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Daytime Sleepiness and Affect in Middle-Aged Adults Who Engage in Daytime Sleep Practice

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ABSTRACT
This study delves into the complex interplay between daytime sleepiness and affect, with a specific focus on negative affect as a key element of emotional wellness. Employing a correlational research approach, participants completed standardized evaluations, including the Negative Affect Scale and the Epworth Sleep Scale (ESS), to gauge negative affect and daytime sleepiness, respectively. Surprisingly, the analysis uncovered a weak negative correlation between daytime sleepiness and negative affect, hinting at a potential moderating influence of daytime sleep on emotional states. However, the absence of statistical significance underscores the multifaceted nature of affect regulation, highlighting the necessity for further exploration to grasp the underlying mechanisms fully. Future investigations should adopt longitudinal methodologies and comprehensive assessments to untangle the intricate relationship between daytime sleep and affect, guiding targeted interventions aimed at enhancing sleep quality and bolstering emotional well-being amidst the demands of contemporary life.

CHAPTER 1: INTRODUCTION

1.1 Daytime sleep

Daytime sleep, often overlooked in discussions about sleep, holds a significant yet nuanced role in shaping psychological well-being. Psychological restoration through daytime sleep encompasses a multifaceted process. Beyond merely reducing sleep debt, it involves the intricate replenishment of neurotransmitters crucial for mood regulation, such as serotonin and dopamine. These neurotransmitters are known to influence mood, alertness, and cognitive function. Research suggests that daytime sleep can enhance emotional regulation by acting as a buffer against stressors and facilitating improved coping mechanisms. Studies have demonstrated that individuals who engage in adequate daytime sleep, including short naps, tend to exhibit greater emotional resilience, navigating challenging situations with greater ease and composure.

Furthermore, the cognitive benefits of daytime sleep extend to memory consolidation and learning. During sleep, particularly during rapid eye movement (REM) and slow-wave sleep stages, memories are processed and integrated, leading to improved retention and recall. The cognitive enhancement resulting from daytime sleep can contribute to a more positive mood state, as individuals feel more competent and confident in their abilities. Moreover, daytime sleep has been associated with enhanced creativity and problem-solving skills. The relaxation and mental rejuvenation experienced during a nap can stimulate insights and innovative solutions to complex problems, fostering a sense of accomplishment and satisfaction.

Stress reduction is another significant psychological benefit attributed to daytime sleep. Short naps have been found to lower cortisol levels, the hormone associated with stress, while promoting relaxation and mental clarity. By providing a brief respite from daily stressors, daytime sleep enables individuals to recharge both physically and mentally, leading to a more positive affective state and improved overall well-being.

Attention and focus are essential components of psychological functioning, and adequate sleep, including daytime naps, plays a pivotal role in sustaining these cognitive abilities. By reducing fatigue and enhancing vigilance, daytime sleep enables individuals to maintain concentration and task performance throughout the day. This heightened attentional control fosters a positive mood state characterized by feelings of competence and efficacy.

1.2 Definition of Sleep Quality

The measurement of how well you sleep, or whether your sleep is restful and restorative, is called sleep quality. It is not the same as sleep satisfaction, which is a more individualized assessment of your feelings on the amount of sleep you are receiving. Although it's not totally subjective, measuring sleep quality is more difficult than measuring quantity. A summary of the goals for sleep quality is provided by guidelines, which also take age and individual characteristics into account. To gauge the quality of sleep, four items are typically evaluated:

Sleep latency: This represents the amount of time it takes you to nod off. If you fall asleep 30 minutes or less after going to bed, your sleep is likely of a high quality.

Sleep waking: This gauges how frequently you have night time awakenings. Regularly staying up late at night might throw off your sleep schedule and lower the quality of your sleep. If you wake up once or not at all, it indicates that your sleep is of high quality.

Wakefulness: The number of minutes you stay awake at night after going to bed is what this measurement measures. Individuals that sleep well wake up during the night for no more than twenty minutes. Sleep efficiency: Sleep efficiency is the percentage of time you spend in bed actually sleeping. For the best possible health advantages, this measurement should preferably be 85% or above.

Given the increasing frequency of insomnia and other sleep disorders as well as the obvious connection between good sleep and optimal health and performance, sleep quality is a crucial concept for researchers and doctors. Nevertheless, although being widely used, the phrase "sleep quality" lacks a precise meaning (Krystal & Edinger, 2008). In actuality, the definition of "quality sleep" varies widely throughout individuals. The sleep onset period can be the most significant factor influencing the quality of sleep for an individual who has trouble falling asleep. On the other hand, someone whose sleep is disturbed and full of frequent awakenings may not give a damn about how hard it is to fall asleep.

The term "sleep quality" is frequently used in the context of sleep medicine and can relate to a variety of sleep metrics, such as total sleep time (TST), sleep efficiency (SE), sleep maintenance, total wake time (TWT), and occasionally sleep-disturbing events like spontaneous arousal or apnea. Furthermore, it seems that the concept of sleep amount and quality are orthogonal. For instance, sleep complaints have been documented even in cases when wakefulness after sleep onset (WASO), TST, SOL, and waking were comparable to those described in healthy, non-complaining persons. Patients in practically every nation and across all medical specializations have reported experiencing interrupted or poor-quality sleep, according to verified reports. Untreated sleep disturbances have the potential to cause potentially fatal symptoms because they are not only a result of medical conditions but also the main cause of other illnesses. Disturbances in sleep are now known to be linked to neurocognitive dysfunctions, attention deficiencies, reduced cognitive function, depression, anxiety, stress, and poor impulse control. Inadequate sleep can negatively impact social and professional performance during the day, raise the chance of car and work-related accidents, and negatively impact one's quality of life and general health. For epidemiological and clinical research, the evaluation of sleep quality seems pertinent.

