health was associated with reduced sleep quality. In the case of the sleeping table, Gray and

Watson (2002) found that the awareness foreshadows difficult times and earlier times. Zero statistically significant links were found between any steps of sleep, traits of neuroticism or visibility to see (Gray and Watson, 2002). In another study, related results have been reached Gray and Watson (2002). Also, assessed neural and neurological analysis as well as sleep using rest questionnaire data. The researchers found that neuropathy was associated with reduced sleeping quality, while extinction was not associated with rest. The duration of rest has not been associated with personality, according to Soehner, Kennedy and Monk (2007), while another study by Gao (2000) found that neuroscience is negatively associated with sleeping quality and sleep. The conclusion is the fact current research on personality and sleeping does not provide the most basic for a strong speculation about our results, other than neurosis, where studies have been associated with these characteristics, especially with negative sleep quality (Gau, 2000). It is strongly recommended that personal variables tend to be associated with the quality of sleep alternatively than sleep (Gray and Watson, 2002; Soehner, Kennedy and Monk, 2007); and some results may be associated with stress with personality and sleep (Williams, Rau, Cribbet and Gunn, 2009).

Friedman, Kern, Hampson and Dorthe, (2013) in their study found that there is a rich tradition of linking personal research with great health outcomes. The use of Big Five, an all-encompassing structure that describes and regulates the code of conduct hierarchically in wide character traits, both high conscience and neurotic decline have been linked to better health outcomes. Awareness, which describes the control of social drives, goal-oriented behaviour, goal, readiness, perseverance, and reliability (Friedman, 2000) which has reduced mortality in the clinical, elderly and healthy population (Kern and Friedman, 2008). People with a higher level of sense of right and wrong tends to live longer because they have in behaviors that encourage health, including more activity that involves physical strength, healthy diet, reduced use substance, and less risky

behaviors (Bogg and Roberts, 2008). Which describe people who interrelated expressively and likely to have more unconstructive emotions such as anxiety, hostility, nervousness and depression, are associated with health risks. Individual with a higher level of mental health are in danger of reduced psychological and physical condition and bigger mortality (Lahey, 2009). Many individuals who enjoy greater level of neuroscience have less behaviour to promote health, are more susceptible, more sensitive, and more likely to report physical complaints that may be related to bad sleep. However, some neurotic individuals who suffer from careful anxiety are not at increased risk of disease (Shipley, Weiss, Der and Taylor, 2007). Despite the association of both personality and sleep with health, it is not surprising to know little of the relationship that exist between personality and sleep. The focus is on personality and chronotype by the researcher, where active individuals are likely to be morning types, while neurons are likely to be evening types (Tonetti, Fabbri and Natale, 2009). Many of the earlier research has used scientific specimens, insufficient analyzes of some personal or sleep indicators, or has not used accurate and dependable measures for both personality and sleep. There is therefore no conclusion on the comprehensive examination of sleep and personality by previous studies. There would be substantial effects on the causal models of sleep and health if sleep and personality have stable connection.

### **2.2.6 Social Media Use and Quality Sleep among In-School Adolescents**

According to the National Sleep Foundation, in 2006, found out that many adolescents had at least one electronic device in their bedroom (National Sleep Foundation, 2006). A more severe study of men and women recruited from a children's school in a Philadelphia area proved that of hundred (100) adolescents stuck between the ages of 12 and 18, two-thirds (2/3) had a TV in their bedroom, a third had a computer and 90 percent a new computer or cellular phone in their bedroom (Kalamaru, Mason and Ratcliffe, 2009).

Social networking sites (SNS) have become a ubiquitous aspect of youth and young someone's lives. Seiter (2008) highlights that young people use instantaneous messaging for digital marketing communications, mobile text messages and social networking sites on the Internet to maintain social capital, at least with those peers who can afford the high costs of these technologies. Kist (2008) pointed to a survey conducted in the United States that revealed that about 90 percent of adolescents had access to internet and that about (75) seventy-five percent of these adolescents more than once a day used the net used the net. That also revealed that about fifty percent of teenagers with gain access to the Internet belong as members of social networking sites, and use the Internet to plan and interact socially with friends. Goodman (2007) stated that adolescents have access and also use the internet here, to show their friends, the world - who they are, what they value and as an addition of their individuality and also to build relationships to similar people.

Shosanya (2013) revealed that: "More than 7 out of 10 teenagers (73. 3%) surf the net for social activities in the north-central part of Nigeria, while more than fifty percent of teenagers in the southwest, are addicted to social media. Adolescents are often associated with the use of social networking platforms against their visits for academic purposes. According to Manning and Johnson (2011), adolescents are associated with an average of 1, 200 friends through social networking environments, Heavy for these tools. Teenagers participated in 4 online activities after 21: 00. Not surprisingly, several studies in teens have shown that being exposed to electronic devices at night is likely to interrupt sleep. The use of multiple electronic devices simultaneously was connected with sleeping less at night and prolong daytime drowsiness (Crawley and Carskadon, 2010; State Sleep Foundation, 2006; Sleeping in the bedroom (or even out of the bedroom) was connected with delayed sleep time on weekdays, much longer sleep time, shorter sleeping times, a later wake-up time on weekends, and more daytime sleepiness in adolescents

(Shochat, Flint- In a study of children in society In 1976, 47 adolescents who watched 3 hours or more of television experienced no sleep problems and often woke up but also faced the risk of difficulty sleeping later in adolescence and youth.

The use of computers before going to sleep has been shown to have the same effect, and this end result has been demonstrated in an array of countries and ethnicities (Eggermont and Van den and Bulck, 2006; Participation in a larger amount of sleep intervention activities and a variety of sleep activities were connected with little sleep at night and more sleepiness among teenagers. Numerous mechanisms have been established about how to affect the media to use (Cain and Gradisar, 2010). The use of media displaces rest directly among the adolescent. Previous data suggest that peer interaction performed not have a substantial impact on school bedtime, but had a greater impact on adolescent sleep over the weekend (Carskadon and Acebo, 2002). According to Kalamaru, Mason and Ratcliffe (2009), after 9: 00 pm, 34% of sample respondents had text communications, 44% on the telephone, 55% on the Internet, and 24% were playing computer games.

A further analysis of Belgian adolescents, 62% of men and women used their mobile phones after lights were flipped off, and the phone was associated with additional fatigue during the next day (Van den and Bulck, 2007). An additional probable mechanism for the harmful effect of the use of electronics during sleep is that the light produced by electronic devices may interrupt the rhythms of the biological clock by curbing melatonin, leading to the inability to rest at a reasonable time. New research found that drowsiness was lesser, sleep deprivation was longer, and REM sleep was shorter in people after playing video games, regardless of the screen brightness used (Higuchi, Motuhashi, Leo, Aara, and Kaneko, 2003). One more comparative study found an interactive computer game with watching a movie on tv set in the night (Dworak, Schierl, Bruns and Strader,



2007), resulting in low memory performance, long sleep time and increased sleep in the PC gaming console. In Turkey, the net was first used in 1993. As in Traditional western countries, Internet penetration increased significantly in Turkey, from 3.1% in 2000 to 22.5% by 2007 (World Internet Use Statistics, 2008). Despite research in the United States and Europe, the relationship between Internet use and adolescent sleep problems has not been comprehensively studied in non-Western countries.

A similar pattern was found with the utilization of cell phones. Research has demonstrated that the quantity of children utilizing their cell phones in the wake of killing lights builds the danger of fatigue following a time of development (Van Den Bulck, 2007). Among young people, the measure of time spent multitasking in late night times, including the utilization of media (TV, cell phone, PC use over the Internet, PC recreations, tuning in to music) was adversely associated with the number of rest hours acquired School evenings (Calamaro, Mason and Ratclie, 2009). Not very many investigations have been led in the connection between the utilization of media and rest in grown-ups. One examination found that the more hours grown-ups spend sitting in front of the TV and utilizing the Internet before sleep time, the more probable they are to report deficient rest (Suganuma, Hon, and Tam, 2007). In any case, an alternate report found that individuals who rest soundly and the poor don't mull over normal in the number of days of the week staring at the TV in bed (Gillis and Lechstein, 2009). In light of these conflicting outcomes, and in view of the absence of studies looking at the connection between grown-up media utilize and rest, additionally explore is justified.

Notwithstanding concentrating principally on youngsters and teenagers, field thinks about have frequently fail to control factors that might be identified with media utilize, rest propensities and sleep deprivation manifestations, for example, sex, age, nervousness and gloom. For instance,

inquire about on teenagers has demonstrated that young ladies for the most part talk more finished the telephone and utilize online texting than young men, while young men play computer games more than young ladies (Ohannessian, 2009). In numerous examinations, age has been related with rest propensities and a sleeping disorder. Teenagers and youngsters appear to have a more prominent general inclination for remaining late and redesigning later (Roenneberg and Saganuma, 2004). In light of these discoveries, sex, age, tension and melancholy should be controlled in investigations of the connection between media utilize and rest, as they might be possibly confounding.

The majority of the sporadic research on the connection between media utilizes and rest has concentrated on the effect of media use on rest among youngsters and teenagers. Youngsters with a TV in their rooms were found to go to bed later on weekdays and ends of the week, and spend less hours in bed weekly, contrasted with kids who did not have a TV in their rooms. Likewise, youngsters with a diversions controller in their rooms go to bed later on ends of the week and spend less hours in bed on weekdays, contrasted and kids without a recreations support in their rooms (Van sanctum Polk, 2004). Research has demonstrated that the quantity of youngsters who utilize their cell phones in the wake of killing the lights builds their danger of exhaustion following one year of development (Van-Den Bulck, 2007). Among young people, the measure of time spent multi-entrusting in late nighttimes, including the utilization of media (TV, cell phone, PC use over the Internet, PC diversions, tuning in to music) was observed to be contrarily identified with the quantity of rest hours that were gotten On weeknights (Kalamaru, Mason and Ratkley, 2009).

Past work which analyzed the utilization of SM and rest has delivered conflicting outcomes. Two late audits have demonstrated a reverse connection between the utilization of electronic media and rest parameters, for example, longer rest time, late rest time, and lessened general rest time (Cain

and Gradisar, 2010). However, another examination among kids matured 11-13 years in the Midlands area of the United Kingdom demonstrated that the utilization of different strategies, for example, TV, music and computer games, contrasted and social media was more connected with sleep issues (Arora, Broglia, Thomas, Taheri, 2014). Different investigations have recommended a connection between SM utilize and rest aggravation in nations, for example, Australia and China (An et al., 2014). While all examination has concentrated on kids and teenagers, 96% of youngsters matured 18-30 utilize innovation, (for example, cell phones (67%), PCs (60%), electronic music gadgets 43%) - before sleep time (Gradisar Wolfson, Harvey, Hale, Rosenberg, and Czeisler 2013). In view of the high pervasiveness of gadgets that can be utilized for SM, and the wellbeing outcomes of irritated and lacking rest among youthful grown-ups, examines are expected to expressly centre on the relationship of SM and sleep disturbance among grown-ups.

### **2.2.7 Drug Abuse and Quality Sleep among In-School Adolescents**

Drugs such as tetrahydrocannabinol, sedative-hypnotics, and alcohol may actuate sleep in individuals with a sleeping disorder or to turn around the condition of "hyperaroused" sharpness. Volunteers experiencing a sleeping disorder analyzed by DSM-IVR and side effects of sleep issue recognized by PSG, yet there is no history of alcoholism or medication mishandle, when given the chance to pick amongst liquor and liquor tried during the evening before Sleep, pick liquor, volunteers who have a comparative level of self-detailed social drinking picked placebo (Roehrs, Papineau and Rosenthal, 2009). Fundamentally, individuals with a sleeping disorder had moderate sleep in ease back waves contrasted with volunteers who coordinated age, and liquor had printed the moderate wave sleep. Following 6 continuous evenings of a similar dosage of liquor, resilience advanced into the impacts of sleep. At the point when different measurements were managed independently before sleep time following 6 evenings of past presentation to liquor, individuals

with a sleeping disorder expanded the dosage contrasted with the individuals who were randomized to placebo for 6 evenings (Roehrs and Blaisdell, 2004).

Studies have likewise surveyed sleep attributes and reactions to sleep challenges that reflect sleep direction in individuals with alcoholism or in danger of alcoholism (National Sleep Foundation, 2014; Friedmann, Herman, Freedman, Lemon, Ramsey and Stein, 2003). In youngsters with a positive parental history of alcoholism contrasted with negative family history, electroencephalographic investigations of sleep uncovered less vitality in the lower recurrence groups of the wave sleep and lower shaft frequencies (Tarokh and Carskadon, 2010). In the light of the way that sleep is directed through adjustment, the technique for assessing stable sleep is to assess the movement of ease back waves in light of the difficulties of sleep, for example, sleep confinement or sleep hardship (Armitage, Hoffman and Conroy, 2012).

A similar report was led between moderate wave movement in liquor subordinate grown-ups and sound coordinated volunteers at pattern and after sleep limitation. The liquor subordinate gathering demonstrated an ease back reaction to moderate wave action (ie, low homogeneous sleep speed) to sleep requirements (Armitage, Hoffmann and Conroy, 2012). These investigations propose that the absence of moderate wave sleep might be related with the advancement of alcoholism. One of the known impacts of liquor on sleep is to advance moderate wave sleep with intense utilize. In a progression of concentrates on the obligation regarding abuse of benzodiazepine receptor jolts, subjects with a sleeping disorder DSM-IVR and sleep issue were chosen to decide PSG to a year of evening (10 mg) or overnight zolpidem (Roehrs, Randall and Harris, 2011).

During 1 week of tests at 1, 4 and a year, a self-organization of up to 15 mg zolpidem (3 containers 5 mg) was given before sleep time. A past report not just indicated evening time self-organization

of triazolam versus placebo by individuals with a sleeping disorder with self-appraisal in the day in similar people, triazolam was additionally self-directed contrasted with placebo in the day. Notwithstanding, just the individuals who indicated confirmation of the day's physiological "hyperarousal" (that is, high latencies on MSLT) were self-controlled in the day and triazolam standardized their MSLTs (Roehrs, Bonahoom and Pedrosi, 2002).

The dominant part of research on sleep issue has been accounted for as the backslide in writing predicts abuse of liquor mishandle materials (Brewer and Perron, 2010). Strange sleep examples can last up to 3 years in alcoholism. Sleep is as yet lessened and REM sleep expanded, as reflected in the high rates of quick eye development, shortening of holding up time to REM sleep, and rapid eye development thickness (Drummond, Gillen and Smith, 2008). In spite of the fact that it is enticing to credit these sleep anomalies to unnecessary liquor utilization, sleep issues may have gone before the advancement of alcoholism or might be optional to the improvement of other medicinal and mental issue created amid over the top drinking liquor.

Both goal and subjective measures of sleep after intense restraint anticipates the probability of backslide amid long haul forbearance. Early research center investigations recommended that low levels of moderate sleep of the waves anticipated deterioration in drinking liquor. Late examinations have recognized unsettling influences in quick eye development sleep, either an expansion in REM sleep or the vanishing of short REM time, as anticipated by bounce back. The danger of backslide related with sleep was more noteworthy than that related with different factors, for example, age, marital status, work, length and seriousness of alcoholism, hepatic proteins, and gloom evaluations.

Sleep issues, chiefly a sleeping disorder, have been appeared to foresee resulting beginning of liquor issue among a few grown-ups (Brewer, 2001), however the procedures in which this

relationship created are as yet obscure. (Gellis and Lichstein 2009) demonstrated that individuals who tended to move were more probable than controls to pick mixed refreshments versus sodas at sleep time, proposing that liquor might be stronger in a sleeping disorder than controls. In addition, despite the fact that the connection between sleep issues and liquor issue has excited significant enthusiasm among grown-up analysts in the field of alcoholism, the likelihood that sleep issues may assume a main part in the beginning of liquor issues has been to a great extent neglected by alcoholism And other medication inclusion in the tyke. What's more, pre-adult writing CT thinks about show that sleep issues are decidedly connected with substance use in youth (Johnson and Breslau, 2001; This examination analyzed the connection between sleep issues (for example, a sleeping disorder) and the utilization of medications in immaturity, and in addition searching for some sensible middle people of that relationship. Also, sleep deprivation has been appeared to foresee liquor issues among a few grown-ups (Brower, 2001). Utilizing information from the Epidemiology Study Ford and Kamerow (1989) found that people with industrious a sleeping disorder from the benchmark to 1 year were 2.4 times more probable than people without a sleeping disorder to build up another liquor mishandle occurrence later. Nonetheless, in light of the fact that examines did not control mental clutters at the pattern, the connection amongst a sleeping disorder and liquor manhandle could be because of other mental issue.

