

Relationship Between Gratitude and Sleep Quality among Young Adults

Yukti Narang,

Amity University Noida

Abstract

This study investigates the relationship between gratitude and sleep quality among young adults. The objective is to understand gender differences between gratitude and sleep quality. However, there is less research that provides evidence that gratitude affects sleep quality among female and male young adults. To address this, the study aims to compare gratitude and sleep quality among male and female young adults. A correlational study with a sample (N=124) of female (N=62) and male young adults (N=62) was used. To assess gratitude and sleep quality among male and female young adults Gratitude Questionnaire (GQ-6) Pittsburgh sleep quality respectively. Online and offline responses were taken, and online data collection was done using Google Forms while offline data collection was collected from universities, institutes workplace settings. Statistical analysis revealed a moderate correlation between sleep quality and gratitude among female adults. Thus, to some extent, gratitude increases young adults' sleep quality.

Keywords: dispositional gratitude, sleep quality, male young adults, female young adults

Introduction

Young adulthood ranging from 18 to 26 can be defined as a transition period. Young adults undergo various transitions. During this period adolescents enter adulthood period. There are various physical, and psychological that young adults experience. Even though there are extreme changes in societal expectations, even young adults' sense of responsibility also drastically increases. Young adults are expected to become financially independent, pursue careers, and develop romantic relationships. The sudden shift in responsibilities and expectations can be very overwhelming for an individual.

Thus, they need to inculcate the habit of practicing gratitude regularly. Practicing gratitude regularly helps individuals to experience more positive affect, be better able to deal with adversities, improve their health, and build good relationships. In positive psychology, gratitude is strongly associated with happiness. One of the studies by Stefan et al. (2021) revealed that graduate students who wrote gratitude letters to those who made a significant difference in their lives experienced positive emotions, received reciprocal expressions of gratitude, overcame uncomfortable emotions, and had better well-being. Therefore, it is necessary to practice gratitude. Gratitude is strongly associated with the hedonic happiness of an individual. There are several ways to express gratitude. It can be done by writing thank you notes, keeping a gratitude journal, praying, and counting your blessings.

Various religious traditions including Judaism, Christianity, Islam, Buddhism, and Hinduism all encourage cultivating gratitude as it is considered an important moral virtue. In positive psychology, gratitude has been of high relevance among the researchers. Gratitude has been considered as a virtue, emotion, motive, coping style, skill, and attitude.

Gratitude

Many studies defined Gratitude as a positive emotional response that we experience upon receiving receipts of gifts or benefits from someone. Gratitude word has been derived from the Latin word Gratia which means gratefulness, graciousness. Emmons and McCullough (2003) defined gratitude as a two-step process, the first is recognizing something good has happened to an individual and the second is identifying the source because of which one has obtained such an outcome.

Gratitude can be classified into dispositional gratitude and trait gratitude. Dispositional gratitude means the individual ability to express gratitude consistently while trait gratitude can be defined as recognizing that benefit has occurred and reciprocating the benefit to the benefactor. Various researchers have stated that the trait of gratitude is linked with prosocial behavior. Individuals high in dispositional gratitude are more likely to be forgiving, empathetic, and generous (McCullough et al., 2002; Witvliet et al., 2018b), and they are more cheerful and optimistic (Witvliet et al., 2018a).

Dispositional gratitude has been associated with greater self-esteem (Bartlett et al., 2020), positive self-identity, and less likely to be determined by other's views (Wood et al., 2008, 2010). People with dispositional gratitude are more likely to have personality traits such as agreeableness, altruism, and trustworthiness while less envious and materialistic (McCullough et al., 2002).

Several researches indicated that gratitude has been linked with better physical and mental health, gratitude is highly associated with happiness and life satisfaction while decrease in envy and materialism. Grateful individuals are better able to cope with their illness. Cardiac patients who maintained gratitude journal for eight weeks reported less fatigue and decline in cellular inflammation (Mills et al., 2015)

Theoretical perspectives

Gratitude and Broaden Build Theory

Broaden and build theory given by Barbara and Fredrickson positive emotions such as happiness, hope, love, and gratitude broaden individual momentary cognitive and behavioral responses which enhances individuals' creativity and flexibility of an individual. Thus, By practicing gratitude individual personal resources (social, psychological, and intellectual) build up which leads to better well-being.

According to Barabara and Fredrickson's broadening and building theory practicing gratitude will increase cognitive and behavioral responses and individuals' urge to reciprocate benefit to a benefactor or towards other people or either enacting gratitude regularly as a moral virtue. It also allows individuals to reciprocate to benefactor in creative ways. Practicing gratitude also builds up an individual's social resources. Individuals showing prosocial behavior will express gratitude toward them will flourish their relationship with the benefactor, and strengthen the relationship of an individual, it also encourages reciprocal altruism which aims at benefitting another person without any expectations.