A number of elements are important in determining the quality of sleep, which is a basic component of general health. First of all, a person's ability to sleep effectively is greatly influenced by their sleeping environment. A peaceful night's sleep can be aided or hindered by various elements, including the lighting, temperature, and noise level of the room. In general, a calm, dark, and quiet atmosphere promotes good sleep; on the other hand, bright lighting, loud noises, or uncomfortable temperatures might interfere with the sleep-wake cycle. Consistency in sleep habits, such as regular wake-up and bedtime hours, is another important element. A regular sleep pattern is essential for the circadian rhythm, the body's internal clock. An inability to fall asleep and stay in a deep, restorative sleep might result from irregular sleep patterns or frequent shifts in sleep-wake periods.

Sleep quality is also greatly impacted by lifestyle decisions. Given that regular exercise has been connected to better sleep, physical activity is essential. On the other hand, if you lead a sedentary lifestyle or work out hard right before bed, your quality of sleep can suffer. Food choices can also hinder the body's capacity to unwind and achieve a restful state; in particular, consuming large meals and coffee right before bed can do this.

Important factors influencing the quality of sleep are stress and mental wellness. Insomnia and other sleep disorders can be exacerbated by elevated levels of stress, anxiety, or depression. The mind's incapacity to decompress and get at ease prevents the body from entering deep sleep stages, making the night's sleep less rejuvenating. Blue light from technological gadgets, including computers and cell phones, can disrupt the body's ability to produce melatonin, a hormone needed for sleep. The body's normal sleep-wake cycle can be upset by excessive screen usage before bed, which makes it more difficult to fall asleep.

1.3 Theories on sleep

1.3.1 Evolutionary Theory

It is believed that sleep is an evolutionary adaptation that improves reproductive fitness and survival. Because sleep enables energy conservation and recovery, organisms that set aside time for sleep may have an advantage over those that don't. Furthermore, sleep may provide protection by limiting exposure to predators during times of vulnerability, like the dark. Numerous species' worth of research has shown sleep patterns that align with adaptive behaviours, such getting more sleep when there's less activity and less risk from the environment. For instance, in order to escape being eaten, prey animals frequently spend the night in safer places. Furthermore, it has been demonstrated that experimental sleep deprivation negatively impacts the survival and reproductive success of animals.

.1.3.2 Restorative Theory

According to this idea, physiological processes that are exhausted during awake are restored and repaired during sleep. It is believed that sleep facilitates processes including hormone regulation, cellular repair, and protein synthesis, which all contribute to physical recovery. For example, growth hormone release, which encourages muscular growth and tissue repair, increases during deep sleep periods. Research has shown that when people sleep, their levels of growth hormone, cytokines, and other indicators of tissue healing rise. Moreover, research on sleep deprivation has revealed abnormalities in wound healing, immunological response, and metabolic control, corroborating the restorative function of sleep in preserving physiological balance.

1.3.3 Memory Consolidation Theory

This viewpoint, which builds on the idea of brain plasticity, emphasises how sleep helps to solidify memories learned while awake. Sleep, especially slow-wave and REM sleep, is linked to the conversion of short-term memory to long-term memory storage. This procedure improves learning and problem-solving skills while fortifying memory traces. Studies utilising memory-intensive tasks, including word pair association or spatial navigation, have demonstrated better performance after sleep than during comparable wakeful times. Moreover, research employing sleep modification methods, like selective REM sleep deprivation, has revealed deficits in memory consolidation exercises.

1.3.4 Energy conversion Theory

Sleep is thought to help preserve energy by lowering total activity levels and metabolic rate. Because metabolic needs are lower when we sleep, the body may save energy for vital processes like development, repair, and thermoregulation. This idea places a strong emphasis on how sleep helps to maximise metabolic efficiency and energy balance. Research that track energy expenditure and metabolic rate during sleep have revealed decreases as compared to alertness. Moreover, research on sleep deprivation have shown increases in energy intake as a compensatory mechanism, indicating that sleep plays a regulatory role in maintaining energy balance.

1.4 Affect

Affect, as understood in psychology, is intricately linked to diagnostic criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders (DSM). The DSM categorizes various affective experiences and their associated disorders, providing a standardized framework for diagnosis and treatment. For instance, mood disorders, such as major depressive disorder and bipolar disorder, are characterized by disturbances in affect, including persistent sadness or elevated mood.

Research conducted within the framework of the DSM aims to elucidate the underlying mechanisms and manifestations of affective disorders. Studies utilize various methodologies, including clinical observations, neuroimaging, and psychometric assessments, to investigate the ethology, course, and treatment of these disorders. For example, neurobiological research has identified neural circuits and neurotransmitter systems implicated in affective processing, shedding light on the biological underpinnings of mood disorders.