The impacts of liquor on sleeping may specifically add to the improvement of liquor issues. A few people are inspired to utilize liquor on account of its impacts on lessening introductory sleep reaction time. Almost one out of five grown-ups (19%, 26% of those matured 18-29) utilized liquor to enable them to sleep (National Sleep Foundation, 2000). (1998) found that 13% had utilized liquor to enable them to sleep the earlier year. (2001) revealed that 44% of 172 drunkards in treatment frequently utilize liquor to help sleep. In any case, lab considers demonstrate that

intense and incessant liquor allow for the most part upsets evening time sleep designs, regardless of the underlying quieting impacts of liquor (Brewer, 2001; what's more, people can create resistance after some time to the alleviating impacts of liquor. The blend of resistance and disturbance of sleep can prompt an expansion in sums and issues of drinking (Roehrs and Roth, 2001).

At last, a sleeping disorder was appeared to be a decent pointer of deterioration among patients experiencing liquor reliance treatment in no less than five examines of three-example tests (Brewer et al., 1998, 2001; The multidimensional measures of irritated sleep additionally foresee relapse (Brower, 2001; Little is thought about the connection between sleep issues and pre-adult liquor utilize. This developmental period is especially intriguing on the grounds that adjustments in sleep/sleep propensities (National Sleep Foundation and Teen Foundation, 2000) and the utilization of liquor (Johnston et al., 2002) happen amid this period. The commonness of sleep issues among youths and youthful grown-ups is high and developing (Sleep National Sleep Foundation and Professional Teams, 2000).

The utilization of caffeine has been comprehended in youths and youngsters. Nonetheless, ebb and flow investigate has brought up vital issues about the unpredictable connection between caffeine utilize and sleep designs amid this formative period (Kristjansson, Sigfusdottir and Allegrante, 2011). Like investigations of caffeine use for grown-ups, caffeine admission at 12 years old is related with shorter sleep, expanded sleep time, expanded wake-up time and expanded daytime sleepiness (Bryant Ludden and Wolfson, 2010; Although teenagers may expend a lot of caffeine trying to lessen sluggishness amid the day, this method not just debilitates the quality and amount of sleep, yet high caffeine clients may likewise be in danger of utilizing different substances as well as abuse, To different dangers. Caffeine utilization is related with the utilization of nicotine in

youths, which thus may prompt more sleep unsettling influence and propagation of the sleep/sleep fracture cycle amid the day and the utilization of the stimulant (Martin, Cook, Woodring, 2008). Of course, caffeine is progressively being utilized with different practices that contrarily influence sleep, for example, the utilization generally night teenagers, and the utilization of multi-faceted innovation. For instance, another examination (Kalamaru, Mason and Ratcliffe, 2009) found that secondary school-age young people who detailed the largest amounts of multitasking with electronic media items likewise expended the majority of the caffeine. The relationship between caffeine utilization and daytime sleepiness is, thusly, contrarily connected with scholarly accomplishment.

It was expected that tiredness amid the day might be an imperative go between for the negative impact of caffeine as well as of the utilization of liquor and smoking cigarettes on scholarly achievement. The utilization of caffeine may likewise be utilized as an impact, particularly with regards to youths who have extreme daytime sleep or lacking sleep. For instance, thinks about have proposed that teenagers may utilize caffeine as an approach to direct temperament or potentially help lighten misery (Whalen, Silk and Semel, 2008; There is almost certainly that there is expanding proof that the utilization of caffeine is expanding among youths, with negative impacts on sleep and other behaviour. There is no doubt that there is increasing evidence that the use of caffeine is increasing among adolescents, with negative effects on sleep and other behaviours. Do adolescents become caffeine because of inadequate and inconsistent sleep patterns, or does increasing caffeine use exacerbate sleep problems for adolescent development? Moreover, with the sudden and dangerous rise in the consumption of energy drinks in combination with alcohol (especially in universities), researchers and doctors need to carefully check the effects of children or adolescents crossing the developmental spectrum (Marczinski, Fillmore, Henges,



Ramsey and Young, 2012).

### **2.2.8 Home Environment and Quality Sleep among In-School Adolescents**

Certain child attributes influence the formation of an implicit sleep. Two longitudinal examinations covering the time of birth to two years (Blurton-Jones, 2008) and different investigations have demonstrated a connection between poor sleep and perinatal challenges, for example, long birth, low birth rate (for example, muscle tone, reflex), birth weight (e.g. 37 weeks), or a second rate of APGAR (for example,, gagging), while different investigations have not discovered such a relationship (Wolke, Meyer, Ohrt and Regel, 2005). A troublesome disposition was accounted for as sleep issues were connected (Sadeh, Lavie and Scher, 2002). In any case, it appears that the child's sex has little impact on building up a typical example of sleep and awakening. Partition anxiety can be an imperative factor for think about as children with a more elevated amount of division anxiety have more night waking (Ferber, 1985).

The attributes of guardians likewise impact the foundation of an inherent sleep to the degree that they identify with specific propensities or practices at sleep time. Children with anxiety, over-pregnancy, or discouraged moms, or moms who have been shaky in their dating history, will probably have children with sleep issues than different moms. For instance, examines have demonstrated that maternal despondency influences the nature of children's sleep (Goodlin-Jones, Eiben and Anders, 1997). This relationship might be credited to adjustment of the mother's conduct (unnecessary security), which obstructs the child's learning of autonomous sleep propensities. Be that as it may, the time of moms and instruction has little impact on the institutionalization of sleep in children matured 0-4 years. Moms working outside the home detailed that their children dozed more every now and again than children whose moms were at home. In any case, family structure appears to have little impact on the improvement of a uniform

cadence of sleep and arousing in youthful children (Scher, Tirosh, Jaffe, Rubin, Sadeh and Lavie, 1995).

Sleep is profoundly established in a social setting where guardians appear to assume an urgent part (Adair and Bauchner, 2000). An epidemiological examination led in preterm and full-term newborn children showed that adolescence of the sensory system could be a less essential factor in creating sleep issues than deficient parental conduct. Studies have demonstrated that deficient parental practices at sleep time, for example, an absence of guardians while a child nods off are the best indicators of sleep issues in youthful children.

In Western culture, sleep alone is the foundation of the idea of a "decent sleeper" (Anders, Halpern and Hua, 2007). Truth be told, the dominant part of pediatric authorities prescribe that children sleep themselves. Sleep in bed is related to expanded sleep issues, particularly among children more than four years old. The lion's share of children with sleep issues (70%) rested in the guardians' bed in the wake of awakening during the evening, contrasted and 23% of children without sleep issues. It was perceived that race and social and monetary status influence the act of joint sleep. Dissimilar to Western societies, the connection between bed-sharing and sleep issues in non-Western societies isn't accounted for, nor in low-wage, non-Caucasian people group (Lozoff and Wolf, 1984). At the point when the child is conscious to wake up around evening time, it is unmistakably connected with sleep issues (Madansky and Edelbrock 2000).

Much of the time of sleep issues in early childhood, behavioural techniques including guardians ought to be investigated before turning to medicine. It is critical to explore the physical state of the child (for instance, colic, epileptic seizures) to ensure that the issue of sleep is not of a medicinal starting point. Since low sleep does not advance ideal child development, it is essential to break the endless loop of sleep issues once they show up, or even anticipate them before they show up.

Examining parental conduct encompassing sleep is basic in the clinical appraisal of a child with sleep issues. For instance, if a child nods off in his dad's arm before setting him in bed during the evening, it can be one of the suggestions for guardians to put the infant alert in bed with the goal that the child figures out how to sleep alone at sleep time. This learning can be moved back to sleep subsequent to awakening during the evening.

Thusly, the child will create reference focuses in time and space that will diminish his partition anxiety and encourage his capacity to fall back asleep without anyone else amid the night (Minde, Popiel and Leos, 2003). The adequacy of a few behavioural methodologies for mitigating the sleep issues of children that have been weaned from evening time feedings has been observationally illustrated. Eradication or slow termination includes giving the child a chance to cry subsequent to being put to bed with the goal that he figures out how to nod off without anyone else. Waking the child 15 to sleeping conduct, 30 minutes before his normal night enlightenments encourages the child figure out how to fall back asleep alone (Owens, Palermo and Rosen, 2002).

### **2.2.9 Age and Quality Sleep among Adolescents**

Influence of age on the prevalence of problems related to sleep quality contributes progressively to lower sleep quality (Ohayon, Carskadon and Guilleminault, 2004; López-Torres, Navarro and Párraga, 2013), throughout adulthood an attenuation of motivational pressure (tendency to fall asleep based on the elapsed wakefulness) is observed, leading to a lower recovery of lost sleep that affects its subjective quality. Similarly, after 40 years old people tend to go to bed earlier and wake up earlier (Carrier, Paquet and Morettini, 2002). Due to the significant impact of the problems related to quality of sleep, and the influence of factors such as age and sex, it is particularly important to analyze what the actual prevalence of these problems in the population is, especially in the age groups where this impact is greater.

In early adolescence, children experience a shift in their circadian rhythms, causing the peak production of melatonin, a sleep-inducing hormone, to occur later in the evening, from around 11pm to 8am (Carksadon, 2011). The change in normal sleep cycles is further complicated by school schedules. Forty-two percent of public high schools start before 8:00am, and forty-three percent of public high schools start between 8:00am and 8:29am (U.S. Department of Education, 2012). These start times lead adolescents to start their day before they have slept the recommended 8 or more hours. Nearly 70% of adolescents report 7 or less hours of sleep on an average school night (Eaton, McKnight-Ell and Lowry, 2010). This nightly ‘sleep debt’ can contribute to chronic sleep deprivation.

The substantial higher proportion of the prevalence poor quality sleep was observed among males (63.0%) unlike the study reports conducted by Stranges, Tigbe, Gómez-Olivé, Thorogood and Kandala, 2012). This might be due to the nature of the study participants in the area; males bear more responsibility to lead the family and substance users. In this study, sleep quality was significantly associated with age, monthly income, khat chewing, and body mass index in multivariable logistic regression analysis. This study identified that sleep quality is not continuously increasing with age as it was reported by the study conducted in China (Luo, Zhu and Z. 2013). But age group of 40–49 years was identified to have higher risk for poor sleep quality than younger ages. This could be due to reduced melatonin levels as age increases compared with younger ages. Even though the clear mechanism is unknown, a variety of physiological and degenerative changes might cause degeneration of pathways from retina to pineal gland, and/or reduction of pinealocyte -adrenergic receptor functions may contribute to lowering plasma melatonin levels and this may lead to poor sleep quality (Hassan, Gunaid, El-Khally and Murray-Lyon, 2002). The other possible reason might be the testosterone decline at a rate of 1%

per year leading to men being hypogonadal. In line with this fact, studies also indicated that lower levels of testosterone are connected to worse sleep consolidation in the form of reduced performance and increased frequency of awakenings (Holka-Pokorska, Jarema and Wichniak, 2014). Similarly, the possible reason might be the premenopausal/menopausal hormonal effects of estrogen in women. The possible mechanism could be that estrogen has been shown to decrease sleep latency, decrease the number of awakenings after sleep occurs, increase total sleep time, and decrease the number of cyclic spontaneous arousals. During the luteal (low estrogen) phase in premenopausal women, a twofold increase in the number of arousals occurs, particularly when both estrogen and progesterone levels are low (Eichling and Sahni, 2005).

It appears that both the number and timing of arousals during sleep vary with ageing and this is linked to age-related changes in the central nervous systems underlying the circadian rhythm and sleep-wake homeostasis. Ohayon, Carsden, Guilleminault, and Vitiello (2004) conducted a meta-analysis of international studies. They indicated that a decrease in sleep efficiency was evident from 40 years of age, and a 3 per cent decrease per decade was observed until very old age. Sleep disturbance measured by the number of awakenings after sleep onset were found to increase significantly with age. Waking after sleep onset consistently increased about 10 minutes per decade of age from the age of 30. It is indicated that there are pronounced age-related changes in sleep quality in aging which consist principally of a distinct increase in the amount and timing of arousals interrupting sleep, along with a reduction in REM stages and stages 3 and 4 of NREM (Cauter, Plat, Leproult and Copinschi, 1998; Lockley, Skene and Arendt, 1999), as discussed in the following paragraphs. Mathur and Douglas (1995) conducted a study exploring the impact of ageing on arousals. The data indicated a distinct increase in arousals from middle aged adulthood to older age (Mathur and Douglas, 1995). Arousals may across all ages be momentary and

probably unremembered, or may be longer awakenings which the individual remembers and can report (Carskadon and Dement, 2000).

A study undertaken by Murphy, Rogers and Campbell (2000) examined the effects of ageing on awakenings. Sleep episodes of younger (19-28 years) and older (60-82 years) individuals. When allowed to sleep and spontaneously terminate sleep at any time of the day, young sleepers demonstrated a significant disposition to awaken from Rapid Eye Movement sleep while aged sleepers did not. This result suggested that age and/or quality of sleep might be crucial determinants of the stage in which termination of sleep takes place (Murphy, Rogers and Campbell, 2000). Even at circadian phases when sleep inclination was low, young sleepers persisted in awakening from sleep. However, older individuals did not terminate sleep periods from Rapid Eye Movement even when circadian phases were at high Rapid Eye Movement (REM) sleep propensity. The likelihood of awakening from sleep was augmented when the sleep of older adults was less fragmented by bouts of arousals. A wealth of objective and subjective studies of sleep in the elderly population has indicated an increase in both the quantity and duration of arousals that do and do not lead to awakening, during the night (Hume, Van and Watson, 1998; Mathur and Douglas, 1995; Yoon, Kripke, Youngstedt and Elliot, 2003). An implication of this age-related reduction in the propensity to maintain sleep is that the elderly may not need a 'gate' for the shift to wakefulness; instead this shift is readily made from any stage of sleep. The majority of slow wave sleep takes place in the initial third of the night, while REM persists for lengthier periods in the last third of the night. The young adult sleeper spends 75-80 per cent of the night's sleep in Non-Rapid Eye Movement (NREM), and the remaining 20-25 per cent in REM (Douglas, 2002; Marshall, Molle, Fehm and Born, 1998). This however, is not the case for the elderly. Sleep patterns change markedly with age and the daily duration of total sleep declines. Sleep duration, or

total sleep time has been found to be shorter in the elderly when measured by polysomnography (PSG), in comparison to young and middle-aged adults (Carrier, Land, Buysse, Kupfer and Monk, 2001; Yoon, Kripke, Youngstedt and Elliot, 2003). However, the meta-analysis indicated that when researchers compared people aged 60 or over, to people over 70 this trend was not observed, indicating that sleep duration does not continue to significantly decline among seniors (Ohayon, Carsden, Guilleminault and Vitiello, 2004).

Sleep efficiency (the ratio of total sleep to time spent in bed) and sleep latency also decrease with ageing (Cistulli, Fiatarone-Singh and Singh, 2001). The meta-analysis of international studies conducted by Ohayon Carsden, Guilleminault and Vitiello (2004) demonstrated a decrease in sleep efficiency evident from 40 years of age, and a 3 per cent decrease per decade observed until very old age, and also found that sleep onset latency and percentages of stage 1 and 2 increase significantly with age (Ohayon, Carsden, Guilleminault and Vitiello, 2004). Sleep latency was observed to increase very progressively with age and became more apparent after 65 years of age. It has been suggested that the changes are linked to dendritic pruning and declining cortical metabolic rate. REM sleep is maintained with ageing but diminishes in dementia (Douglas, 2002). Rapid Eye Movement (REM) sleep has been associated with intellectual functioning, and REM decreases in instances of organic brain dysfunctions in older people. Slow wave sleep begins to abate in people over the age of 60. Women seem to retain slow wave sleep till a later age than men do. It has been asserted that the age-related decrease in nocturnal slow wave sleep may be associated with the loss of cortical synaptic density (Carskadon and Dement, 2000). The literature documenting age-related changes in sleep architecture would imply that insomnia increases in severity in the older old adults (over 75) in comparison to younger old adults (65-74). However, research has indicated that this is not necessarily the case (McCrae et al., 2003). Sleep patterns

differ considerably between individual older people (Ohayon, Carsden, Guilleminault and Vitiello, 2004).