In conclusion, according to the broaden and build theory practicing gratitude will enhance individual social resources by building meaningful relationships as well as personal resources by enhancing the resilience and creativity of an individual.

Gratitude and Perma Model

As stated in the Perma model given by Martin Seligman which consists of positive emotions, engagement, relationship, meaning, and achievements P stands for positive emotion which refers to positive affect. Individuals enhance positive emotions about the past by cultivating forgiveness and gratitude and savoring present moments to elevate positive emotions about the present and past it can be done by building hope and optimism.

By cultivating positive emotions individuals can have flourishing experiences and better well-being as these positive emotions allow individuals to build personal resources which makes an individual resilient and enhances overall well-being. Positive emotions like gratitude, hope, and love modify an individual's automatic negative thoughts and actions. Thus, encouraging individual to include these thoughts in their daily experiences.

Gratitude and Neural mechanism

one of the studies suggested that practicing gratitude activates the superior temporal cortex region while increasing activity of pre-frontal regions (Zahn et al., 2009). An experiment was conducted to study the impact of gratitude on brain activity who underwent functional magnetic resonance imaging revealed gratitude has been linked with the medial prefrontal cortex region (Fox et al., 2015). Individuals high in gratitude showcase a higher volume of grey matter in the right inferior temporal gyrus and posteromedial cortices (Zahn et al., 2014). Apart from these structural changes there are several neurochemical changes as well.

There is an increase in the release of serotonin and depression. Serotonin is one of the major neuromodulators that helps individuals retain certain behaviors. Practicing gratitude leads to the activation of several brain regions as well as reward pathways and the hypothalamus. Thus, gratitude increases the release of serotonin which triggers the release of dopamine by activating the brain stem (Kalsi, N., & Khurana, R. 2023). These neurochemical changes lead to the alleviation of mood and, a greater sense of well-being and happiness.

Gratitude and Gender Differences

Various research has indicated huge gender differences exist while expressing gratitude among male and female young adults. Women are more likely show high levels of gratitude than males (Singh et al. 2014) As per studies, women experience emotions more intensely than males. Males are supposed to prioritize the attainment of goals, and success and less emphasis on expression of emotions (Matczak & Knopp, 2013) while women are expected to express emotions freely and seek social support (Knopp, 2012; Schwartz & Rubel, 2005). Men view expressing gratitude as a symbol of weakness and vulnerability which can threaten their masculinity and social status (Levant & Kopecky, 1995). Therefore, men express low gratitude as compared to women to protect themselves and maintain societal expectations. Women have high need to belongingness hence expressing gratitude openly.

Sleep Quality

Sleep Quality can be defined as individual satisfaction with all aspects of sleep experiences. Sleep quality encompasses four aspects: how efficiently one sleeps, time taken by individual to fall asleep and no of hours individual sleeps, and how often individual wakes during his/her sleep. There are various factors which influences sleep quality. physiological factors include age, circadian rhythm, body mass index, non-rapid eye movement sleep, rapid eye movement sleep. Psychological factors include presence of stressors, mental health disorders such as anxiety, depression, sleeping disorders etc.

Poor sleep quality among young adults leads to increase in risk taking behaviours and affects brain functioning related to reward processing and severe impact on cognition (Chee et al., 2011). Sleep deprivation has a huge impact on health as it can increase risk of metabolic syndrome, increases susceptibility to immune related diseases. Conversely enhanced sleep quality improves individual subjective health, happiness and well-being.

Sleep Quality among young adults

Physical, cognitive and physiological states are directly linked with sleep quality. Lack of restorative sleep can harm psychological or cognitive functioning can also affect physical health. A study was conducted in which it was found out that majority of young adults had a poor sleep quality (68.3%) but only few of them rated their sleep quality poor (11.8%) (Deshpande et al. (2023). Sleeping problem tend to increase in adolescents to adulthood (Madrid-Valero et al., 2017).