Moreover, research on affect extends beyond diagnostic categories outlined in the DSM to encompass a broader understanding of emotional experiences and their impact on mental health and well-being. Studies explore the role of affect in resilience, coping strategies, and adaptive functioning, as well as its influence on interpersonal relationships and social dynamics. Additionally, interventions targeting affect regulation, such as mindfulness-based therapies and emotion-focused techniques, are being developed and evaluated for their efficacy in improving emotional resilience and psychological health.

1.5 Napping in older adults

Napping holds a significant psychological perspective for older adults, impacting various aspects of their well-being and cognitive functioning. As individuals age, changes in sleep patterns, such as increased daytime sleepiness and nighttime awakenings, become more prevalent. Napping often becomes a compensatory strategy to mitigate sleep deficits and promote daytime alertness. From a psychological standpoint, napping serves as a means of restoring cognitive function and emotional regulation in older adults. Research suggests that daytime naps can enhance memory consolidation and learning, contributing to better cognitive performance and overall mental acuity. Moreover, napping has been associated with improvements in mood and emotional well-being among older adults, reducing feelings of fatigue, irritability, and stress. However, individual responses to napping can vary, with some older adults experiencing sleep inertia or disruptions to nighttime sleep if naps are too long or taken too late in the day. Therefore, the optimal timing and duration of naps should be considered to maximize their benefits while minimizing potential drawbacks. Overall, from a psychological perspective, incorporating strategic napping into daily routines can promote cognitive vitality, emotional resilience, and overall psychological well-being in older adults.

CHAPTER 2: REVIEW OF LITERATURE

Jianhui Guo, et.al (2023) conducted research to determine whether the longitudinal trajectories of overnight sleep duration and daytime napping duration are associated with future multimorbidity risk. To investigate whether daytime napping can compensate for the detrimental effects of insufficient overnight sleep. The current study had 5262 participants from the China Health and Retirement Longitudinal Study. Between 2011 and 2015, self-reported nightly sleep and daytime napping durations were gathered. The 4-year sleep duration trajectories were calculated using group-based trajectory modelling. The 14 medical disorders were identified by self-reported physician diagnoses. Multimorbidity was detected in participants who had two or more of the 14 chronic disorders after 2015. Cox regression models were used to investigate the associations between sleep trajectories and multimorbidity. Throughout a follow-up period of 6.69 years, multimorbidity was noted in 785 individuals. There were three trajectories for the length of sleep at night and three trajectories for the length of naps during the day. Compared to participants with a persistently recommended nighttime sleep duration trajectory, those with a persistently short nighttime sleep duration trajectory had a greater risk of multimorbidity (hazard ratio = 1.37, 95% confidence interval: 1.06-1.77). The greatest risk of multimorbidity was found in participants who consistently slept for short periods of time at night and rarely napped during the day (hazard ratio = 1.69, 95% confidence interval: 1.16-2.46).

This study found a correlation between the risk of multimorbidity in the future and a persistently short nightly sleep duration trajectory. Napping throughout the day may make up for the possibility of getting too little sleep at night.

Keywords: duration of daytime naps; multimorbidity; duration of nighttime sleep; sleep trajectory

Chao-Han Chen, et.al (2024) conducted a research on It is uncertain if excessive daytime drowsiness is related to older persons' and at-risk people's health-related quality of life. This study investigated the moderating role of sex and the associations between excessive daytime drowsiness and a poor health-related quality of life.A community-based study with persons 65 years of age or older was conducted. A score of more than 10 on the Epworth Sleepiness Scale was considered excessive daytime sleepiness. To investigate the connections between excessive daytime drowsiness and health-related quality of life, multiple logistic regression analyses were employed. By evaluating interaction terms, the moderating effect of sex was investigated.The Short Form 12 Health Survey, which has a physical component summary and a mental component summary, was used to measure the quality of life connected to health. The lowest tertile of the results for both components was considered to represent an unfavourable health-related quality of life.A total of 3788 people took part. Upon adjusting for confounding variables, older persons experiencing excessive daytime sleepiness were more likely to have an unfavourable mental component summary (odds ratio 1.96; 95% confidence interval 1.47–2.61) than an unfavourable physical component summary. Excessive daytime sleepiness was linked, when stratified by sex, to a poor physical component summary in men but not in women (odds ratio 1.77, 95% confidence interval 1.00–3.13). Both sexes showed a bad mental component summary when excessive daytime sleepiness was present, but only males showed a particular connection with a poor physical component summary.

Greg Roach et al; (2022) Conducted research to investigate how sleep patterns, and consequently the timing of exposure to or avoidance of daylight, affect the circadian rhythm after a week of working at night.In a laboratory-based simulation consisting of seven x 8-hour night shifts (2300–0700h) and seven hours of bed rest in between each shift, forty-three adults (21F, 22M) were randomly assigned to one of four conditions. The conditions were Morning Sleep (0830–1530h), Split Sleep #1 (0830–1330h & 1930–2130h), Split Sleep #2 (0830–1030h & 1630–2130h), and Afternoon/Evening Sleep (1430–2130h), in increasing order of exposure to light in the morning and early afternoon. By measuring the dim light melatonin onset (DLMO) on the evenings just before and after the week of night work, the circadian phase was evaluated. Study night (pre/post night work) and condition (x4) interacted, resulting in differences in the pre/post DLMO change between the conditions ($F=10.6$, $df=3,39$, $p<.0001$). In particular, DLMO was advanced by 0.7±2.8 hours by Afternoon/Evening Sleep, 2.6±2.5 hours by Split Sleep #1, 1.3±2.6 hours by Split Sleep #2, and 5.1±2.1 hours by Morning Sleep. As the amount of time spent in the morning and early afternoon exposed to light grows, so does the degree to which the internal body clock adjusts to working at night. Shift workers should sleep in the morning if they want to enhance their adaptation. On the other hand, shift workers should sleep in the afternoon or evening if they want to limit adaptability.