Their large meta-analytic study indicated that after 60 years of age, only sleep efficiency continued to significantly decrease, with all the other sleep variables remaining unchanged. Age-associated alterations in REM sleep may be due to a shift in the temporary curtailing of REM phase length to a more consistent length across the sleep phase, as opposed to a consecutive increasing (Murphy, Rogers and Campbell, 2000). Other explanations to age-linked changes in sleep include the decline in the sleep solidity of the aged in comparison to younger people (Wauquier, 1993), and the change in autonomic arousal levels during periods of Rapid Eye Movement (REM) sleep (Zepelin and McDonald, 1987). The results of Murphy, Rogers and Campbell's investigation lend support to the premise that a process active in sleep opens the 'gating' to wakefulness, in that non-terminating REM phases were generally discontinued by a brief arousal (significantly more often than by a slip into another sleep stage), and these short-lived arousals took place at a similar temporal position within the ongoing phase as did sleep termination from the phase. Further studies conducted by Dijk, Duffy and Czeisler (2001) and Ficca, Scavelli, Fagoli, Gori, Murri and Salzarulo (2004) also supported the notion that REM sleep is the 'gate' to wakefulness, and that this process was impaired in the geriatric population. In summary, age-related changes in sleep quality in aging consist mainly of a distinct increase in the amount and timing of arousals interrupting sleep, along with a reduction of stages 3 and 4 of NREM. Hence total sleep time and sleep efficiency decrease with age. When very young adults were compared to elderly people a significant increase in sleep latency emerged. Percentage of stage 1 and 2 sleep increased across all adulthood.



Yoon, Kripke, Youngstedt and Elliot, (2003) conducted an investigation comparing the napping of younger adults (18 to 32 years) and older adults (60 to 75 years) and its possible relation to circadian rhythm changes. Based on data from wrist-actigraphy, the study found that when young adults napped they were more likely to do so in the afternoon, whereas older adults napped more in the evening. The evening naps in the elderly were associated with earlier waking times from nocturnal sleep. However, older participants who refrained from evening napping still had earlier wake-up times than the younger participants did. This reflected an advanced sleep-wake cycle in older adults. Hence, evening napping and earlier waking time in the elderly is a possible manifestation of the advanced circadian cycle phenomenon itself. The evening hours, around one to four hours preceding bedtime, have been described as a 'wake maintenance' zone (Cajochen, Munch, Knoblauch, Blatter and Wirz-Justice, 2006). Taking naps in this period of expected minimal sleepiness could be a sign that the human circadian pacemaker, the suprachiasmatic nucleus, weakens as one gets older (Yoon, Kripke, Youngstedt and Elliot, 2003). The declining amplitude of circadian rhythms, earlier bedtimes and earlier waking times in the geriatric population have been explained in terms of age-associated changes in the output of the suprachiasmatic nucleus (Czeisler, Dumont, Duffy, Steinberg, Richardson, Brown, Sanchez, Rios, and Ronda, 1992; Van Someren, 2000a); this interacts with sleep-homeostatic mechanisms, which in turn play a role in the alterations in sleep timing and quality in older adults.

Riedel and Lichstein (1998) examined the sleep of male and female adults over the age of 59 using polysomnography (PSG) and self-reported sleep satisfaction ratings. The 634 participants in this study were older adults residing within the community. Participants were classified as poor sleepers if they reported more than 30 minutes of sleep latency and arousal following sleep onset at least three nights a week for over 6 months, and were classified as good sleepers if they had no

subjective complaint of insomnia (Fichten, Creti, Amsel, Brender, Weinstein and Libman 1995). Sleep latency and depth of sleep (decreased stage 1 sleep and increased slow wave sleep) were the clearest indicators of subjective sleep satisfaction. The authors found that arousals following sleep onset and sleep efficiency did not relate to sleep satisfaction on a particular night. Fichten, Creti, Amsel, Brender, Weinstein and Libman (1995) found significant differences on subjective ratings of total sleep time, total wake time, and sleep efficiency between elderly participants categorized as good sleepers and those categorized as poor sleepers on the basis of their reported sleep satisfaction. Hence, it appears that certain sleep parameters are more strongly related to subjective sleep satisfaction than others. An investigation by Vitiello, Larsen and Moe (2004) also involved community dwelling elderly; participants had a mean age of 67.5 years. Other studies have also indicated significant correlations between subjectively reported and objectively measured (by PSG) sleep parameters (Bliwise, 1992; Edell-Gustaffson, 2002).

The converse has also been indicated, in that there was significant inconsistency between older adults' subjectively underestimated sleep latency and total sleep time in comparison to the results of polysomnography (Chong, Fujun and Chunying, 2000). Individual self-perceptions might account for these disparate findings. For example, a study comparing self-report to PSG has demonstrated that some senior poor sleepers have a tendency to underestimate how much time they spend awake throughout the night (Libman, Creti, Levy, Brender and Fichten, 1997). Furthermore, research had indicated that sleep quality, depth, and how rested participants felt upon awakening were not strongly correlated with objective sleep characteristics in those diagnosed with depression in comparison to healthy controls (Armitage, Trivedi, Hoffmann and Rush, 1997). Hence, it is apparent that individuals with mood disorders may show some sleep-state misperceptions, and this may, at least in part account for some of the disparate findings between

subjective and objective sleep characteristics between different study populations. It is difficult to account for the discrepancies in the studies where mood problems were screened out. It is apparent that self categorized poor sleepers seem to demonstrate poorer sleep quality than self categorized good sleepers (McRae, Wilson, Lichstein, Durrence, Taylor, Bush and Riedel, 2003; Vitiello, et al., 2004). In an investigation using subjective and polysomnographic data,

Bliwise (1992) found that good sleeping older women had significantly better sleep quality, shorter sleep latency, longer sleep duration, better habitual sleep efficiency, and less daytime dysfunction than poor sleeping women. Similar results were also indicated by investigations involving men and women of all ages and only older adults (Groeger, Zijlstra and Dijk, 2004; Lichstein, Durrence, Riedel and Bayen, 2001). These studies utilised a variety of measures to assess sleep quality, including the Pittsburgh Sleep Quality Inventory (Buysse, Reynolds, Monk, Berman and Kupfer, 1989), sleep diaries, and structured interviews. Bliwise (2004) cited a study undertaken by Middelkoop, Jean-Louis, von Gizycki, Zizi and Nunes (1999) which found that elderly people are increasingly likely to believe they are having sleep disturbances if they experience a problem initiating sleep rather than remaining asleep. This was an interesting finding considering that difficulty staying asleep is more customarily reported. With age, circadian rhythms are shifted earlier comparative to clock time. This often leads to the biologically driven sleep course shifting earlier than the desired sleep course (Martin and Ancoli-Israel, 2003).

An examination of the key issues of age and Quality Sleep reveals a gamut of factors influencing the sleep of older people. It appears that there are a number of fundamental issues pertaining to sleep and sleep patterns in ageing. It was evident that the prevalence of sleep disturbance in older adults is high, particularly in contrast to its prevalence across younger adults. However, the three issues, of increased arousals, changes in the sleep architecture, and the circadian rhythm changes

(due to biological or environmental reasons) in older adults may all contribute to the experience of poor sleep in some older individuals. These issues which impact on sleep quality in aging are not discrete factors, but rather factors that are interrelated in complex ways. For instance, nocturnal arousals may be viewed as being linked to both changes in sleep architecture and changes to the strength of the circadian system. These age related endogenous changes to both the synchronisation of core body temperature and sleep/wake rhythms, may potentially lend an explanation for the high prevalence of sleep maintenance insomnia symptoms such as nocturnal arousals and early morning wakefulness, amongst older adults (Dijk and Duffy, 1999).

Several physical and psychological changes are known to occur with normal ageing; however, adjustment to changes in sleep quantity and quality can be among the most difficult. Although sleep disturbance is a common complaint among patients of all ages, research suggests that older adults are particularly vulnerable. A large study of over 9,000 older adults' age of 65 years found that 42 per cent of participants reported difficulty initiating and maintaining sleep. Follow up assessment 3 years later revealed that 15 per cent of participants who did not report sleep difficulty at baseline had disturbed sleep (Foley, Monjan, Brown, Simonsick, Wallace and Blazer, 1995). Although changes in sleep architecture are to be expected with increasing age, age itself does not result in disturbed sleep. Rather it is the ability to sleep that decreases with age, often as a result of the other factors associated with aging (Ancoli-Israel and Ayalon, 2006). Both subjective and objective measures of sleep quality provide support for age-related sleep changes. Subjectively, older adults report waking up at earlier times, increased sleep onset latency, time spent in bed, nighttime awakenings, and napping and decreased total sleep compared to younger adults. Using objective measurement tools such as polysomnography (PSG), studies have been able to support subjective reports of such sleep disturbances. As people age, they experience deterioration of the

SCN, resulting in less synchronized sleep-wake circadian rhythms due to decreased responsiveness to external cues (Swaab, Fliers, and Partiman, 1985). This results in less consistent periods of sleeping and waking across the 24 hours day. Additionally, the amplitude of the circadian rhythm may decrease with age. This can result in increased nighttime awakenings and subsequent Excessive Daytime Sleepiness (EDS) (Vitiello, 1996).

Studies comparing sleep in older adults to younger adults found that older adults spent less time in deeper stages of sleep (N3 or slow-wave sleep). A 2004 meta-analysis representing 3,577 (age 5 to 102 yr) participants suggested that with increasing age, time spent in lighter stages of sleep increased while time spent in rapid eye movement and slow-wave sleep decreased (Ohayon, Carskadon and Guilleminault, 2004). Results from this meta-analysis suggested that age-related sleep changes are already detectable in young and middle aged participants and estimated that the percentage of slow-wave sleep linearly decreased at a rate of approximately 2 per cent per decade up to 60 years and then stabilize through the mid-90s. Moreover, evidence suggests that sleep becomes more fragmented as people age, such that there are more frequent sleep stage shifts, arousals, and awakenings. This results in decreased sleep efficiency (i.e. the proportion of actual sleep time compared to time spent in bed), which indeed, continues to decrease with increasing age, despite slow-wave sleep proportion stabilization (Ohayon, Carskadon, Guilleminault and Vitiello, 2004). A second study found that among men, sleep time decreased an average of 27 min per decade from midlife until the eight decade (Van Cauter, Leproult and Plat, 2000). The reasons underlying elderly sleep disturbances are complex. Accumulating evidence points towards changes in sleep architecture, increased risk for sleep disorders, circadian rhythm shifts medical and/or psychiatric conditions, and medication use (and likely a combination of these factors) as possible factors contributing to older adult sleep disturbance. Considering the impact that sleep

disturbance can have on health, it is important to pay special attention to sleep quality among older adults.

### **2.2.10 Gender Difference and Quality Sleep among Adolescents**

Gender differences cause men and women to sleep differently and may underlie the differential risk for sleep disorders and quality sleep (Krishnan and Collop, 2006). Gender differences refer to biological and physiological differences between men and women, with the sex chromosomes and the gonadal hormones primarily contributing to these differences at the cellular, organ, and system levels. A combination of environmental, social, and cultural influences on the biological factors in men and women contribute to gender differences. Distinct hormonal and physical changes at specific time points, such as puberty, pregnancy, and menopause, during a woman's lifespan can impact her sleep health and lead to gender-specific clinical disorders. Sleep disorders such as the restless legs syndrome (RLS), obstructive sleep apnea (OSA) and insomnia are more prevalent in women during these specific time points (Lee and Kryger, 2008). Lack of adequate sleep or the presence of sleep disorders can greatly impact a woman's daily life, including her societal roles in the work force and as the primary caregiver in the family (Lee and Kryger, 2008). Further, discordance exists between subjective versus objective measures of sleep quality between men and women; women complain of poorer sleep quality and yet the quantitative analysis of their polysomnographic sleep does not support this claim (Baker, Kahan, Trinder and Colrain, 2007). Additionally, women have increased slow wave sleep (SWS) as compared with men at any given age, and SWS decreases with age in men but not in women (Redline, Kirchner, Quan, Gottlieb, Kapur and Newman, 2004).

Gender differences in insomnia prevalence are slight or nonexistent in children, adolescents and in adults under the age of 40 years. However, a distinct gender difference has been suggested in

people over 60 years of age, with insomnia experienced about one and a half times more often in females than in males (Zorick and Walsh, 2000). This has been supported by Vitiello, Larsen and Moe (2004), who found that significantly more women than men experienced subjective sleep disturbance as rated on the Pittsburgh Sleep Quality Index (PSQI). Interestingly, these participants had denied any substantial sleep disturbance during screening. When measured objectively it was revealed that females had greater total sleep time, sleep efficiency, stage 3 and stage 4 sleep, and REM, and less arousal following sleep onset when compared to male. Total wake time and sleep latency did not differ significantly between males and females (Vitiello, Larsen and Moe, 2004). McCrae and Wilson, Lichstein, Durrence, Taylor, Bush and Riedel (2003) found that older women only slept slightly worse than the older men. The results of their study also indicated that the proportion of non-complaining women was larger for the older old (75-98 years) than the younger old (60-74 years). Non-complainers were defined as poor sleepers that experienced at least 31 minutes of sleep latency and arousal following sleep onset at least three times a week but did not report a subjective insomnia complaint (McCrae, Wilson, Lichstein, Durrence, Taylor, Bush and Riedel, 2003).

Gender difference in poor sleep quality has been previously reported for older populations, (Luo, Zhu, Zhao, Guo, Meng, Hong and Ding, 2013), but evidence from some recent studies also found gender difference to be present in sleep quality in young adults (Hung, Yang, Ou, Wu, Lu and Chang, 2013). However, existing studies do not provide information on whether gender difference remains significant after concurrently considering the impact of other socio-demographic, lifestyle factors, and affective disorders (Lindberg, Janson, Gislason, Bjornsson, Hetta and Boman, 1997). The gender difference in sleep problems is mainly attributed to the primacy of affective disorders and socioeconomic disparities, suggesting these may be the pathway variables through which

gender disparity in poor sleep is exhibited (Bruck and Astbury, 2012; Arber, Bote and Meadows, 2009; Sekine, Chandola, Martikainen and Marmot, 2006).

Poor sleep quality is often reported with some linked presenting problems and attributed to a range of modifiable, (eg, lifestyle) and non-modifiable (eg, gender) factors (Bruck and Astbury, 2012). Among non-modifiable factors, gender is seen to play a significant role, as many studies report a higher rate of sleep problems in females (Zhang and Wing 2006). However, the high prevalence of affective disorders in females and other socioeconomic disparities have complicated the role of gender in sleep quality (Arber, Bote and Meadows, 2009; Goldman-Mellor, Gregory, Caspi, Harrington, Parsons, Poulton and Moffitt, 2014). The association between sleep and affective disorders is well established, and disturbed sleep is considered one of the main symptoms of clinical anxiety and depressive disorders (Benca, Obermeyer, Thisted and Gillin, 1992). Nevertheless, it is unclear if the gender difference in sleep quality can be attributed to higher depression rates in females or other socio-economic disadvantages, or whether it is due to the biological difference in the sleep physiology between males and females (Sekine, Chandola, Martikainen and Marmot, 2006; Lindberg, Janson, Gislason, Bjornsson, Hetta and Boman, 1997). Also, along with socio-demographic and affective disorders, lifestyle has also emerged as a significant predictor of sleep problems and poor sleep quality in young adults (Wakasugi, Kazama, Narita, Iseki, Moriyama, Yamagata, Fujimoto, Tsuruya, Asahi, Konta, Kimura, Kondo, Kurahashi, Ohashi and Watanabe, 2014). It is seen that physical inactivity, consumption of alcohol, and long computer screen hours are linked to higher odds of sleep problems (Shochat, 2012). However, there is little known about the differential impact of unhealthy lifestyle on sleep quality in male and female young adults.



Despite a greater subjective complaint in older women, one study using objective sleep measures illustrate that they appear to have ‘better’ sleep in comparison to men. Livingston, Blizard and Mann (1993) conducted a longitudinal study investigating sleep disturbance among older adults. Measuring sleep disturbance subjectively, they found that it was more prevalent in females. However, Pallesen, Nordhus, Kvale, Havik, Nielsen, Johnsen, Skjotskift and Hjeltnes (2002) found no gender differences between elderly people with insomnia and elderly good sleepers. One explanation to these conflicting findings could potentially be that elderly women may evaluate their sleep quality using different criteria than men (Vitiello, Larsen and Moe, 2004). Results may also be confounding due to lack of methodological robustness in some studies, such as small sample sizes, poor screening for possible confounding and conflicting variables, and very lenient exclusion and inclusion criteria. A large meta-analysis indicated that the links between sleep variables and aging were roughly the same for both genders. However, gender-related differences were more pronounced on some sleep variables, with females experiencing a larger percentage of stage 1 sleep, longer sleep latency, and a shorter total sleep time than their male counterparts. This suggests that increasing age in females has a stronger effect on these sleep variables than it does in males (Ohayon, Carskadson, Guilleminault and Vitiello, 2004).