Sleep and mental health are closely associated with each other. Sleep difficulties play a huge role in the existence and maintenance of mental health issues (Seow, L. S. E., et al., 2020). During young adulthood as there is drastic changes in the responsibilities of young adults, they start working on their goals, become independent. Thus, they overlook their sleep. It has been found poor sleep quality is more prevalent among young adults who operate mobile phones just before going to bed (Radhakrishnan, B. L., et al., 2021). Several other factors contribute to poor sleep such as stress, caffeine intake, physical activity, and disrupted sleep-wake patterns (Wang, F., & B r ,  . 2021). Poor sleep quality can have a huge impact on physical and mental health (Niyatisheokand, D., et al., 2016)

Sleep Quality and Gender Differences

Huge gender differences persist in sleep Quality among male and female young adults. Female young adults are more likely to experience poor sleep quality than male young adults (Fatima, Y., Doi, S. A., Najman, J. M., & Al Mamun, A. 2016). Age and gender both are of high relevance related sleep quality. Females are more likely to experience sleep difficulties such as insomnia, sleep dissatisfaction and restless leg syndrome. there is other explanation as well which suggests females are more likely to experience poor sleep quality than male young adults. Puberty-related changes like menstruation and shift in progesterone and estrogen can also impact sleep quality. An abrupt increase in progesterone during last week of menstrual cycle can cause poor sleep quality. Women with profound premenstrual syndrome report fatigue, sleeping disturbances, trouble dreams, decline in alertness and concentration during premenstrual period (Nowakowski., et al.2013). Females are more likely to respond differently to environmental factors than males. Anxiety and depression is more prevalent among females than males which is also an important predictor of poor sleep quality among males than females. Caffeine after dinner is also associated with sleep quality as the majority of girls are more likely to consume caffeine after dinner (Tsai, L. L., & Li, S. P.2004)

Gratitude and Sleep Quality

scientific studies have indicated that there is a strong relationship between gratitude and sleep quality. A randomised controlled experiment was conducted and compared 2 weeks of gratitude intervention among 119 women participants. The treatment resulted in improved sleep quality (Jackowska, et al. (2016). Practicing gratitude also strengthens an individual's ability to appraise situations in a positive way which enhances sleep quality and improves anxiety-related symptoms (Watkins, Uher & Pichinevskiy, 2015; Wood, Joseph, Lloyd & Atkins, 2009). Gratitude leads to increase subjective well-being, sleep duration and improved sleep time latency and daytime dysfunction and this relation was mediated by enhanced pre-sleep cognitions (Wood, A. M., Joseph, S., Lloyd, J., & Atkins, S. 2009). Similarly, individuals with depression who practiced gratitude consistently showed reduced symptoms of depression and presleep bothering thoughts (Alkozei, A., Smith, R., Kotzin, M. D., Waugaman, D. L., & Killgore, W. D. 2019). Dispositional gratitude has been associated with low blood pressure and heart rate and improved sleep quality and hope and increased feelings of appreciation towards the others (Newman, D. B., Gordon, A. M., & Mendes, W. B. 2021).

Gratitude has also benefit on interpersonal relationships by reducing potential sleep disturbances among an individual. In study of 118 adults, dispositional gratitude significantly reduced physical health related symptoms such as reduced sleep disturbances, respiratory infections, headache and gastrointestinal problems individual high in

dispositional gratitude also showed reported less feeling of loneliness (O'Connell, B. H., O'Shea, D., & Gallagher, S. 2016).

Review of literature

Aiyi Liu et al. (2023) Studied the role of gratitude and posttraumatic growth in association between self-compassion and non-suicidal self-injury. The study comprised of 597 adolescents. Results suggested that positive self-compassion was negatively associated with non-suicidal self-injury. Gratitude and posttraumatic growth had significant mediating roles between self-compassion and non-suicidal self-injury.

Helena Chui, Manfred Diehl (2023) examined the association between gratitude and loneliness using a seven-day daily diary. The sample included young adults, middle adults, and older adults. It included 128 adults. Results revealed that there were gender differences existed in loneliness between young adults who were grateful and older adults who were not grateful. women were less likely to be lonely than males specifically those who practiced gratitude.

Makhoul M., Bartley Ej., (2023) studied the association between gratitude and depression among old adults with chronic pain. The study consisted of 60 older adults with chronic pain. The result indicated that gratitude is negatively linked with stress, sleeping problems, depressive symptoms while positive linked with presence of social support among older adults.

Glavin.,M., et al.,(2022) investigated the relationship between physical activity, sleep and mood among undergraduate women and men. Sample included 866 undergraduate students. Result indicated that among women increase in physical activity is associated with early bedtime, increased positive affect and enhanced sleep quality. Among men exercise is linked with improved sleep quality. Thus individuals who are more likely to do physical activity will show improved sleep quality and less negative affect.

Korkut B., (2022) studied the association between sleeping disturbance and anxiety. Study included an equal percentage of males and females. The final outcome of the research revealed that there is no relationship between gratitude and anxiety while happiness had direct relationship with anxiety.