Zili Luo et al; (2012) conducted research in which they eight healthy young individuals (four males and four females) were examined for emotional variations before, during, and after a midday nap using a unique objective technique called the emotion spectrum analysis method. Between 13.00 and 14.00 hours, the subjects were free to take naps, during which time stages 1 and 2 non-rapid eye movement sleep took place on average for 5.9 and 20.8 minutes, respectively. A 21-channel electroencephalogram's spatiotemporal behaviour was used to numerically quantify and statistically analyse many emotional components, including happiness, sorrow, rage, and relaxation. The magnitudes of the anger, joy, and relaxation components did not alter throughout the nap in contrast to the prenap waking level, but they did rise noticeably during the postnap waking time.

Esther Yuet Ying Lau et al; (2020) did the research in that changes in sleep physiology could be a factor in the emergence of the biassed emotional processing that characterises depression. Using a napping paradigm, the current study examined how sleep, and particularly REM sleep, affects how depressed versus non-depressed people perceive emotional faces.An emotional face perception test was performed by 46 major depressive disorder patients and 66 age- and education-matched healthy controls both before and after they were randomly assigned to one of three intention-to-treat (ITT) conditions: 30-min nap, 90-min nap, or wake. As-treated (30-min nap, 90-min REM nap, 90-min noREM sleep, and wake) analyses were also carried out to identify the effects of REM. Repeated actions For both the ITT ($p = .017$) and AT ($p = .027$) analyses, a significant Time group Condition interaction was seen on angry faces using multivariate analysis of covariance (MANCOVA). Only after the sad group had taken a 90-minute REM nap did the intensity rating of furious faces show a significant rise, according to a pairwise comparison with Bonferroni adjustments. The proportion of REM sleep in the depressed group was correlated with the intensity rating of angry faces, as indicated by correlational analyses that converged at $p = .035$. The impact of REM sleep at night on depression may differ from the effect of REM sleep during naps during the day. We offer the first proof of the link between daytime sleep, especially REM sleep, and an adverse perception of furious faces in people.

Petros G. Botonis et al, (2021) conducted a study in which they study impact o f daytime sleeping in athletes regardless of the length of nocturnal sleep, taking naps in the middle of the day has been suggested as a preventative measure against sleep debt and a successful recovery strategy. The information that is currently known on the impact of naps on exercise, cognitive function, and athletes' perceptual reactions before or during activity is compiled here. The research that has already been done on the impact of naps on sports performance has produced conflicting findings. Research has shown that taking a midday nap can improve or recover several aspects of exercise and cognitive function, as well as athletes' perceptual responses, after a normal sleep night or after a night of sleep loss Most, but not all, of the research points to the possibility that extended naps (>35–90 min) benefit athletes more than short naps (20–30 min). It is still unknown what processes underlie the restoration of athletic performance after a night of sleep deprivation or the improvement of athletic performance after a night of normal sleep. However, sleep inertia is probably the cause of other studies' lack of benefits or perhaps their performance worsening after naps. The current study clarifies the risk variables that affect the outcome following a nap, including nocturnal sleep time, the length of a midday nap, and the interval between the end of the nap and the exam. It also offers workable remedies and encourages more research in this area.

Shinae Seo in 2024 conducted this study. Social support has been demonstrated to be correlated with sleep quality, which is important for the health and wellbeing of older persons. To comprehend the mechanisms behind the relationship between these two parameters, research is necessary. This study aims to compile scientific research on the connection between older individuals' sleep quality and social support. This review provides evidence for the positive relationship between social support and sleep quality in older adults. Based on the findings of this review, healthcare professionals should prioritize incorporating assessments of social support and implementing interventions aimed at enhancing social support in older adults to improve their sleep quality.

Yu Zhao. in 2022 aimed to the aim of this study was to determine how many hours of sleep per day can reduce the risk of cardiovascular metabolic multimorbidity (CMM) in older persons and to investigate the association between the amount of sleep per day and CMM in older adults.Among older adults, CMM syndrome is prevalent. Given that both insomnia and sleep deprivation have an adverse effect on older persons' health, there may be a link between the amount of sleep that older adults get and CMM. Thus, it's critical to investigate the hypothesis that a decreased incidence of CMM may be seen in older adults who sleep a few hours a day.

Huang Q. in 2019 tries to compare the sleep quality and depressive symptoms of nurses working the night shift with the sleep quality and depressive symptoms of nurses working only the day shift, and find out the relationship between the sleep quality of nurses and depressive symptoms. Patients and Methods Eight hundred sixty-five nurses participated in this study. Nurses' sleep quality and depressive symptoms were assessed using the Pittsburgh Sleep Quality Index (PSQI) and the Hospital Anxiety and Depressive Disorder Rating Scale (HADS). Results PSQI and HADS scores were both significantly higher in night shift nurses.