The higher incidence of problems and shorter sleep duration in women is constant in the literature (Uhlig, Sand and Odegård, 2014; Zhang and Wing, 2006), and has been also found in the Spanish population.<sup>17</sup> The National Health Survey 2011-2012 found an average sleep duration that ranged from 7.03 to 7.11 hours in women between 45-74 years. In men, these same averages range from 7.19 to 7.61 hours.<sup>18</sup> In a meta-analysis of sex differences in prevalence of insomnia, Zhang and Wing (2006) found that women are 1.41 times more likely to suffer from insomnia. These differences could be due to hormonal changes related to menopause symptoms and associated with

physical, physiological and psychological changes that may increase the incidence of problems related to sleep (Xu, Bélanger and Ivers, 2011).

There are also gender differences in the prevalence of sleep disorders. Narcolepsy may have a slight male predominance, as does rapid eye movement (REM) behaviour disorder (RBD), while idiopathic hypersomnia has a more of female preponderance (1.8/1); however, there is very little epidemiological data available for these disorders (Krishnan and Collop, 2006; Bjornara, Dietrichs and Toft, 2013; Ali, Auger, Slocumb and Morgenthaler, 2009; Vernet and Arnulf, 2009). Although women are at twice the risk for RLS as compared with men, the sex differences are a result of parity. While nulliparous women have prevalence similar to men, the risk for Restless Legs Syndrome (RLS) gradually increases with number of pregnancies. Women with three or more children have three times greater risk of RLS compared with men or nulliparous women (Berger, Luedemann, Trenkwalder, John and Kessler, 2004); this risk increases two-fold from pregnancy to menopause. Importantly, RLS follows a chronic course and may worsen with age (Garcia-Borreguero, Egatz, Winkelmann and Berger, 2006). Women with RLS are at an increased risk of comorbid problems and are slightly more likely to complain of sleep related symptoms compared with men (Bentley, Rosman and Mitchell, 2006). The insomnia risk emerges with the onset of menses contributing to the gender differences (Johnson, Roth, Schultz and Breslau, 2006). Although hormonal changes are implicated, the exact biological mechanism for increased risk of insomnia in girls is unknown (Mong, Baker and Mahoney, 2011; Knutson, 2005). Interestingly, the two-fold increase in depression risk coincides with insomnia at puberty (Born, Shea and Steiner, 2002). For Obstructive Sleep Apnea (OSA), large gender differences in the prevalence have been attributed in part to pathophysiologic differences and in part to referral bias (Jordan and McEvoy, 2003; Redline, Kump, Tishler, Browner and Ferrette, 1994). Interestingly, weight gain in

women versus obesity in men below the age of 50 years, was the cause of increased OSA prevalence (Young, Peppard and Taheri, 2005; Redline, Schluchter, Larkin and Tishler, 2003).

Gender differences exist in how men and women report symptoms of OSA; men frequently report snoring, snorting, gasping and sleepiness, while women report unrefreshing sleep, fatigue, insomnia, and depression (Kump, Whalen and Tishler, 1994; Wheaton, Perry, Chapman and Croft, 2012). Possible reasons for these differences may include less astute bed partners and that women are less likely to report snoring or snorting due to social awkwardness. Anatomical differences of the upper airway may further contribute to the underlying symptoms. The presence of more airway fat, greater neck circumference, and susceptibility of the airway to collapse is greater in men as compared with women (Subramanian, Jayaraman, Majid, Aguilar and Surani, 2012). Regardless, the use of the right instruments in the right populations is crucial for a correct diagnosis of OSA in women. For example, an older screening instrument such as the STOP Bang was designed with questions biased towards men, therefore making it inappropriate for use in women.

Normal sleep in women is impacted by hormonal effects during menses, pregnancy/lactation, perimenopause, menopause, and post menopause and often leads to sleep disturbances or sleep disorders during these periods. For example, one-third of women complain of sleep disturbances and related symptoms such as cramps, bloating, and headaches as reasons for disrupted sleep during the premenstrual week or during menses (National Sleep Foundation. 2007). Menopause is characterized by cessation of menses, associated with an increase in follicle stimulating hormone and a decrease in estrogen levels. The prevalence of insomnia is increased from 33%–36% in premenopausal women to 44%–61% in postmenopausal women (Krishnan and Collop, 2006). This increase may be associated with the presence of vasomotor symptoms, hormonal changes,

age-associated changes in sleep, comorbid conditions, and psychosocial factors (Joffe, Massler and Sharkey, 2010).

Hormone replacement therapy (HRT) seems to alleviate some of the sleep disturbances and improve quality of life; however, the role of HRT in improving sleep quality has been debatable and still continuous to be a major research gap, largely due to lack of concurrence between the study populations and study variables (Antonijevic, Stalla and Steiger, 2000; Tranah, Parimi and Blackwell, 2010). Longitudinal studies have begun to address major questions about the link between menopause and poor sleep in racially diverse populations. For example, Study of Women's Health Across the Nation (SWAN) and the Penn Ovarian Study have incorporated sleep-related items into their questionnaires and performed polysomnographic studies on subgroups (Kravitz, Avery and Sowers, 2011; Sowers, Zheng and Kravitz, 2008). These studies have made major advances in identifying underlying causes of sleep disturbance in menopause and have begun to explore whether there are differences associated with ethnicity and menopausal status.

Psychosocial issues impact sleep health in women much more than men. The prevalence of depression is higher in women starting with puberty and is linked to insomnia (Johnson, Roth, Schultz and Breslau, 2006). More midlife women (66%) than men are natural caregivers and are more likely to report stress, depression, and sleep disturbances (National Center For Caregiving, 2012; Administration on Aging. 2013). Further, women constitute half the workforce, and women shift workers have greater difficulty adjusting to shift work, in part due to sleep problems (Chung, Wolf and Shapiro, 2009). Women shift workers report poor sleep quality, an increased risk of breast cancer, shorter menstrual cycles, and a greater risk for miscarriage, menstrual disruption, and sub-fertility (Chung, Wolf and Shapiro, 2009; Stocker, 2013). There is a need to understand

how to integrate these unique psychosocial issues into biological research. It is also essential to understand what quality of life indicators matter to women in their midlife and what causes stress in women of different cultures. Finally, women veterans are an important population in which sleep problems have received scant attention; posttraumatic stress disorder is a major risk factor for insomnia in general and is related to more severe sleep disruption in women veterans (Hughes, Jouldjian, Washington, Alessi and Martin, 2013). Conditions besides sleep disorders such as overactive bladder (OAB) and pain can cause disrupted sleep in women. Fibromyalgia, a chronic pain condition, affects 7% of women over the age of 60 years and is characterized by poor sleep efficiency (Prados, Miro, Martinez, Sanchez, Lopez and Saez, 2013). Disrupted sleep is associated with poor daytime function, decline in physical performance, and functional limitations in older women (Goldman, Stone and Ancoli-Israel, 2007). As nighttime sleep deviates from 7 hours, older women experienced difficulty with daily activities leading to poor quality of life (Goldman, Stone and Ancoli-Israel, 2007). However, more longitudinal studies are needed to determine if poor sleep is associated with subsequent decline in physical function.

### **2.2.11 Research Questions**

The following research questions were answered in the study

1. What is the pattern of relationship that exists among the independent variables and quality sleep among in-school students in Ibadan?
2. What is the joint contribution of the independent variables to the prediction of quality sleep among in-school students?
3. What is the relative contribution of each of the independent variables to quality sleep among in-school adolescents'?

### **2.2.12 Research Hypotheses**

The following research hypotheses raised were tested at 0.05 level of significance

- H<sub>01</sub>:** There is no significant difference in quality sleep of male and female in-school adolescents in south-west Nigeria.
- H<sub>02</sub>:** There is no significant difference in quality sleep and age of in-school adolescents in south-west Nigeria.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter discussed the study design, population, sample and sampling technique, instrumentation, procedure for data administration and collection and method of data analysis.

#### **3.1 Design**

The study adopted the survey design. The study investigated the psychological (anxiety, depression, psychological stress and neuroticism) and socio-environmental (social media use, drug abuse and home environment) factors as correlates of quality sleep (QS) among in-school adolescents in the South-West, Nigeria.

#### **3.2 Population**

The population for this study consisted of all the in-school adolescents in the South-West, Nigeria. The South-West Nigeria is made up of six states namely, Ekiti, Lagos, Ogun, Ondo, Osun and Oyo. The in-school adolescents in the South-West, Nigeria are predominantly secondary school students who are either in the early, middle and late adolescence stages of life.

#### **3.3 Sample and Sampling Technique**

The sample for the study consisted of one thousand eight hundred (1800) selected secondary in-school adolescents in South-West, Nigeria using the multistage sampling technique. The technique involved a systematic selection of participants at different stages. It also believed in the fact that large population is divided into stages to make the sampling process more practical as a result of heterogeneity of the behaviour under investigation. The sampling procedure was done in four stages thus:

Stage one; three states (Ekiti, Ogun and Oyo) were randomly selected from the six states in South-West, Nigeria using non probability sampling (Convenient Sampling). At stage two, the

researcher identified the three senatorial districts in each of the selected state and randomly selected a local government each from each of the senatorial districts in the selected states. That is, from Ekiti State; Ekiti Central Senatorial Districts (Ado Local Government Area), Ekiti South-west Senatorial Districts (Ikere Local Government Area) and Ekiti East Senatorial Districts (Ido Local Government Area), from Ogun State; Ogun Central Senatorial Districts (Abeokuta North Local Government Area), Ogun East Senatorial Districts (Sagamu Local Government Area) and Ogun West Senatorial Districts (Imeko Afon Local Government Area) and from Oyo State; Oyo Central (Lagelu Local Government Area), Oyo North (Ogbomosho North) and from Oyo South (Ibadan North). At the third stage, the researcher randomly selected six secondary schools both public and private from the local government area. The researcher randomly selected 100 Senior Secondary School II students from each of the six selected secondary schools per local government at the fourth stage, totaling 600 students in each state. In all, the total number of 1,800 senior Secondary School Students took part in the study.

### **3.3 Inclusion Criteria**

Participants who meet the following criteria were included in the study:

1. Give consent for the study
2. Must be registered students in any of the public or private secondary school in the South-West, Nigeria.
3. The in-school adolescents were between 13 to 19years of age.
4. Pilot study was carried out to make sure the instruments are culture fair.
5. Pittsburgh quality index was used for screening



### **3.6 Instrumentation**

This study made use of eight instruments. Each instrument was sectionalised from section A to H. Section A was constructed to include information on socio-demographic data of the respondents.

#### **3.6.1 Section B: Pittsburgh Sleep Quality Scale**

The Pittsburgh Sleep Quality Index (PSQI) was developed by Smyth (2012). The scale was adapted for this study. The scale is an effective tool for measuring the pattern and quality sleep. It shows the differences between the "Good" 'Poor' sleep by measuring seven areas: the quality of self-sleep, latency, sleep, and the usual sleep efficiency, sleep disorders, the use of sleep medication, and daytime inactivity during the month self-client rates each of these seven areas of sleep. The recording of the answers is based on a scale of 0 to 3, where table 3 reflects the negative limit on the Likert scale. The world total of "5" or greater refers to the "poor" sleeper. The psychological characteristics of this measure have been determined by experimental testing. Thirty (30) non-respondents were appointed to study. This has been done to ensure cultural harmony and eliminate prejudices. Some reported items have been deleted with a low link value. In total, 11 items were used with the value of the Alpha Cronbach of .85. An example of these items is: People always wake up in the middle of the night to ease themselves or early in the morning, during the last month, and how many sometimes you have difficulty staying awake while eating, reading, and can't get to sleep within 30 minutes.

#### **3.6.2 Section C: Hamilton Anxiety Scale**

Anxiety Scale by Hamilton (1959) was adapted for this study. The Z-SAS has 20-item self-report assessment instrument, which includes measures of state and trait anxiety based on scoring in four groups of manifestations: cognitive, autonomic, motor, and central nervous system symptoms. The

Z-SAS is a 5-item scale that evaluate how people think of triviality(Have you ever have a feeling that life was not worth living? Have you ever wished that you were dead?), suicide ideation (Have you ever have a feeling and thought of taking your life, even if you would not really do it?” “Have you reached the point where you seriously considered taking your life or perhaps made plans how you would go about doing it?), and suicide attempt (Have you tried to take your own life?). The scale was subjected to reliability analysis with the value of the Alpha Cronbach of .58 was obtained with 3 items. Example of the items is; People always get worried too much about so many things and always feel being so restless that it is difficult to sit still.

### **3.6.3 Section D: Depression Scale**

This scale was measured using Depression Inventory-II (BDI-II): The BDI-II by Beck is made up of 21-item self-report gauge designed to evaluate depressive symptomatology in adolescents and adults. Beck developed this questionnaire in 1996 and was adopted to suit the environment where the study was carried out. Participants were asked to rate each of the depressive symptoms, ranging from 1 (not present) to 4 (severe), in a way to know how they have been feeling during the past two weeks, as well as the date of conclusion of the questionnaire. The Beck Depression Inventory BDI-II is designed to provide a single generally score that ranges from 0 to 63. Guidelines are suggested from the following cut-score for patients diagnosed with depressive disorder: minimal (0–13); mild (14–19); moderate (20–28); and severe (29–63). The scale was validated through test–retest reliability (Pearson  $r=0.93$ ), and also high internal consistency ( $\alpha=0.91$ ). In establishing the psychometric properties of this scale, the scale will be pilot tested on a sample of Thirty (30) respondents who shall be university students different from the proposed respondents. This is done so as to ensure the reliability value, cultural compatibility and elimination of biases. The new

Cronbach alpha value is .80. Some of the items are; Numbness or tingling, Wobbliness in legs, Fear of worst happening and Difficulty in breathing.

### **3.6.4 Section E: Psychological Stress Adolescents Scales**

Adolescents' psychological stress was adapted for the study. This scale was adapted from the educational stress scale by Sun, Dunne, Hou and Xu (2011). Six domains of stress consisting of five items each were predefined, including attitudes towards study and grades. 13 items were extracted from the original 16 items statements rated on a 4-point Likert scale ranging from 1 (Strongly disagree) to 4 (Strongly agree), Sample of items on the scale include: "I am not satisfy with my educational grades", perceived pressure "I always feel tensed up and pressurized in my daily studying", perceived burden "I often feel that there is too much school work", expectations from others "I feel my parents are disappointed whenever my test/exam results are poor", and self-expectation "I feel worried when I do not live up to my own principles". This instrument has sufficient internal reliability in this sample with Cronbach'  $\alpha = .82$ . on the other hand, in order to establish the psychometric properties of this scale, the scale was pilot tested on a sample of Thirty (30) respondents who were university students different from the proposed respondents. This was done so as to ensure the reliability value, cultural compatibility and elimination of biases. The new Cronbach' value obtained is  $\alpha = .82$  with 8 items.

### **3.6.5 Section F: NEO Five Factor Personality Inventory (NEO-PI):**

Neuroticism was measured using the NEO Five Factor Personality Inventory (NEO-PI) by Costa and McCrea's (1991). This instrument uses a 5-point Likert scale, with a response format ranging from 1 (Strongly disagree) to 5 (Strongly agree), to assess five personality dimensions: Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. All dimensions are measured with 10 items each. For this study, only a sub-scale of (Neuroticism) was used. This

sub-scale has (10) items structured on a five-point rating format; the items on the scale include the following among others: I often feel tense and jittery; I often get angry at the way people treat me. Generally, NEO five Factor Inventory (Neuroticism section) has been widely used. It has been found to possess adequate internal consistency and temporal stability:  $\alpha = 0.68$ , (Costa and McCrae, 1992).

### **3.6.6 Section G: Social Networking Time Use Scale (SONTUS)**

The instrument was designed in Nigeria for Nigerian use by Olufadi (2015) which measured the amount of time used by individuals on the social network sites as a multi-dimensional construct which is made up of five factors: recreation and free periods, academic related period, public place related use, stress related period, and motive for use. The validation processed made use of both exploratory and confirmatory factor analysis techniques produced a 29 item instrument which inhibits excellent psychometric properties. In addition, the investigation of the construct validity of the SONTUS using ten personality and well-being measures, and two theoretically related constructs to SONTUS provide preliminary evidence for the convergent, predictive and incremental validity of SONTUs. The internal consistency reliability of SONTUs and its five subscales were examined using Cronbach alpha was originally .92. The scale was revalidated and Cronbach'  $\alpha = .85$  was attained with 8 items such as; I use Facebook for personal use every day, I send message to friends and family for several hours every day and I have got used to writing messages using the smileys and emoticons.