Pishva Arzhang et al (2024) did study with the main objectives when people lack adequate access to safe and nourishing foods to support their optimal growth and development and lead active, healthy lives, they are said to be experiencing food insecurity (FI). When food is scarce or people don't have enough money or resources to feed their family, food insecurity (FI) occurs. Almost 2.3 billion individuals globally were impacted by moderate to severe FI in 2021. FI is more common in older persons and has a higher risk to health. In 2018, there were over 2.9 million households with an adult over 65 experiencing food insecurity. Previous research indicates that food insecurity in older persons is linked to a number of detrimental health outcomes. Elderly FI and poor nutritional status are associated with poor mental and physical health, as well as chronic physical issues such diabetes, hypertension, and an increased risk of cardiovascular disease. Food insecurity is a significant socioeconomic predictor of health for older adults since poor mental health can worsen physical health issues, which can raise health care expenses and the need for social support.

Nuttapon Pengsuwankasem et al (2023) aimed to neurological condition known as mild cognitive impairment (MCI) can raise a person's risk of Alzheimer's disease (AD) by three to five times compared to a person with normal cognition. A study measuring the effects of brief naps on cognitive function, sleep quality, and quality of life was carried out to gain a better understanding of the effects of daytime napping on patients with mild cognitive impairment. For eight weeks, a total of 38 individuals were advised to take three 20-minute naps per week between 1:00 and 3:00 p.m. Conclusions Our results confirm the presence of sleep disturbances in OCD. Anxiety and depression play a key role in the quality of sleep in OCD patients. Participants' sleep quality was assessed using the Thai version of the Pittsburgh Sleep Quality Index (Thai-PSQI), their cognitive function was assessed using the Thai version of the Montreal Cognitive Assessment (Thai-MoCA), and their quality of life was assessed using the Thai version of the Quality of Life (Thai-QoL) questionnaire. Following an 8-week duration, there was a noteworthy improvement in the individuals' scores on the Thai-MoCA and Thai-QoL questionnaires ($p < 0.001$), however there was a substantial reduction in the Thai-PSQI ($p = 0.012$). This suggests that taking short daytime naps can help to improve the cognitive function, sleep quality, and quality of life of MCI patients.

Lu Long (2023) et al conducted research on sleep length has been associated with chronic inflammation and metabolic dysfunction, which may be involved in the development of chronic liver disease (CLD) and liver cancer. The association between the length of naps or sleep and the risk of hepatocellular carcinoma (HCC) and the death from CLD, however, is not well understood. We discovered U-shaped correlations between the risk of death from CLD and HCC and nighttime sleeping. An increased risk of dying from CLD and HCC has also been associated with longer naps taken during the day. According to our research, patients with liver disease or those at risk for liver cancer should have their daytime and evening sleep habits recorded as part of their clinical follow-up.

Juskiene A. (2018) aimed to determine the relationship between Type D personality traits and sleep quality in coronary heart disease patients with and without obstructive sleep apnea and to determine the mediating effects of anxiety and depression symptoms. A cross-sectional study was conducted on 879 CAD patients participating in a cardiac rehabilitation program. Participants underwent nocturnal polysomnography and were categorized into non-OSA groups. Patients were assessed for Type D personality, subjective sleep quality (Pittsburgh Sleep Quality Index), and symptoms of anxiety and depression (Hospital Anxiety and Depression Scale). Patients with Type D personality reported worse subjective sleep quality than non-Type D patients, regardless of the presence of OSA. Type D and negative affectivity (NA) were associated with worse subjective sleep quality in patients with and without OSA. Mediation analysis showed that Type D and NA were indirectly associated with the Pittsburgh Sleep Quality Index through symptoms of anxiety and depression in non-OSA and non-OSA patients. In patients with CAD, Type D personality and

NA are associated with worse subjective sleep quality, and this association is mediated by depressive and anxiety symptoms, regardless of the presence of OSA.

Christina S. McCrae et al (2010) conducted was to investigate the daily connections between sleep and mood among older adults using multilevel modelling. Understanding these links is crucial as both sleep and mood can impact older adults' overall health and well-being. Data on sleep patterns, activity levels, and mood were collected over a two-week period from 103 older adults living in the community. Analysis revealed that nights with better reported sleep quality were associated with higher positive mood and lower negative mood the following day, while poorer sleep quality was linked to lower positive mood and higher negative mood. Interestingly, subjective sleep ratings were more predictive of mood than objective measures like actigraphy. Despite previous research suggesting gender differences in this relationship, gender did not significantly influence the findings. These results highlight the importance of considering mood as a potential target for interventions addressing late-life insomnia.

Anthony D. Ong, et al (2017) conducted a study employs a within-person approach to explore how recovery experiences during leisure time, such as psychological detachment, relaxation, and mastery, relate to sleep quality and mood the following morning. Data collected over a week from 166 public administration employees revealed that low psychological detachment from work in the evening was associated with negative activation and fatigue, while mastery experiences predicted positive activation, and relaxation predicted serenity. Sleep quality was found to be linked with all affective state's variables. This research contributes to understanding how non-work experiences can influence mood before the start of the next workday, thus enhancing our knowledge of job-stress recovery and affect regulation.

Chee, M. W (2008) did functional brain imaging research comparing brains of individuals who are sleep-deprived with those who are well-rested offers significant evidence supporting the critical role of sleep-in cognitive function and learning. The experimental methods developed thus far warrant assessment in clinical environments to gauge the effects of sleep disturbances in individuals with sleep disorders.

Raymond Cluydts et al (2002) did research Basic models of sleepiness, focusing on the balance between homeostatic and circadian factors, can predict important changes in sleepiness levels. However, they fall short in explaining certain sleep-related issues such as insomnia. To address this gap, modern models include the arousal component alongside sleep drive. While these models primarily address short-term variations in sleepiness, there's evidence suggesting a stable trait level of sleepiness also plays a crucial role. This suggests that situational factors modify a baseline level of sleep drive and arousal, indicating that sleepiness isn't a singular concept but can manifest in different states. Despite numerous sleepiness assessment tools available, none capture all aspects comprehensively. It's important to acknowledge that these tools are shaped by the theoretical framework of the researcher. Rather than seeking a definitive standard for measuring sleepiness, future research should focus on connecting various measurement techniques with the underlying components of sleepiness empirically.

E. Stepansk et al (2005) did research in which observed that clinical populations reporting excessive daytime sleepiness (EDS) often experience disrupted or fragmented nocturnal sleep. However, the relationship between sleep fragmentation and daytime sleepiness hasn't been thoroughly examined. This study aimed to use correlational methods to assess this relationship in patients with EDS, those with insomnia complaints, and asymptomatic controls. The study involved four groups: patients reporting EDS with either sleep apnea (n = 15) or periodic leg movements (n = 15), patients reporting insomnia (n = 15), and healthy volunteers without sleep complaints (n = 10). Each participant underwent one night of polysomnography followed by a Multiple Sleep Latency Test. Both standard criteria and a four-level

arousal scoring system were used to evaluate the sleep recordings. Across all subjects, there was a significant correlation between the total number of arousals and the sleepiness index ($r = 0.48$, $P < 0.001$). Further analysis revealed that depending on the specific sleep complaint, different types of arousals were predictive of the level of daytime sleepiness. The study concludes that both the quantity and type of nocturnal arousals play a crucial role in determining subsequent daytime sleepiness.
Murray W. Johns (2000) The introduction and application of a novel scale, the Epworth Sleepiness Scale (ESS), are outlined. This scale is a straightforward, self-administered questionnaire designed to gauge an individual's general level of daytime sleepiness. A total of 180 adults participated in answering the ESS, comprising 30 healthy individuals (both men and women) as controls and 150 patients presenting with various sleep disorders. Participants rated the likelihood of dozing off or falling asleep in eight common daily life situations. The cumulative ESS scores effectively discriminated between normal subjects and patients across different diagnostic groups, including those with obstructive sleep apnea syndrome, narcolepsy, and idiopathic hypersomnia. Furthermore, ESS scores demonstrated significant correlations with sleep latency assessed during both the multiple sleep latency test and overnight polysomnography. Among patients with obstructive sleep apnea syndrome, ESS scores exhibited significant correlations with the respiratory disturbance index and the minimum oxygen saturation levels recorded overnight. Notably, ESS scores of patients experiencing simple snoring did not differ significantly from those of controls.
Gemma Slater (2012) did a research on excessive daytime sleepiness poses a substantial public health concern, with an estimated prevalence in the community reaching as high as 18%. It can stem from abnormalities in either sleep duration or sleep quality and can be associated with various neurological, psychological, cardiac, and pulmonary disorders, among others. Risk factors for excessive sleepiness include obesity, depression, extremes of age, and insufficient sleep. In clinical practice, obstructive sleep apnea and periodic limb movement disorder are two of the most encountered causes. There's ongoing discussion regarding the mechanisms underlying these disorders' impact on daytime symptoms, with intermittent nocturnal hypoxia, sleep fragmentation, and autonomic dysregulation identified as significant factors. Although the increased prevalence of obstructive sleep apnea in obese individuals partially explains the heightened rates of daytime sleepiness in this population, there's evidence suggesting additional contributions from metabolic factors and chronic inflammation. Sleepiness is also more prevalent in individuals reporting symptoms of depression or anxiety disorders, significantly affecting their quality of life. Clinicians must recognize factors that elevate their patients' risk of daytime sleepiness, given its debilitating nature and potential legal implications. Treatment strategies should aim to address underlying contributors and promote both sleep quantity and quality through good sleep hygiene practices. In some cases, stimulant medication may be warranted to facilitate more normal daytime functioning.

CHAPTER 3: RESEARCH METHODLOGY

3.1 Aim

The aim of this research is to investigate the relationship between daytime sleeping and affect.

3.2 Objective

- To study the association of daytime sleeping and affect in older adults.
- Effect on affect by daytime napping in older adults.

3.3 Hypothesis

There will be association in daytime sleeping and affect in older adults population.

3.4 Research Design

Quantitative research designs This type of research frequently utilizes statistical analysis to identify patterns, relationship of affect and daytime sleeping.

3.5 Sample

The study included 100 participants, 20:17 female between 45-60 years of age. Quota sampling method was used.

Inclusion and Exclusion Criteria: In this study, we included those individuals who are in their older adulthood (40-65) and partake in daytime sleep. All those who were not in the age group were excluded.