### **3.6.7 Drug Abuse Scale**

This scale was adapted from Paul Moberg, Center for Health Policy and Program Evaluation, University of Wisconsin Medical School. Adapted with permission from Mayer and Filstead's (1983) "Adolescent drug Involvement Scale" The scale measures drug use and abuse by

adolescents using four top scale ranging from Strongly Agree to Strongly Disagree, examples of items on the scale include “Does your use of drugs made you lost friends?”, “Has your family neglected you because of your use of drugs” among others. The scale originally reported Cronbach alpha of 0.72. The psychometric properties of this scale will further be established, the scale was pilot tested on a sample of Thirty (30) respondents who were university students different from the proposed respondents. This is done so as to ensure the reliability value, cultural compatibility and elimination of biases. Cronbach’ Alpha value acquired is  $\alpha = .93$  with 19 items. For example; aside those drugs required for medicinal reasons, have you used other drugs?, as a result of drug use, have you had "blackouts" or "flashbacks" and has drug abuse created problems between you and your spouse or your parents?

### **3.6.8 Section H: Family Packed Questionnaire and Scales**

The family packed questionnaire was adapted to measure home environment of the adolescents in this study. It was developed by Ox and Bentovim (2000). The scale is a 12 items questionnaire ranging from most of the time 4 to never 1. The internal consistency is Cronbach alpha = .88. However, in other to establish the psychometric properties of this scale, a pilot study was carried using a sample of Thirty (30) respondents. The new Cronbach’ alpha obtained is  $\alpha = .75$  with 7 items. Examples of the items are: A bed room with television on can prevent a good sleep, Sharing a bed with my sibling can facilitate poor sleep, Noises from the mosques or churchin my environment prevent a good sleep at night.

### **3.7 Procedure for Data Administration and Collection**

A letter of introduction was obtained by the researcher from the Head of Department of Guidance and Counselling which was taken to various State Ministries of Education seeking authorization to carry out research in school. The researcher visited the selected schools to introduce herself to the

school Principals and seek the support of some teachers as well as students attention, after which the objective of the study was made known to the students. The questionnaires were distributed and monitored with the assistance of the teachers who assisted in the distribution, monitoring and collection. Retrieved questionnaires were input into computer, using numerical Package for the Social Sciences (SPSS).

### **3.8 Data Analysis**

The data collected was analysed using both descriptive and inferential statistical tools. The descriptive statistics entailed the use of charts, while the inferential statistics was done using the Pearson's Product Moment Correlation (PPMC) and Regression analysis. PPMC was used to determine the direction of relationship that exists between the independent variables and the dependent variable, while Regression helped to ascertain both joint and collective contribution of all the independent variables to dependent variable at 0.05 level of significance. Independent t-test was also used to determine the difference between male and female adolescents QS.

## CHAPTERFOUR

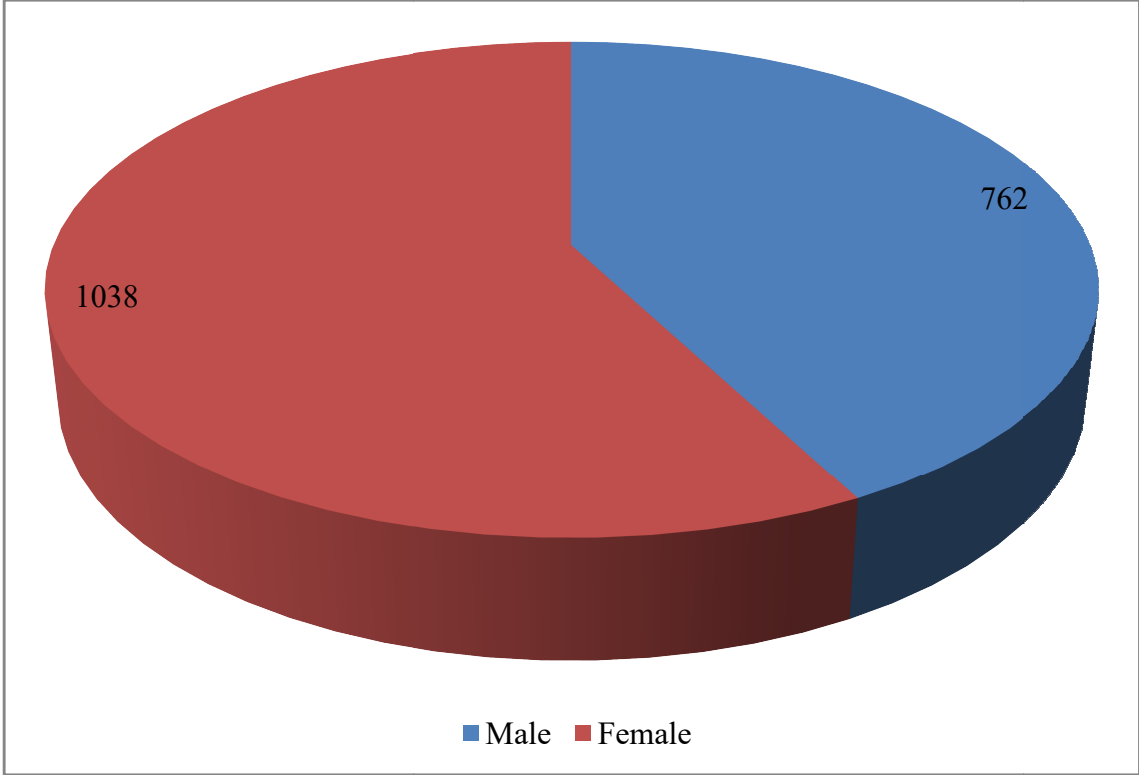
### RESULTS

This chapter presents the results of the findings. Three research questions were asked and three hypotheses were raised using descriptive statistics, Pearson Product Moment Correlation, Multiple and Hierarchical regression analysis. The significance level was tested at 0.05. Summary of the findings were presented in the tables below:

**Table 4.1: Distribution of the respondents by the various demographic Tables**

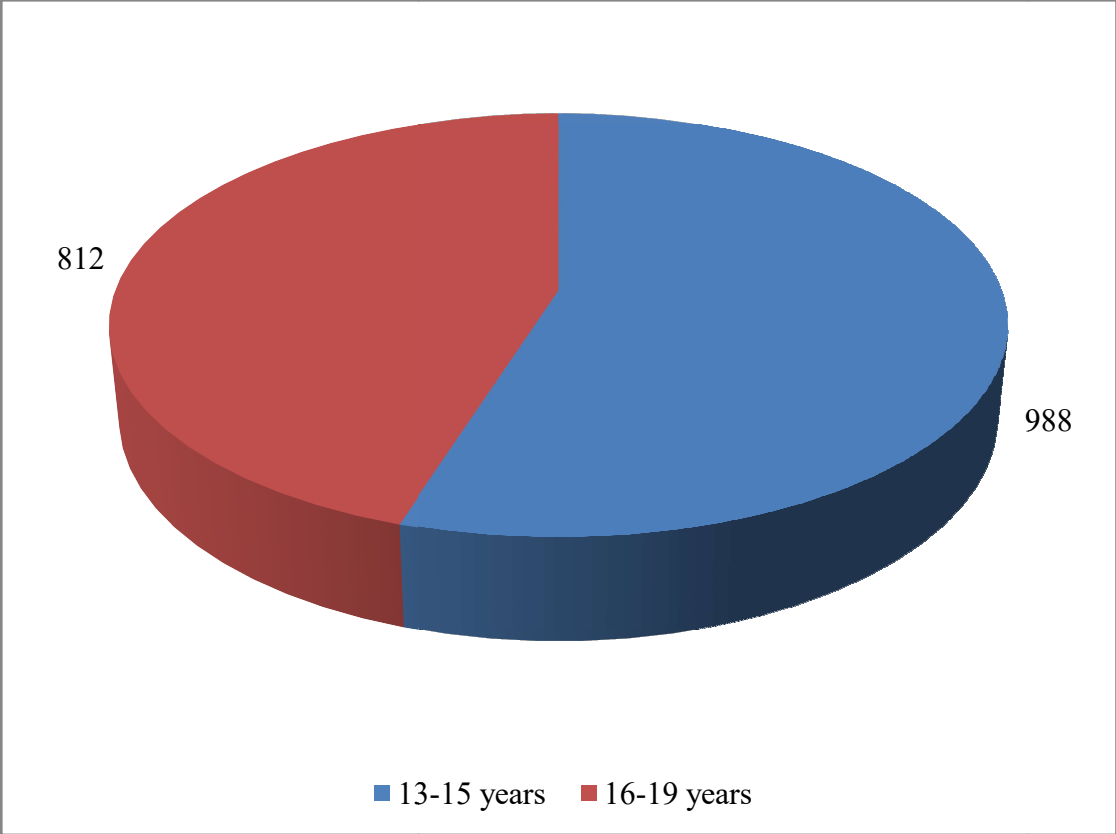
Variable	Label	Frequency	Percentage
Gender	Male	762	42.3
	Female	1038	57.7
Age	13-15 years	988	54.9
	16-19 years	812	45.1

Table 1 showed that 762(42.3%) of the respondents are males while 1038(57.7%) are their female counterparts. 988(54.9%) are aged 13-15 years while 812(45.1%) are aged 16-19 years respectively.



**Fig 4.1: Pie Chart showing the distribution of the respondents by Gender**





**Fig 4.2: Pie Chart showing the distribution of the respondents by Age**

**Research Question One:**

What are the relationships that exist among psychological stress, neuroticism, depression, anxiety, social media usage, adolescents’ drug abuse and home environment on QS among in-school adolescents’ south-west, Nigeria?

**Table 4.2: Correlation Matrices showing the relationship between Sleep Quality, Psychological Stress, Neuroticism, Depression, Anxiety, Social Media Use, Adolescents drug Abuse and Home Environment**

	1	2	3	4	5	6	7	8	$\bar{x}$	S.D
<b>1</b>	1								23.35	6.73
<b>2</b>	.254* (.000)	1							21.08	5.52
<b>3</b>	.184* (.000)	.308* (.000)	1						139.56	29.35
<b>4</b>	.152* (.000)	.109* (.000)	.267* (.000)	1					38.78	10.68
<b>5</b>	.067* (.005)	.179* (.000)	.330* (.000)	.433* (.000)	1				4.31	1.75
<b>6</b>	.100* (.000)	.051* (.030)	.127* (.000)	.171* (.000)	.103* (.000)	1			20.14	6.20
<b>7</b>	-.133* (.000)	-.337* (.000)	-.226* (.000)	.028 (.240)	-.121* (.000)	.201* (.000)	1		41.36	14.47
<b>8</b>	-.033 (.158)	-.065* (.006)	-.035 (.137)	.066* (.005)	-.006 (.808)	.075* (.001)	.264* (.000)	1	17.34	4.31

**N.B:** \*\* Significant at  $p < 0.01$  \*Significant at  $p < 0.05$

**Key**

1. Sleep Quality
2. Psychological Stress
3. Neuroticism
4. Depression
5. Anxiety
6. Social Media Use
7. Drug Abuse

## 8. Home Environment

The results from Table 4.2 showed that QS among in-school adolescents had significant correlation with psychological stress ( $r = .254, p < 0.05$ ) and neuroticism ( $r = .184, p < 0.000 < 0.05$ ), Depression ( $r = .152, p < 0.000 < 0.05$ ), Social Media Use ( $r = .100, p < 0.000 < 0.05$ ), Anxiety ( $r = .067, p < 0.000 < 0.05$ ). However, QS among in-school adolescents had a negative significant relationship with drug abuse ( $r = -.133, p < 0.000 < 0.05$ ) but had no significant correlation with home environment ( $r = -.033, p > 0.158, p > 0.05$ ) in this study among the respondents.

### Research Question Two:

What is the joint contribution of psychological stress, neuroticism, depression, anxiety, and social media usage, adolescent's drug abuse and home environment on QS among in-school adolescent's south-west, Nigeria.

**Table 4.3 Regression Analysis showing the joint contribution of Psychological Stress, Neuroticism, Depression, Anxiety, Social Media Use, Adolescents drug Abuse and Home Environment on Sleep Quality**

R	R Square	Adjusted R Square	Std. Error of the Estimate			
.314	.099	.095	6.4049			
A N O V A						
Model	Sum of Squares	Df	Mean Square	F	Sig.	Remark
Regression	8038.964	7	1148.423	27.995	.000	Sig.
Residual	73512.316	1792	41.022			
Total	81551.280	1799				

Table 4.3 showed the joint contribution of the seven independent variables (psychological stress, neuroticism, depression, anxiety, social media use, adolescents abuse and home environment) to the prediction of the dependent variable i.e. Sleep Quality. The table also shows a

coefficient of multiple correlation ( $R = .314$  and a multiple  $R^2$  of .099. This means that 9.9% of the variance was accounted for by eleven predictor variables when taken together. The significance of the composite contribution was tested at  $\alpha = 0.05$ . The table also shows that the analysis of variance for the regression yielded F-ratio of 27.99 (significant at 0.05 level). This implies that the joint contribution of the independent variables to the dependent variable was significant and that other variables not included in this model may have accounted for the remaining variance.

**Research Question Three:**

What is the relative contribution of psychological stress, neuroticism, depression, anxiety, and social media usage, adolescent’s drug abuse and home environment on QS among in-school adolescent’s south-west, Nigeria?

**Table 4.4:Regression Analysis showing the relative contribution of Psychological Stress, Neuroticism, Depression, Anxiety, Social Media Use, Drug Abuse and Home Environment to Sleep Quality**

Model	Unstandardized Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta Contribution		
(Constant)	13.588	1.251		10.858	.000
Psychological Stress	.240	.030	.197	7.947	.000
Neuroticism	1.956E-02	.006	.085	3.368	.001
Depression	8.008E-02	.016	.127	4.976	.000
Anxiety	-.265	.099	-.069	-2.666	.008
Social Media Use	8.735E-02	.026	.080	3.415	.001
Drug Abuse	-3.356E-02	.012	-.072	2.799	.005
Home Environment	-2.067E -02	.036	-.013	-.567	.571

a. Dependent Variable: sleep quality

Table 4.4 reveals the relative contribution of the seven independent variables to the dependent variable, expressed as beta weights, viz: Home Environment ( $\beta = -.013$ ,  $P > .05$ ) had no significant relative contribution to adolescents QS while Psychological Stress ( $\beta = .197$ ,  $P < .05$ ), Depression ( $\beta = .127$ ,  $P < .05$ ), Neuroticism ( $\beta = .085$ ,  $P < .05$ ), Social Media Use ( $\beta = .080$ ,  $P < .05$ ) Drug Abuse ( $\beta = -.072$ ,  $P < .05$ ) and Anxiety ( $\beta = -.069$ ,  $P < .05$ ) had significant relative contribution which could independently and significantly predict sleep quality in the study.

**Hypothesis One:** There is no significant difference in the Sleep Quality of male and female in-school adolescents in South-West, Nigeria

**Table 4.5 Independent t-test showing the difference in the Sleep Quality of male and female in-school adolescents**

Gender	N	Mean	Std. Dev.	Crit-t	Cal-t.	Df	p value
Male	762	22.4646	6.7695	1.96	4.828	1798	.000
Female	1038	20.0058	6.6337				

Table 4.5 shows that there was a significant difference in the Sleep Quality of male and female in-school adolescents in South-West, Nigeria (Crit-t = 1.96, Cal.t = 4.828, DF = 1798,  $p < .05$  level of significance). Hence, male adolescents ( $\bar{x}=22.46$ ) had a better sleep quality compared to their female adolescents ( $\bar{x}=20.01$ ) in the study, hence, the hypothesis is rejected.

**Hypothesis Two:** There is no significant difference in the Sleep Quality of early and late in-school adolescents in South-West, Nigeria.

**Table 4.6: Independent t-test showing the difference in the Sleep Quality of early and late in-school adolescents in South-West, Nigeria.**

Age	N	Mean	Std. Dev.	Crit-t	Cal-t.	Df	p value
early (13-15 years)	988	23.2561	7.1042	1.96	.676	1798	.499
late (16-19 years)	812	23.4717	6.2536				

Table 4.6 shows that there was no significant difference in the Sleep Quality and age of in-school adolescents (early and late) in-school adolescents in South-West, Nigeria (Crit-t = 1.96, Cal.t = .676, DF = 1798,  $p > .05$  level of significance). The hypothesis is accepted.

**Table 4.7; Frequencies on the In-depth Interview**

**In the past one month, how will you rate your quality sleep**

	Frequency	percent	Valid percent	Cumulative percent
Valid V. Good	9	5.0	5.0	5.0
F. Good	26	14.4	14.4	19.4
F. Bad	68	37.8	37.8	57.2
V. Bad	77	42.8	42.8	100.0
Total	180	100.0	100.0	

Table 4.7 shows that the 70 percent of the in-school adolescents had very bad quality sleep while 19.4 had fairly good quality sleep in South-West Nigeria.

**4.7.1; What kind of problem do you experience with your sleep**

	<b>Frequency</b>	<b>Percent</b>	<b>Valid percent</b>	<b>Cumulative percent</b>
Valid	12	6.7	6.7	6.7
1. problems falling asleep				
2. waking up at night	20	11.1	11.1	17.8
3. waking up early in the morning	65	36.1	36.1	53.9
4. not feeling refreshed in the morning	66	36.7	36.7	90.6
5. unpleasant dreams	17	9.4	9.4	100.0
Total	180	100.0	100.0	

Table 4.7.1 shows that the major problems experienced by the in-school adolescents were problems of falling asleep and waking up at night

**What reasons were responsible for your sleeping problems?**

	frequency	Percent	Valid percent	Cumulative percent
1. Not used to surrounding s	10	5.6	5.6	5.6
2. Noise in the room or outside	16	8.9	8.9	14.4
3. Nervousness about iussues	64	35.6	35.6	50.0
4. Thoughts about issues	90	60.0	50.0	100.0
5. Total	180	100.0	100.0	

Table 4.7 2 shows that the reasons responsible for the in-school adolescents sleep problems were thoughts about issues affecting them in school and at home and also nervousness about issues affecting their studies.

**4.3 Summary of the Findings**

The following findings were revealed in the study;

- Psychological stress, neuroticism, depression, anxiety, social media and adolescent drug abuse had a positive significant relationship with the dependent variable (QS) in the study. While home environment had no significant relationship with the dependent variable (QS).
- All the variables jointly accounted for 9.9% variance in predicting QS.
- Six out of seven factors made positive relative contribution to QS in the following order:



Furthermore, psychological stress made the highest significant contribution to the prediction of QS. There was a significance difference between the QS of male and female in-school adolescents in South West, Nigeria.

- There was no significance difference between the QS of young and old in-school adolescents in South West, Nigeria and;
- There was a significance difference between the QS of in-school adolescents from intact and non-intact family in South West, Nigeria.

#### **4.3.1 Summary of the In-depth Interview Findings**

- Seventy percent (70%) of the participant had poor QS.
- Major problems experienced by the in-school adolescents were problems of falling asleep and waking up at night
- The reasons responsible for the in-school adolescents sleep problems were thoughts about issues affecting them in school and at home and also nervousness about issues affecting their studies.

## **CHAPTER FIVE**

### **DISCUSSION, CONCLUSION AND RECOMMENDATIONS**

This chapter comprises the discussion of the findings in the study based on the three research questions asked, conclusions, implications of the study findings, and recommendations as well as suggestions for further research. Efforts are made to explain the findings within the context of available relevant literature.

#### **5.1 Discussion**

##### **5.1.1 Research Question One**

In discussing research question one that states what is the pattern of relationship that exists between the independent variables (psychological stress, neuroticism, depression, anxiety, social media use, adolescents' drug abuse, and home environment) and QS among in-school adolescents in south-west, Nigeria? The findings of this study revealed that there were positive significant relationships between psychological stress, depression, anxiety, social media use, neuroticism, adolescents' drug abuse and QS, however home environment had no significant relationship between sleep quality. This implies that an increased influence of psychological stress, neuroticism, depression, anxiety, social media use, adolescents' and drug abuse play a significant role on the QS of in-school adolescents in this study. It also implies that psychological stress, neuroticism, depression, anxiety, social media use, adolescents' and drug abuse are major determining factors in the influence of the academic performance of the in-school adolescents.

This finding support the finding of Abshire (2017) who found out that poor sleep quality correlated with increased psychological stress, which could affect QS. Also the finding of Kloss, Nash, Horsey, and Taylor (2011) who found out that psychological stress and anxiety disorder had significant relationship with poor sleep quality. Further, in-school adolescents' poor QS could be

associated with psychological stress experienced because an increased perceived stress is related to decrease physical activity, which is also a prevalent limitation to QS. Lund, Reider, Whiting and Prichard (2010) also found that poor-quality sleepers reported increased negative mood and higher levels of perceived stress throughout the week and the weekend than good-quality sleepers.

More so, the findings of the study further revealed that neuroticism related positively and significantly with QS of in-school adolescents. This indicates that neuroticism could have an increased influence on QS. This finding corroborates the finding of Johansson, Riegel, Svensson, Broström, Alehagen and Dahlström (2012) who found that neuroticism correlated significantly with QS. This suggests that individual's personality trait could determine if such individual would have good or poor QS. This finding is in agreement with previous findings of Kim, Cho, Chang, Ryu, Shin and Kim (2015), Nathans, Oswald and Nimon (2012) and Aloba, Adewuya, Ola and Mapayi (2007) who found that different domains of personality trait (neuroticism) correlated positively and significantly with sleep quality of young women, college students and university students in Nigeria. Conversely, the study disagreed with the finding of Gray and Watson (2002) who opined that personality traits was not related to sleep quality whereas constructive affectivity extensively predicted sleep quality. Neuroticism for instance as well as negative emotionality was associated with lower sleep quality. Conscientiousness and extraversion made modest contributions to sleep quality. The finding also corroborates the finding of Soehner, Kennedy and Monk (2007) and Gau (2000) who found out that extraversion and neuroticism correlated significantly with poorer sleep quality, whereas extraversion did not.

Furthermore, the finding of this study revealed that depression, anxiety, social media use, and adolescents' drug abuse habits were also correlated with QS of in-school adolescents. This implies that an increased influence of depression, anxiety, social media use, and adolescents' drug abuse

habit have a significant role in QS of in-school adolescents. This finding corroborate the finding of Zelic (2017) and Sivertsen, Harvey, Lundervold, and Hysing (2014), who found that depressive symptom significantly related with sleep disturbance and sleep quality of college adolescents.

Additionally, anxiety also significantly related with QS of in-school adolescents. That is in-school adolescent that are anxious may likely experience poor quality sleep. On the other hand, adolescents with low level of anxiety may have good quality sleep. This finding affirm the finding of Doane and Thurston (2014); Short, Gradisar, Lack, Wright and Dohnt (2013); Moore, Slane, Mindell, Burt, and Klump (2011), who found out that reduced sleep duration associated was with high daily anxiety among adolescents and that adolescents with anxiety experienced a longer time to fall asleep than non-anxious teens. Bartel, Gradisar, and Williamson (2015), found that delayed bedtimes and sleep problems was related to pre sleep worry.

Furthermore, social media use revealed significant relationship with QS. This means that social media usage such as whatApp, 2go, chatting and other social media platform would influence the QS of in-school adolescent this might be due to the fact that the study participants are in public and private schools who may have access to social networks gargets such as phone, tablet, iPhone, iPad and many others. The finding of this study supported the finding of Ahn and Kim (2015); Kim, Kim, Kim, Yang, Jung and Lee (2013) and Zhang (2013) who found that social media use (smart phone use) related significantly to poor QS. Also, the finding further revealed that adolescent drug abuse was related positively with QS of in-school adolescents. This implies that the influence of drug would affect QS of in-school adolescents. The only plausible reason could be that the majority of adolescents who participated in this study may abuse drugs also studies have shown that abuse of any drug increases stress and low QS.

This finding was in support with the finding of Danielle (2017) who found out that there was positive significant relationship between drug use such as caffeine and QS. Richards and Smith, (2015); Randall, (2011) and Lovallo, Farag, Vincent, Thomas, and Wilson (2006) who also found out that that drug addiction is related with increased poor sleep and linked with increased cortisol that causes stimulation of the CNS in males and females. Similarly, Whittier, Sanchez, Castaneda, Sanchez, Yanez and Williams (2014) concluded that drug use such as “stimulant beverages” were more 1.37 times more likely to cause “excessive daytime sleepiness.” This finding also affirmed to the studies of Lohsoonthorn, Khidir, Casillas, Lertmaharit, Tadesse, Pensuksan and Williams (2012) whose findings established a strong correlation between amount of stimulant beverages and QS, where the greater amount of stimulant beverages were consumed, the higher incidences of poor QS.

Furthermore, the finding of this study revealed no significant relationship between sleep quality and home environment. This implies that there was no significant relationship between QS and home environment of in-school adolescents in this present study. That is, the home environment of the respondents of this study would not influence sleep quality. This finding contradicts the finding of Gabrish (2017) who found that an individual’s direct environment relates with QS. So also, the finding of this study disagrees with the finding of Lund, Reider, Whiting and Prichard (2010) and that of Muzet, (2008) who both found out that disrupt sleep correlated significantly with home environment. In this same vein, the study of Harvard Medical, (2008) on external factors that influences sleep, found out that home environment related positively and significantly with decrease the QS was not supported by the finding of this study. This might because the home environments of the study respondents are conducive for quality sleep.

### **5.1.2 Research Question Two**

The second research questions the joint contribution of psychological stress, neuroticism, depression, anxiety, and social media usage, adolescent's drug abuse and home environment on QS among in-school adolescent's south-west, Nigeria. The finding showed that all the seven factors jointly and significantly predicted QS of in-school adolescents in South-west, Nigeria. This implies that all the factors had combined influence on QS and that any change in any of the factors will affect QS of adolescents and this might affect the academic performance of the adolescents. Sleep is important for psychological and physiological health and essential for basic functioning, including alertness, "handling emotions," and "cognitive performance" (Kilgore, 2010). However, good QS could be affected by several factors which according to this study could be psychological stress, neuroticism, depression, anxiety, and social media usage, adolescent's drug abuse and home environment. Poor QS is associated with low concentration in class, higher risk for cognitive problems or disturbances, behavioural problems and low academic performance. This finding confirmed the findings of earlier studies (Gabrish 2017; Delannoy, Mandai, Honoré, Kobayashi and Sequeira, 2015) who observed that sleep quality may be affected by numerous variables including drug use such as, caffeine use (Schardt, 2015), alcohol (Harvard Medical, 2007; National Sleep Foundation), smoking (Lohsoonthorn, Khidir, Casillas, Lertmaharit, Tadesse, Pensuksan, and Williams (2012) and other environmental factors.

Additionally, the finding of this study corroborates the findings of Terrell and Gingras (2005), who observed that academic and cognitive problem may be as a result of inadequate quality sleep caused by many factors which could be physiological and psychological. Similarly, the finding of this study agreed with the findings of James, Omoaregba and Igberase (2011) on the prevalence

and correlates of poor sleep quality among medical students at a Nigerian university. Their study established that psychoactive substance use, psychological stress, personality trait and co-morbid physical or psychological condition were factors that could affect the QS of medical students in Nigeria. This finding also lend credence to Irish, Kline, Gunn, Buysse and Hall (2015) and Michal, Wiltink, Kirschner, Schneider, Wild and Münzel (2014) who indicated that sleep quality could be influenced by many factors such as diabetes mellitus, cardiac diseases, stress, neuroticism, dietary, menopause, and eating and drinking habits. Evidences from these studies strongly suggests that the findings of this study are not out of place that is psychological stress, neuroticism, depression, anxiety, social media use, adolescents' drug abuse, and home environment are factors influencing the QS among in- school adolescents in south-west Nigeria.

### **5.1.3 Research Question Three**

In discussing the research question that states what is the relative contribution of each of psychological stress, neuroticism depression, anxiety, social media use, adolescents' drug abuse and home environment to QS among in-school adolescents. The finding discovered that the positive value of the effects of psychological stress, depression, neuroticism, anxiety, adolescent drug abuse, home environment and social media usage is determined by positive reinforcement of these seven factors. In terms of degree of the contribution, psychological stress made the highest significant contribution to the prediction of QS followed by depression, neuroticism, social media use, adolescent's drug abuse and finally followed by anxiety respectively. This implies that psychological stress, depression social media, neuroticism, anxiety, and adolescent drug abuse are the most potent predictors of QS in this study. That is, QS of in-school adolescents could be affected if factors such as psychological stress, depression, social media, neuroticism, anxiety and adolescent's drug abuse are not in place.

However, home environment did not make any significant contribution to the prediction of QS in this present study. This finding supports the finding of Abshire's (2017) who found out that psychological stress was a key determinant of QS. That is an increased psychological stress would reduce the hours of sleep and result into poor QS. Also, the finding of Kloss, Nash, Horsey, and Taylor (2011) and of Lund, Reider, Whiting and Prichard (2010) who found that psychological stress is potent factors predicting poor sleep quality. And that QS reported increased negative mood and higher levels of perceived psychological stress.

The second most potent factor that contributed to the prediction of QS of in-school adolescents in this study is depression. This finding suggests that a depressed adolescent may have problems in sleeping well, thereby reduced the QS of such in-school adolescents. This finding corroborates with the findings of Zelic (2017) who found out that depression among adolescents predicted their sleep problems. A study in Norway of over 10,000 adolescents aged 16-18 years, with depressive problem reported significantly shorter sleep duration, more time trying to fall asleep, and more time awake during the night (Siversten et al., 2014). The finding corroborates the findings of Chen, Burley and Gotlib(2012), Howland (2011), Okun, Luther, Prather, Perel, Wisniewski and Wisner(2011) who found that adults with depressive disorder in clinical samples shows a direct impact on their QS and the presence of sleep problems has been shown to both increase the relative risk of developing depression and to be a predictor of relapse.

Additionally, Social media use significantly predicted QS of in-school adolescents. This means that social media use would to a large extent predicts QS of in-school adolescents in South-west, Nigeria. These findings lead credence to the findings of Ahn and Kim (2015) who found out that social media use (smart phone use) predicted insufficient sleep and sleep latency. Likewise, this finding is in line with the previous findings of Zhang (2013) and Kim 2012 who found that social



medial addiction influenced sleep quality by suppressing secretion of melatonin. Disregarding sleep disturbances caused by sound of social media devices, the activities to watch smartphone lights before going to bed can affect the brain, affecting sleep latency negatively, and leading to daytime dysfunction next day

Another factor that predicted QS of in-school adolescents in this study is neuroticism. Individuals who exhibit Neuroticism of the Big-five personality traits; Neuroticism (N,) would likely experience poor QS. However, of these five factors, neuroticism have been frequently found to predict variety of health-risk behaviours and outcomes such as mental health which usually result to low QS. This finding corroborate the findings of Kim, Cho, Chang, Ryu, Shin and Kim (2015), Nathans, Oswald and Nimon (2012);Raynor and Levine (2009) and Aloba, Adewuya, Ola and Mapayi (2007) who found that the five-factor model (FFM) of personality has emerged as a promising predictor of QS and other health behaviours. Likewise, Duggan, Friedman, McDevitt and Mednick (2014) found out that high neuroticism was the most potent predictors of poor QS. Conversely, the study finding disagrees with the finding of Gray and Watson (2002) who found that neuroticism did predict sleep quantity but positive affectivity significantly predicted sleep quality. The finding also supports the finding of Soehner, Kennedy and Monk (2007) and Gau (2000) who established that neuroticism is a strong predictor of poorer sleep quality, whereas extraversion was not.

Adolescent drug abuse is another factor in this study that predicted QS of in-school adolescent in south-west Nigeria. The use of drugs by adolescents is seen as a means to cope with stress, without putting into consideration the effects it has on sleep quality. This findings corroborate the findings of Danielle (2017); Richards and Smith, (2015); Thomas, and Wilson (2006) who found out that abuse of any drug increases stress and QS and that drug use such as caffeine decreases QS.

Furthermore, this finding corroborate with the previous finding of Randall and Lovallo, Farag, and Vincent, (2011) who found out that drug addiction predicted increased poor sleep and linked with increased stress that causes stimulation of the CNS in males and that in females. Similarly, Whittier, Sanchez, Castaneda, Sanchez, Yanez and Williams (2014) found out that drug use such as “stimulant beverages” were more 1.37 times more likely to report “excessive daytime sleepiness.” This finding affirms the study of Lohsoonthorn, Khidir, Casillas, Lertmaharit, Tadesse, Pensuksan and Williams (2012) whose found out that there is a correlation between amount of stimulant beverages and quality of sleep, where the greater amount of stimulant beverages were consumed, the higher incidences of poor sleep quality observed.

The last factor in this study that predicted QS of in-school adolescents is anxiety. In-school-going adolescents who are anxious may likely experience poor quality sleep, while adolescents with low level of anxiety may have good quality sleep. This finding is in congruence with previous findings of Doane and Thurston (2014) who found that adolescent with anxiety often experienced reduced sleep duration in daily sleep. Short, Gradisar, Lack, Wright, and Dohnt (2013) find out that anxious adolescents always have a longer time to fall asleep than non-anxious ones. Moore, Slane, Mindell, Burt, and Klump (2011), discovered that cordiality due to long time that adolescents spent talking and interacting with peers during the evening was the strongest predictor of sleep. Finally, Bartel, Gradisar, and Williamson (2015), performed a meta-analysis of 41 studies including more than 85,000 adolescents and found that pre-sleep worry was a major factor in determine sleep problems.