3.6 Research tools

3.6.1 Positive affect negative affect scale:

The PANAS (Positive and Negative Affect Schedule) scale is a widely used psychological tool designed to measure two distinct dimensions of affect: positive affect (PA) and negative affect (NA). Developed by Watson, Clark, and Tellegen in 1988, the PANAS scale comprises a list of words or phrases representing various positive and negative emotions, such as "excited," "interested," "upset," and "afraid." Respondents are instructed to indicate the extent to which they have experienced each emotion over a specified period, typically in the past week, using a Likert-type scale ranging from "very slightly or not at all" to "extremely." By assessing both positive and negative affect separately, the PANAS scale provides a comprehensive understanding of an individual's emotional experiences and tendencies. Researchers and clinicians utilize the PANAS scale in diverse contexts, including psychological research, clinical assessment, and intervention evaluation. It has been employed in studies examining emotional well-being, stress, mood disorders, personality traits, and the efficacy of therapeutic interventions. The PANAS scale's brevity, ease of administration, and robust psychometric properties make it a valuable tool for assessing affective states and understanding their implications for mental health and psychological functioning.

3.6.2 Epworth sleep scale

The Epworth Sleepiness Scale (ESS) is a widely utilized tool in psychology and medicine to assess daytime sleepiness levels. Developed by Dr. Murray Johns in 1991, the ESS consists of eight items that measure an individual's likelihood of dozing off or falling asleep in various situations commonly encountered during daily activities. These situations include sitting and reading, watching television, sitting inactive in a public place, as a passenger in a car, lying down to rest in the afternoon, sitting and talking with someone, sitting quietly after lunch without alcohol, and being stuck in traffic for long periods. Respondents rate their likelihood of dozing off in each scenario on a scale from 0 (would never doze) to 3 (high chance of dozing). The scores are then summed to obtain a total score ranging from 0 to 24, with higher scores indicating greater daytime sleepiness. The ESS helps clinicians and researchers assess the severity of daytime sleepiness and its impact on daily functioning, diagnose sleep disorders such as narcolepsy or sleep apnea, and evaluate the effectiveness of interventions aimed at improving sleep quality and daytime alertness. Due to its simplicity, brevity, and reliability, the ESS is widely used in both clinical and research settings to evaluate daytime sleepiness and inform treatment decisions.

3.7 Procedure

To measure the variables, questionnaires that fulfilled the requirements were chosen (PANAS and ESS). The reliability and validity of the same were kept in mind. Further, a survey was framed using Google Forms which comprised two sections for the respective questionnaires. The participants were asked for their consent before they filled the questionnaire. Data was collected using the Connivence Sampling Technique. After data collection, the scoring was done with the help of scoring keys mentioned in the questionnaires.

3.8 Ethical Considerations

Ethical considerations such as informed consent, voluntary participation, debriefing, and confidentiality were taken care of.

CHAPTER 4: RESULT

Table 1. ***Correlation statistics for affect in old age adults who engage in daytime sleep practice via cluster graph.***

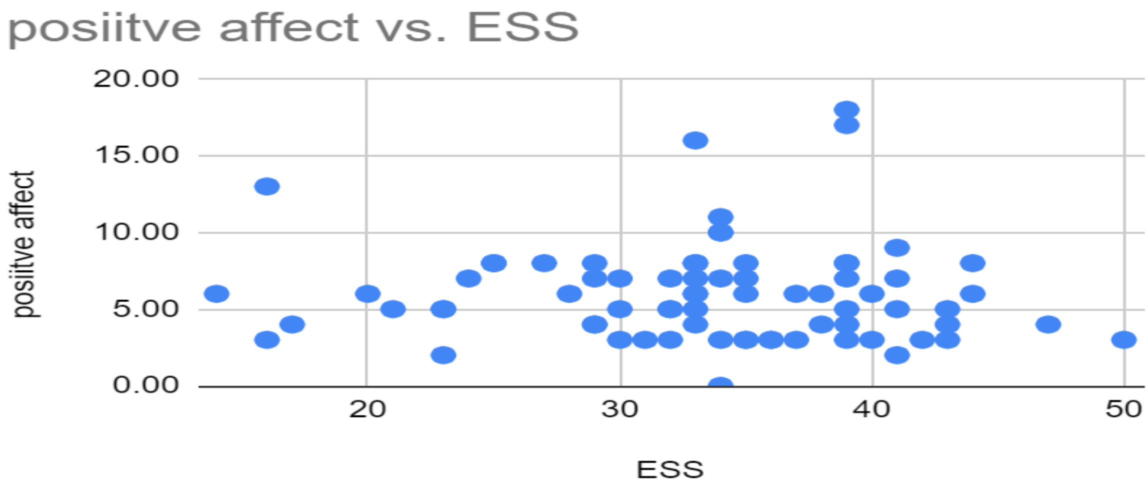

Table 2. ***Correlation for negative affect in old age adults who engage in daytime sleep practice via cluster graph.***