#### **5.1.4 Hypothesis Testing**

Going by the result obtained in the first hypothesis three which says there is no difference in the Quality Sleep between male and female in-school adolescents’ as shown in table 4.5 (Crit-t = 1.96,

Cal.  $t = 4.828$ ,  $DF = 1798$ ) was rejected. The study found a significant difference in the quality sleep between male and female adolescents'. Hence, male adolescents ( $\bar{x}=22.46$ ) had a better sleep quality compared to their female adolescents ( $\bar{x}=20.01$ ) in the study. This means that male school adolescents demonstrated good quality sleep than their female counterparts. However, gender differences cause men and women to sleep differently and underlie the differential risk for sleep disorders and quality of sleep (Krishnan and Collop, 2006). This finding is consistent with the study of Taylor and Bramoweth (2010); Lund and Reider (2010) and Oluwole (2010) whose findings revealed that sleep quality and duration are generally varied by gender and age. In contrast to this, Cheng, Shih, Lee, Hou, Chen, Chen, Yang and Yang 2012; Suen, Hon and Tam (2010) and Tsai and Li (2004) however established that female students have a higher risk of poor sleep quality than males. Many female students have noticed that their pattern of sleep are more disrupted than the male sleep quality. However, Oluwole (2010) study showed that female undergraduate in Nigeria has longer mean sleep durations. Furthermore, Bolvin (2012) study found out that the body's internal clock do affects alertness sleep differently in male than in female.

In line with the result obtained in the first hypothesis, Lee and Kryger, (2008) provide support by enacting that a combination of environmental, social, and cultural influences on the biological factors in men and women contribute to gender differences. Distinct hormonal and physical changes at specific time points, such as puberty, pregnancy, and menopause, during a woman's lifespan can impact her sleep health and lead to gender-specific clinical disorders. Sleep disorders such as the restless legs syndrome (RLS), obstructive sleep apnea (OSA) and insomnia are more prevalent in women during these specific time points. Lack of adequate sleep or the presence of sleep disorders can greatly impact a woman's daily life, including her societal roles in the work

force and as the primary caregiver in the family (Lee and Kryger, 2008). The result is not surprising as Redline, Kirchner, Quan, Gottlieb, Kapur and Newman, (2004) points that, women have increased slow wave sleep (SWS) as compared with men at any given age, and SWS decreases with age in men but not in women.

Contrary, Vitiello, Larsen and Moe (2004), who found that significantly more women than men experienced subjective sleep disturbance as rated on the Pittsburgh Sleep Quality Index (PSQI). Interestingly, these participants had denied any substantial sleep disturbance during screening. When measured objectively it was revealed that females had greater total sleep time, sleep efficiency, stage 3 and stage 4 sleep, and rapid eye movement, and less arousal following sleep onset when compared to male. However, Arber, Bote and Meadows, (2009); Sekine, Chandola, Martikainen and Marmot, (2006); Bruck and Astbury, (2012) in their studies reported that gender difference in sleep problems is mainly attributed to the primacy of affective disorders and socioeconomic disparities, suggesting these may be the pathway variables through which gender disparity in poor sleep is exhibited. Poor sleep quality is often reported with some linked presenting problems and attributed to a range of modifiable, (eg, lifestyle) and non-modifiable (eg, gender) factors (Bruck and Astbury, 2012). Among non-modifiable factors, gender is seen to play a significant role, as many studies report a higher rate of sleep problems in females (Zhang and Wing 2006). However, the high prevalence of affective disorders in females and other socioeconomic disparities have complicated the role of gender in sleep quality (Arber, Bote and Meadows, 2009; Goldman-Mellor, Gregory, Caspi, Harrington, Parsons, Poulton and Moffitt, 2014).

One explanation to these conflicting findings could potentially be that women may evaluate their sleep quality using different criteria than men (Vitiello, Larsen and Moe, 2004). Results may also

be confounding due to lack of methodological robustness in some studies, such as small sample sizes, poor screening for possible confounding and conflicting variables, and very lenient exclusion and inclusion criteria. A large meta-analysis indicated that the links between sleep variables and aging were roughly the same for both genders. However, gender-related differences were more pronounced on some sleep variables, with females experiencing a larger percentage of stage 1 sleep, longer sleep latency, and a shorter total sleep time than their male counterparts. This suggests that increasing age in females has a stronger effect on these sleep variables than it does in males (Ohayon, Carskadson, Guilleminault and Vitiello, 2004). Psychosocial issues impact sleep health in women much more than men. The prevalence of depression is higher in women starting with puberty and is linked to insomnia (Johnson, Roth, Schultz and Breslau, 2006). More midlife women (66%) than men are natural caregivers and are more likely to report stress, depression, and sleep disturbances (National Center For Caregiving, 2012; Administration on Aging. 2013).

The second hypothesis states that there is no significant difference in the in the Sleep Quality of early and late in-school adolescents in South-West, Nigeria, was accepted. In the study it was shown that there was no significant difference in the quality sleep and age of the respondents' (early and late adolescents') (Crit-t = 1.96, Cal.t = .676, Df = 1798). Going by the nature of the construct age, the influence of age on the prevalence of problems related to sleep quality contributes progressively to lower sleep quality (Ohayon, Carskadon and Guilleminault, 2004; López-Torres, Navarro and Párraga, 2013), throughout adulthood an attenuation of motivational pressure (tendency to fall asleep based on the elapsed wakefulness) is observed, leading to a lower recovery of lost sleep that affects its subjective quality. Similarly, after 40 years old people tend to go to bed earlier and wake up earlier (Carrier, Paquet and Morettini, 2002). Due to the significant impact of the problems related to quality of sleep, and the influence of factors such as age and sex,

it is particularly important to analyze what the actual prevalence of these problems in the population is, especially in the age groups where this impact is greater. This finding does not support the finding of Carskadon, Wolfson, Acebo, Tzischinsky and Seifer (2017) who found that older adolescents, aged between 15 and 19 years, reporting poor sleep quality, corroborating the study by Felden, Filipin, Barbosa, Andrade, Meyer and Louzada (2015) who found that the risk of poor sleep quality increased with age. This association may be explained by the fact that, while there is a cumulative increase of academic and recreational activities, there is also a reduction of time of sleep throughout the years. In addition, the finding does support the finding of Evansn Gonnella Marcynyszn, Gentile and Salnkar (2005) in a study analyzed 5226 adolescents classified 20% as poor as poor sleeper. It was found out that the prevalence of poor quality sleep increased with age.

Carksadon, (2011) provides support in the present study that in early adolescence, children experience a shift in their circadian rhythms, causing the peak production of melatonin, a sleep-inducing hormone, to occur later in the evening, from around 11pm to 8am . The change in normal sleep cycles is further complicated by school schedules. Forty-two percent of public high schools start before 8:00am, and forty-three percent of public high schools start between 8:00am and 8:29am (U.S. Department of Education, 2012). These start times lead adolescents to start their day before they have slept the recommended 8 or more hours. Nearly 70% of adolescents report 7 or less hours of sleep on an average school night (Eaton, McKnight-Ell and Lowry, 2010). This nightly 'sleep debt' can contribute to chronic sleep deprivation. Late adolescents' were identified to have some risk for poor sleep quality, this could be due to reduced melatonin levels as age increases compared with younger ages. Even though the clear mechanism is unknown, a variety of physiological and degenerative changes might cause degeneration of pathways from retina to

pineal gland, and/or reduction of pinealocyte -adrenergic receptor functions may contribute to lowering plasma melatonin levels and this may lead to poor sleep quality (Hassan, Gunaid, El-Khally and Murray-Lyon, 2002). The other possible reason might be the testosterone decline at a rate of 1% per year leading to men being hypogonadal. In line with this fact, studies also indicated that lower levels of testosterone are connected to worse sleep consolidation in the form of reduced performance and increased frequency of awakenings (Holka-Pokorska, Jarema and Wichniak, 2014).

Similarly, Eichling and Sahni, (2005) lend support that the possible reason might be the premenopausal/menopausal hormonal effects of estrogen in women. The possible mechanism could be that estrogen has been shown to decrease sleep latency, decrease the number of awakenings after sleep occurs, increase total sleep time, and decrease the number of cyclic spontaneous arousals. During the luteal (low estrogen) phase in premenopausal women, a twofold increase in the number of arousals occurs, particularly when both estrogen and progesterone levels are low (It appears that both the number and timing of arousals during sleep vary with ageing and this is linked to age-related changes in the central nervous systems underlying the circadian rhythm and sleep-wake homeostasis. Going by the findings of Murphy, Rogers and Campbell (2000) who examined the effects of ageing on awakenings of early and older individuals, When allowed to sleep and spontaneously terminate sleep at any time of the day, young sleepers demonstrated a significant disposition to awaken from Rapid Eye Movement sleep while aged sleepers did not. This result suggested that age and/or quality of sleep might be crucial determinants of the stage in which termination of sleep takes place (Murphy, Rogers and Campbell, 2000). Even at circadian phases when sleep inclination was low, young sleepers persisted in awakening from sleep. However, older individuals did not terminate sleep periods

from Rapid Eye Movement even when circadian phases were at high Rapid Eye Movement (REM) sleep propensity. The likelihood of awakening from sleep was augmented when the sleep of older adults was less fragmented by bouts of arousals.

In support of the present study, Cistulli, Fiatarone-Singh and Singh, (2001) discovered that sleep efficiency (the ratio of total sleep to time spent in bed) and sleep latency also decrease with ageing. The meta-analysis of international studies conducted by Ohayon Carsden, Guilleminault and Vitiello (2004) demonstrated a decrease in sleep efficiency evident from 40 years of age, and a 3 per cent decrease per decade observed until very old age, and also found that sleep onset latency and percentages of stage 1 and 2 increase significantly with age (Ohayon, Carsden, Guilleminault and Vitiello, 2004). Sleep latency was observed to increase very progressively with age and became more apparent after 65 years of age. It has been suggested that the changes are linked to dendritic pruning and declining cortical metabolic rate. REM sleep is maintained with ageing but diminishes in dementia (Douglas, 2002). Rapid Eye Movement (REM) sleep has been associated with intellectual functioning, and REM decreases in instances of organic brain dysfunctions in older people. Slow wave sleep begins to abate in people over the age of 60. Women seem to retain slow wave sleep till a later age than men do. It has been asserted that the age-related decrease in nocturnal slow wave sleep may be associated with the loss of cortical synaptic density (Carskadon and Dement, 2000).



## **5.2 Implications of the Findings for Counselling Practice**

The findings of this study have revealed that psychological stress, depression, social media use, neuroticism, anxiety and adolescent drug abuse correlated positively and significantly with QS among in-school adolescents in South-west Nigeria. This implies that in counselling practices, factors such as psychological stress, anxiety, social media use, adolescent drug abuse and neuroticism are important in other to ensure good QS so that on the long run academic performance of in-school adolescents is improved. Adolescents with inadequate or insufficient sleep may suffer mental health problems and become inactive in class resulting into poor academic achievement and increase future health risky problems such as chronic illnesses.

The study also highlights the need for adolescents to have a good quality sleep always in order for adequate daily performance, full concentration in class and a good academic performance. The study would be beneficial to Counselling Psychologist and Clinical Psychologist who have the responsibilities of interacting with adolescents with the knowledge to approach the issues of QS with adolescents experiencing poor sleep so that proper counseling be given to them to achieve a good, well rested and refreshing sleep and thereafter, a good academic performance.

## **5.3 Conclusion**

In conclusion, quality sleep is essential for mental and physical alertness and sleep is a physiological and fundamental needs for everyone. The function of sleep is to repair and restore the brain and the body, if this function is lacking, the function of the brain and the body will gradually break down. The in-school adolescents need good quality sleep in order to perform well academically and in their daily activities. There is need for the adolescents to consider all the factors in this study so as to have a good quality sleep and also have a good mental and physical

fitness. It is imperative for adolescents to have less psychological stress also in order attain a good academic achievement

This study focused on some psychological (anxiety, depression, psychological stress, neuroticism) and socio-environmental (social media usage, adolescents' drug abuse and home environment) factors as correlates of QS among in-school adolescents in the South West Nigeria. It was found that psychological stress, depression, neuroticism, social media use, anxiety and adolescent drug abuse correlated positively and significantly with QS among in-school adolescents in South-west Nigeria, while no significant relationship among QS, and home environment was found. Also, that all the seven factors mentioned in this study (psychological stress, neuroticism depression, anxiety, social media use, adolescents drug abuse, and home environment) jointly and significantly predicted QS of in-school adolescents. Relatively, psychological stress is the most potent factor in this study. It made the highest contribution to the prediction of QS of in-school adolescents, followed depression, neuroticism, social media use, adolescent drug abuse and anxiety respectively. However, home environment had nosignificant contribution to the prediction of QS in this present study.

#### **5.5 Limitations of the Study**

The study investigated the correlates of psychological factors (anxiety, depression, and psychological stress and neuroticism) and socio-environmental factors (social media use, drug abuse, and home environment) factors on QS of in-school adolescents in South-West, Nigeria. The study is limited by its contents which could be widened to other variables. In terms of methodology, the study is limited to descriptive quantitative study which it is mainly data collection from the respondents, it could have been substantiated with qualitative study involving focus group discussion (FGD) , this would have made the finding robust and authentic. The study

is also limited by the sample size, which is just three states (Ekiti Ogun Oyo and States) out of the six states in the Southwest Nigeria. This may have resulted in some bias in the survey sample. Hence, caution should be exercised in terms of generalization of the findings.

## **5.5 Recommendations**

The following recommendations are made based on the findings of this study;

In-school adolescents should consider factors mentioned in this study as vital in ensuring good QS. Particularly those who might have been experiencing academic challenges, the need to seek professional counseling service so that they can be counseled properly on the penalty of poor QS on their performance academically, which in turn may assist them to attain their academic goals and decrease the risk of developing future health problems due to chronic sleep deprivation which in turn help them to maximize their academic potential.

Public health practitioners and Clinical psychologists should also consider the outcome of this study as it provides adequate information on psychological stress, anxiety, social media usage and neuroticism has critical in maintaining the health of this population, knowing that sleep deprivation is directly linked to both acute and chronic problems.

Educational and counseling psychologists should consider the outcome of this study as potent factors responsible for various sleep problems among adolescents. It should also enable educational and counseling psychologists to understand and develop effective psychological strategies that could help in the management of sleep problems and other problems that might result from poor QS among adolescents in Nigeria at large. In other words, inadequate sleep as a result of these factors may have directly impacted on the ability of students to learn and perform efficiently in the academic setting. Secondary school teachers should understand and gain insights to students' poor academic performance not mostly as a result of low intelligence but might be due

to poor QS resulting from psychological stress, neuroticism, anxiety, social media usage as mentioned in this study.

Genetic psychologists and geneticists generally should also consider the outcome of this study relevant in relation to sleep problem. Owing that long-term consequences of sleep loss as a result of psychological stress, neuroticism, depression, anxiety, social media use, adolescents' drug abuse and dietary habit is related to obesity, reduced immune system function, and cardiovascular issues. Thus, educating patients on the importance of these factors and good QoS will help patients reach their life goals.

### **5.6 Suggestion for Further Studies**

In accordance with the fact that there is no finality in research, this study is open for further investigations and challenges. The researcher thus welcomes the replication of this study elsewhere. This may validate and establish further the findings of this research. This study was limited to three states in Southwest Nigeria. It is thus suggested further that, extension of the scope to include larger samples. And that the study also be carried out in other states in Nigeria to broaden the generalizations of this study. Also, the present study employed quantitative descriptive study of correlational type, however other studies could be done by making use of some psychological strategies to improve good QS among the sample population (adolescents). Finally, there are other variable that could be considered which are not mentioned in this study, that may also be responsible for poor QS, such as demographical and social variables.

### **5.7 Contributions to Knowledge**

This study has been able to contribute to knowledge in the following areas:

The study has been able to demonstrate that psychological (anxiety, depression, psychological stress and neuroticism) and socio-environmental (social media use, drug abuse and home

environment) factors correlated with QS of in-school adolescents in the South-West, Nigeria. It has also been able to exhibit that psychological stress depression, neuroticism, social media use, adolescent drug abuse and anxiety effectively influenced positively and significantly QS of in-school adolescents.

The study has proved that all the seven factors (psychological stress, neuroticism, depression, anxiety, social media use, adolescents' drug abuse and home environment) jointly and significantly predicted QS of in-school adolescents. It has been further established that psychological stress is the most potent factor to the prediction of QS of in-school adolescents, depression, neuroticism, social media use, adolescent's drug abuse and anxiety. The study further demonstrated that there was no significant difference in the QS of males and females in-school adolescents.

The findings from this study provide valuable insight into the psychological and socio-environmental factors profile in the context of Quality Sleep among in-school adolescents. Also, the study has added to the existing literature on the possible correlates of Quality Sleep such like; neuroticism personality traits, social media, drugs abuse, psychological stress, depression, anxiety, home environment, gender role and age of the respondents in the context of quality sleep. In view of the fact that research reports affirm adolescents quality of sleep is as a result of some psychological and socio-environmental factors often suffer quality sleep, there is a dire need to further explore the quality of sleep among in-school adolescents across all the geo-political zones in Nigeria with an aim to providing a needed yet over looked area of need.

The literature reviewed in this study has given a better understanding and knowledge of quality sleep among in-school adolescents'. The study has further proven that both psychological and socio-environmental factors could determine the quality sleep of adolescents'. The study can serve

as good data base for government, school authorities, parents and other stakeholders in the education of students in Nigeria. In general, the study has filled a research gap, and more needed information is provided by this research effort to have better understanding of quality sleep among in-school adolescents’.

The study has been able to profer strategies for poor quality sleep of the in-school adolescents in south-west Nigeria. The strategies incudes; relaxation, watching of television and seeing movies, listening to music, sleeping at the recommended hours by the in-school adolescents, and having a refreshed sleep.

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**APPENDIX I**

**RESEARCH QUESTIONNAIRE**

**UNIVERSITY OF IBADAN**

**FACULTY OF EDUCATION**

**DEPARTMENT OF GUIDANCE AND COUNSELLING**

**Dear Respondent,**

This instrument is designed to investigate some issues pertaining to your sleep patterns and quality, and some other factors that may contribute to your quality of sleep. The questionnaire is entirely for research purpose; your responses shall be treated with utmost confidentiality. You are to mull over the statements in each section carefully and then indicate the extent to which you agree by selecting from any of the options.

**Thank you.**

**SECTION A: DEMOGRAPHIC DATA**

1. **Gender:** Male ( ) Female ( )
2. **Age:** 13 -15 ( ) 16 – 19 ( )
3. **Family type:** Intact ( ) Separated ( ) Single-parenthood ( )

**SECTION B: THE PITTSBURGH SLEEP QUALITY INDEX (PSQI)**

**Instructions:** The following questions relate to your usual sleep habits during the past month only; your answer should indicate the most accurate reply for the majority of days and nights in the past month. Please indicate your response by answering all questions.

S/N	During the past month, how often have you had trouble sleeping because you .....	Strongly Agreed	Agreed	Strongly Disagreed	Disagreed
1	Late going to bed can affect quality of sleep				
2	Waking up in the middle of the night or early morning can disrupt sleep which may in turn affect quality of sleep				

3	Serious coughing at night often results in poor quality of sleep for some people				
4	Sharing the same room with someone who snores loudly can result in less quality sleep				
5	Poor ventilation of the room may affect sleep quality in people				
6	Being cold at night and especially when it rains may affect adequate breathing in people which may result in poor quality of sleep				
7	People experience less quality of sleep as a result of bad dreams and nightmares				
8	People often at times have poor quality of sleep due to pains they have as a result of too much work at school / home				
9	Constant going to bed late leads to less sleep which result in poor sleep				
10	Reading late into the night which result in reduced hours of sleep may affect quality of sleep for some people				
11	Whether bad dreams or not those who would sleep well would sleep well				

### SECTION C PSYCHOLOGICAL STRESS SCALE FOR ADOLESCENTS

**KEY: Strongly Disagree (SD), Disagree (D), Agree (A), Strongly Agree (SA)**

S/N	ITEMS	SD	D	A	SA
1	Constant studying both at day and night time makes someone feel a lot of pressure which may affect their quality of sleep.				
2	The thought of performing well in one's educational career may bring a lot of academic pressure that may subsequently affect individual sleep				
3	The pressure put on the students by their parents about their grades in their academic performance in school makes it difficult for them to relax and thereby result in too much pressure for the students.				
4	Many students always feel that they have disappointed their teachers and parents when their test or exams result are bad and lead to emotion confusion and stress				
5	Thinking of passing well academically and working towards achieving or getting good grades often brings a lot of pressure or tension among students which often may affect ability to sleep.				

**SECTION D: SECTION F: Neuroticism Personality Inventory (NEO-PI)**

**Instruction: Directions:** Please read these questions and circle the number and words that best match your agreement with the following statements in sections, B, & C of SD= Strongly Disagree, D = Disagree, U= Undecided, A = Agree, SA = Strongly Agree.

S/N	NEUROTICISM	SD	D	U	A	SA
1	I am easily disturbed.					
2	I change my mood a lot.					
3	I get irritated easily.					
4	I get stressed out easily.					
5	I get upset easily					
6	I have frequent mood swings					
7	I often feel blue.					
8	I worry about things					
9	I am not relaxed most of the time					
10	I often feel blue.					

**SECTION E: DEPRESSION SCALE**

Below is a list of common symptoms. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom

S/N	ITEMS	1	2	3	4
1	People who experience numbness in some part of their body may find it difficult to have good quality of sleep				
2	Feeling hot due to fear or uncertainty about ones academic performance may result in sleeplessness in a person.				
3	Wobbliness in legs especially during bed time affect quality of sleep some how				
4	Being unsteady and finding it difficult to relax properly especially during bed time affect quality of sleep.				
5	Fear of worst things or events happening in someone academic grades may result in inability to sleep well at night and lead to poor quality of sleep.				
6	People who are often terrified or afraid of images or sounds of things in the night will find it difficult to have good quality of sleep				
7	People with difficulty in breathing at bed time often find it hard to sleep				



8	Constant thought and fear of dying by someone can result in loss of sleep which affect quality of sleep				
9	Hot or cold sweat/sensation experienced by someone at bed time can affect quality of sleep				
10	Being scared of failure at work or school often result in less sleep.				

### SECTION F: GENERALISED ANXIETY SCALE

Below is a list of common symptoms. Please carefully read each item in the list. Indicate how much you have been bothered by that symptom during the past month, including today, by circling the number in the corresponding space in the column next to each symptom.

S/N	ITEMS	1	2	3	4
1	People who worry too much about different things in their life always find it difficult to sleep				
2	Being so restless that it is hard to sleep at bed time can result in poor quality of sleep.				
3	People that are highly anxious of getting good grades in their text or exam result often find it difficult to have good sleep				
4	The rear of losing a loved ones can result in less sleep				
5	Being anxious about what tomorrow may be can result in poor sleep				
6	Being anxious about what tomorrow holds has nothing to do with very good sleep				

### SECTION G: SOCIAL MEDIA USE SCALE

**KEY: (1=not like me, 2=somewhat like me, 3=like me, 4= very much like me)**

S/N	ITEMS	1	2	3	4
1	People who use DVD in their bedroom till late at night would find it difficult to sleep early which often result in less sleep				
2	Many people use Facebook for personal use both during the day and at night every day which may make it difficult for them to have good quality sleep.				
3	People who use mobile telephone in bedroom at nights often sleep late at night which can result in poor sleep				
4	Constant engaging in partying and listening to music and radio on bed can affect quality of sleep				
5	People that are highly addicted to social media by sending message to friends and family, staying on Instagram, twitter, Facebook etc for several hours at bed time every day often find it difficult to sleep.				
6	Constant spending of long hours on computer at bed time does not result in less sleep.				

7	People who sometimes use cell phone during teaching hours often find it difficult to concentrate during teaching periods which can result in academic failure.				
8	People who are too addicted to abbreviating while text messaging on their cell-phone often makes use of slangs in their communication.				
9	People who watch the television or play video games at bed time often find It difficult to sleep				

## SECTION H:

### Drug Abuse Scale

SN	ITEMS	SA	A	D	SD
1	Adolescents who used drugs other than those required for medicinal reasons find it difficult to have good quality sleep				
2	Abused of prescription of drugs can affect quality sleep.				
3	People who are used to taking caffeine to stay awake at night to read always find it difficult to stay alert and concentrate at day time				
4	The use of medication or drugs not prescribed by the doctor may not result in poor sleep				
5	Use of overdose drugs can result in alertness problem and eventually result in poor sleep				
6	People who use drugs often have problem concentrating in class and may result in poor academic performance				
7	People who are used to taking drugs or wrong medication to either relax their tension or for other purposes often find it difficulty stopping.				
8	Whether drug of abuse or not, adolescent who will sleep would sleep				

## SECTION I: HOME ENVIROMENT SCALE

Please tick as appropriate

S /N	Items	Most of the time	Often time	Sometimes	Never
1	Sleeping very well at home under any condition enhances good quality of sleep.				
2.	People who sleep on the same bed with their siblings often find it difficult to sleep comfortably and have a good quality sleep.				
3.	It is difficult to have good quality of sleep due to so much heat or cold in the room				

4.	People who always have terrifying dreams and nightmares often have difficulty sleeping well.				
5.	People who live in a noisy environment where there are churches having vigils every night or mosques praying early hours in the morning will find it difficult to sleep				
6.	Having light on in the room all night often result in less sleep for some people.				
7.	A bed room with music on, or television can result to poor sleep.				

## APPENDIX II

### IN-DEPTH INTERVIEW QUESTIONS

Answer the following Question indicating how it affect you most

1. In the past one month, how would you rate your quality sleep?
  - a. Very good, ( )
  - b. fairly good, ( )
  - c. fairly bad, ( )
  - d. very bad, ( )
2. What kind of problem did you experience with your sleep?
  - a. Problem falling asleep( )
  - b. Waking up at night( )
  - c. Waking up early in the morning( )
  - d. Not feeling refreshed in the morning( )
  - e. Unpleasant dreams( )
3. What reasons were responsible for your sleeping problem?
  - a. Not used to surroundings( )
  - b. Noises within the room or from outside( )
  - c. Nervousness about issues( )
  - d. Thoughts about issues( )
4. Strategies used for sleeping problems
  - a. Relaxation ( )
  - b. Sleeping pills ( )
  - c. Resting ( )
  - d. Watching TV/Music ( )

**Reliability****Scale: quality of sleep****Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.852	.852	11

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
a1	20.2333	63.633	.532	.678	.840
a2	19.0667	59.995	.640	.689	.831
a4	20.1667	60.282	.618	.631	.833
a5	20.3333	63.816	.489	.469	.843
a6	20.0667	64.823	.385	.829	.852
a7	19.9667	63.964	.439	.816	.847
a8	20.3667	59.826	.677	.570	.828
a9	20.0667	60.961	.657	.777	.830
a10	20.3000	63.597	.476	.526	.844
a11	20.4667	65.292	.473	.670	.844
a12	19.9667	61.826	.538	.657	.839

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
22.1000	74.576	8.63573	11

**Scale: Psychological stress**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.826	.831	8

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
b1	21.0000	23.862	.404	.681	.827
b3	21.1333	24.533	.347	.371	.834
b4	20.9000	20.093	.790	.680	.769
b8	20.7667	21.840	.594	.513	.800
b9	20.3667	23.137	.493	.611	.814
b10	20.0667	23.651	.577	.582	.804
b11	20.4000	24.800	.403	.568	.824
b12	20.8000	21.407	.870	.844	.768

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
23.6333	29.206	5.40423	8

**Scale: Personality traits**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.886	.887	40

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
c1	125.1000	589.266	.409	.	.883
c2	125.0000	596.483	.265	.	.885
c3	123.9333	590.892	.320	.	.884
c4	124.5667	573.495	.480	.	.881
c5	123.9667	608.723	.032	.	.889
c6	124.2667	596.202	.212	.	.886
c7	124.7000	602.838	.099	.	.888
c8	124.5333	599.016	.169	.	.886
c9	124.7333	596.754	.232	.	.885
c11	124.2667	580.133	.440	.	.882
c12	124.3333	596.368	.203	.	.886
c13	124.4667	599.016	.185	.	.886
c14	124.2000	561.338	.728	.	.877
c15	123.9000	579.541	.542	.	.881
c16	123.8000	574.855	.561	.	.880
c17	124.1333	568.947	.577	.	.880

c18	124.6333	570.102	.512	.	.881
c20	124.2333	563.220	.567	.	.879
c21	124.7000	579.872	.350	.	.884
c22	124.5333	580.051	.408	.	.883
c23	124.6667	575.609	.481	.	.881
c24	124.2333	603.426	.126	.	.887
c25	124.0333	594.792	.201	.	.886
c27	124.6333	601.895	.130	.	.887
c28	124.2333	562.944	.670	.	.878
c29	124.2000	586.579	.371	.	.883
c30	124.3667	599.482	.139	.	.887
c31	124.3000	560.631	.688	.	.877
c32	124.3000	575.872	.450	.	.882
c33	123.6333	569.895	.688	.	.878
c35	124.2000	597.269	.212	.	.886
c36	123.7000	577.114	.474	.	.881
c37	124.5000	602.603	.116	.	.887
c38	124.4333	583.357	.337	.	.884
c39	124.1000	567.679	.675	.	.878
c40	124.1000	568.507	.690	.	.878
c41	123.9333	574.202	.498	.	.881
c42	123.6000	574.800	.582	.	.880
c43	124.3333	595.195	.297	.	.884
c44	123.7000	596.700	.187	.	.886

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
127.4667	612.947	24.75777	40



**Scale: Depression scale**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.800	.805	18

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
d1	38.8667	96.326	.690	.914	.770
d2	38.6333	100.102	.536	.920	.781
d3	38.7667	106.806	.271	.899	.797
d4	37.8667	104.533	.330	.862	.794
d5	37.7000	102.976	.373	.884	.791
d6	37.8333	103.040	.327	.863	.795
d8	37.9667	108.516	.166	.969	.805
d9	37.7000	100.424	.486	.778	.784
d11	37.8667	107.775	.189	.853	.803
d12	38.2000	102.303	.436	.825	.787
d13	37.7333	112.892	.005	.915	.815
d14	37.9000	97.748	.625	.953	.775
d15	38.6667	97.333	.635	.889	.774
d16	38.8667	102.671	.457	.936	.786
d17	38.1000	102.645	.487	.916	.785

d19	39.0000	104.897	.446	.938	.788
d20	38.4333	109.426	.142	.868	.806
d21	38.4000	103.490	.384	.841	.790

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
40.5000	114.741	10.71174	18

**Scale: Anxiety scale**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.585	.585	3

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
e3	5.0000	3.310	.434	.190	.422
e5	5.1667	3.109	.408	.174	.464
e2	4.7000	3.872	.344	.120	.553

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
7.4333	6.392	2.52823	3

**Scale: Social media scale**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.851	.850	8

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
f2	21.3333	48.299	.277	.560	.851
f3	21.3667	45.344	.533	.616	.825
f4	21.2667	39.306	.851	.838	.788
f5	20.7000	41.252	.733	.723	.802
f6	21.5667	42.875	.603	.612	.817
f7	21.2667	39.444	.780	.799	.795
f8	21.6333	44.033	.517	.669	.826
f9	21.2000	46.924	.324	.486	.848
f12	20.8667	47.913	.370	.457	.840

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
23.9000	54.507	7.38288	9

**Scale: Drug abuse scale**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.934	.938	19

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
g1	58.3667	204.999	.799	.	.927
g2	58.5667	214.047	.521	.	.932
g3	58.7667	219.771	.333	.	.936
g4	58.9000	229.128	.068	.	.942
g6	58.5667	213.426	.425	.	.935
g7	58.3000	207.941	.614	.	.931
g8	58.7000	201.941	.726	.	.928
g9	58.5333	196.947	.840	.	.925
g10	58.0000	211.793	.636	.	.930
g11	57.8667	212.533	.739	.	.929
g12	57.9667	209.689	.728	.	.928
g13	58.0333	206.240	.797	.	.927
g14	58.0667	205.237	.808	.	.927
g15	57.8333	213.316	.713	.	.929
g16	57.9000	209.955	.745	.	.928
g17	57.8667	214.051	.681	.	.930

g18	58.0333	208.516	.683	.	.929
g19	57.9333	210.202	.735	.	.928
g20	58.2000	206.717	.680	.	.929

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
61.4667	233.499	15.28067	19

**Scale: Dietary Habit scale**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.728	.725	3

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
h3	4.9000	4.921	.438	.244	.761
h4	4.9000	3.817	.540	.377	.655
h5	4.7333	3.375	.694	.485	.448

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
7.2667	7.995	2.82761	3

**Scale: home environment scale**

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.747	.749	7

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
i1	16.1333	18.120	.310	.261	.746
i3	15.7000	14.631	.600	.529	.683
i6	14.5000	16.466	.538	.649	.704
i7	15.8000	16.648	.332	.286	.749
i8	15.1000	14.990	.493	.400	.711
i9	14.4333	17.289	.431	.600	.725
i10	15.1333	14.740	.563	.571	.692

### Scale Statistics

Mean	Variance	Std. Deviation	N of Items
17.8000	21.062	4.58934	7