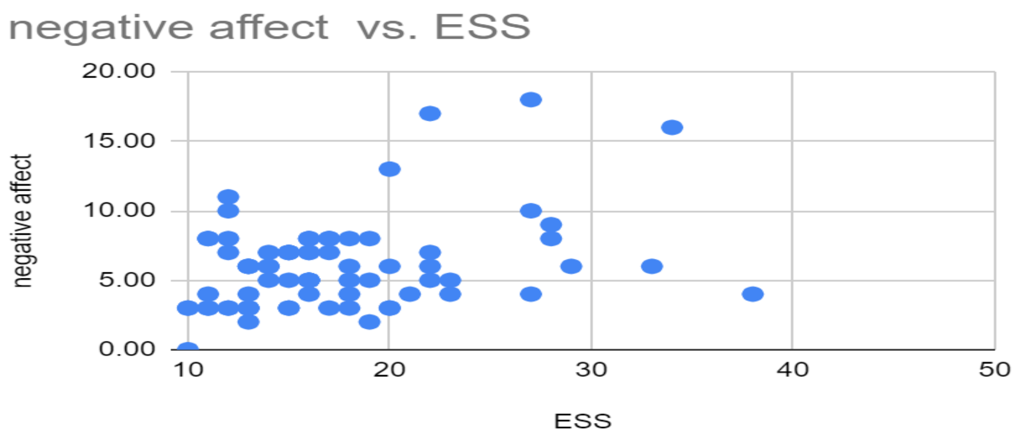

Table 3 ***Corelation table***

Correlation of ESS and PA	correlation of ESS and NA	P value	Mean	Standard Deviation
-0.04299874115	0.3478729088	0.0026	6.00	3.278719262

CHAPTER 5: DISCUSSION

The hypothesis of this research was daytime sleepiness and affect in middle-aged adults who engage in daytime sleep practice and check the correlation between them. As the population ages, maintaining mental well-being becomes increasingly important. One intriguing aspect of daily routine that may affect mental health, particularly in older adults, is the daytime nap. While napping is often associated with children, its benefits for older adults have gained attention in recent research. This discussion aims to explore the relationship between daytime napping and affect, focusing on how napping habits may influence emotional well-being in older adults. The Consolidation Theory of Sleep suggests that napping serves to consolidate memories and enhance cognitive function. From an emotional perspective, the Stress Reduction Theory proposes that napping can alleviate stress and promote relaxation, leading to improvements in mood and affect. Additionally, the Circadian Rhythm Model posits that daytime naps may help regulate circadian rhythms, thereby positively impacting emotional regulation and stability.

The tests showed the correlation of -0.04299874115 between ESS and PA (Positive Affect) which is negligible correlation. And between ESS and NA (negative affect) the correlation was 0.3478729088 which indicates a moderate positive corelation between ESS and Negative Affect. Since its not high enough, we can say that from this research that daytime sleep has no effect on daytime sleepiness and affect.

Analysis of the collected data revealed a relationship between daytime sleepiness and negative affect. Surprisingly, the correlation coefficient between negative affect and the Epworth Sleepiness Scale (ESS) indicated a very weak negative correlation, suggesting a marginal tendency for negative affect to decrease as daytime sleepiness increases. This finding may seem problematic at first glance, as one might expect heightened daytime sleepiness to worsen negative affective states. However, closer examination unveils plausible explanations for this trend.

One possible interpretation is rooted in compensatory mechanisms adopted by individuals experiencing daytime sleepiness. In response to feelings of fatigue and drowsiness, individuals may resort to brief periods of rest or napping during the day, which could alleviate negative affective states. These short bouts of sleep serve to replenish cognitive resources, enhance mood, and restore emotional equilibrium, thereby mitigating the impact of daytime sleepiness on negative affect. Furthermore, research has shown that strategic napping can enhance cognitive performance, mood, and overall well-being, underscoring the potential benefits of incorporating daytime sleep into daily routines.

Moreover, the absence of a statistically significant correlation between negative affect and the Epworth Sleepiness Scale (ESS) underscores the multifaceted nature of affect regulation. While daytime sleepiness may influence emotional states to some extent, it is just one of many factors contributing to the complex interplay of emotions. Other variables such as stress, coping strategies, social support, and individual differences in emotional regulation mechanisms also play pivotal roles in shaping affective experiences.

In conclusion, although the correlation analysis revealed a weak negative relationship between daytime sleepiness and negative affect, further exploration is warranted to elucidate the underlying mechanisms and boundary conditions of this phenomenon. Future research endeavours should consider employing longitudinal designs, experimental manipulations, and multidimensional assessments to unravel the complex dynamics between daytime sleep and affect. By deepening our understanding of these intricate relationships, we can inform targeted interventions aimed at enhancing sleep quality, promoting emotional well-being, and fostering resilience in the face of everyday challenges.

CHAPTER 6: CONSLUSION

In conclusion this research talks Daytime sleepiness and affect in middle-aged adults who engage in daytime sleep practice. This research contributes insights into the intricate interplay between daytime sleepiness and affect, with a specific focus on negative affect. Despite the unexpected discovery of a weak negative correlation between daytime sleepiness and negative affect, indicating a potential buffering effect of daytime sleep on emotional states, there remains a pressing need for further exploration to fully comprehend the underlying mechanisms. The absence of statistical significance underscores the multifaceted nature of affect regulation, emphasizing the importance of adopting holistic approaches that encompass various factors influencing emotional well-being. Moving forward, it is imperative for future studies to adopt longitudinal designs and employ comprehensive assessments to unravel the complex dynamics between daytime sleep and affect. By deepening our understanding of these relationships, we can pave the way for targeted interventions aimed at optimizing sleep quality, fostering emotional resilience, and nurturing overall well-being amidst the challenges of contemporary life.

CHAPTER 7: REFERENCES

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