Xiaoting Liu et al. (2022) studied the relationship between sleep quality and risk-taking behaviours among College Students. It included 1221 college students. The result of the study revealed that poor sleep quality is linked with risk-taking behaviors by reducing resilience among college students. the relationship between sleep quality and resilience was greater in females than in males; however, the relationship between sleep quality and risk-taking behaviors was greater in males than in females.

A., R Kaniuka., (2021) studied gratitude and reduced risk behaviour among College Students. The sample comprised 913 undergraduate students. Findings indicated that students who practiced gratitude were less likely to show risk behavior such as substance abuse, suicidal behavior, signs of hopelessness, and reduced depressive symptoms.

Banthiya et al. (2021) assessed sleep quality among Indians during the Covid-19 pandemic. Results indicated the majority of Indians experienced poor sleep quality. Poor sleep quality is strongly related with decline in mental health. Thus, poor sleep quality affected the mental health of Indians during covid19.

Biber D., Brandenburg G., et al., (2021) examined link between curiosity, gratitude, and life satisfaction among undergraduate college students. research included 232 graduate students. Gratitude was positively linked with life satisfaction and curiosity. It also revealed that women were more likely to score high on life satisfaction and gratitude than male undergraduate students.

Alkhatatbeh J., et al., (2021) analysed association between prevalence of sleep quality, anxiety, depression and presence musculoskeletal pain, and consumption of calcium. Sample consisted of 1422 adults. The participants who experienced poor sleep quality had high anxiety and depression levels musculoskeletal pain low consumption of calcium.

Marzabadi E., et al., (2021) Studied the relationship between grateful and mindful traits and their health outcomes. the study comprised 1315 male soldiers. individuals with more mindful and grateful traits had high quality of life and enhanced physical and psychological well being.

Sunah Hyun et al., (2021) Analysed sleep deprivation that can lead to negative consequences on health. sample included 908 young adults. Results revealed that Young adults experienced sleep disturbances during the first two months (April to May 2020) of the pandemic. Depressive and anxiety symptoms were also present as indicators of poor sleep quality despite a pre-existing diagnosis.

Preš J., et al., (2020) studied gender differences related to the expression of gratitude involving psychosocial factors. It included 576 participants aged 14 to 86 years. The result revealed that females were more likely to express gratitude than males. Gratitude is positively related to self-esteem, emotional intelligence, and intent to help to the benefactor or other people.

Skalski S., Pochwatko G., (2020) examined sex and socio-cultural sex differences in expressing gratitude. The study included 238 participants Results of the study revealed that Women were more likely to express gratitude than males Significant results existed for socio-cultural gender as well. Androgynous people expressed a higher level of gratitude than people who are sex-typed, undifferentiated, and cross-sex-typed.

Rani R., Singh N., (2019) studied gender differences between gratitude and spirituality. The sample comprised 100 college students. Research results indicated that there was no gender differences between spirituality and gratitude.

Kausar R., (2018) studied the association between happiness and gratitude among College Students. The sample consisted of 100 college students. The result of the study was that gratitude leads to happiness among college students and there were no gender differences present in practicing gratitude.

Krističević T., (2018) studied the associations between time spent in bed when the individual was awake and sleep quality with the presence of obesity or overweight. The study consisted of 2100 university students (49.6% of women). Result implied that time spent in bed when individual is awake and poor sleep quality is closely related with overweight and obesity.

Dugas, E. N., et al., (2017) assess sleep quality among smoker and non-smoker young adults. Smoker adults tend to have poor sleep quality in the of than non-smoker young adults. Result suggested that nicotine dependence and cigarettes smoking is associated with poor sleep quality among young adults.

Juan., Valero., et al. (2017) Studied age and gender effects on prevalence of poor sleep quality among adults. It included 2,144 subjects aged between 43 and 71 years. The result revealed that women are more likely to experience poor sleep quality than males. It also suggested that as age of an individual increases sleep quality of an individual decreases.

Jackowska., j., et al., (2016) investigated the impact of brief gratitude intervention on sleep, subjective well being. The experiment included 119 women. Result suggested that gratitude intervention led to the improvement in subjective well being and enhanced sleep quality while reduced diastolic blood pressure.

Fatima Y., et al., (2016) studied gender differences in sleep quality due to presence of depression among females than males and studied demographic and lifestyle factors associated with poor sleep quality The study included 3778

young adults. The result of the study showed that women are more likely to experience poor sleep quality than males. Presence of poor sleep quality was independent of demographic, presence of depression and lifestyle factors.

Kirman N., (2015) analyzed forgiveness, gratitude, and subjective well-being among college students. The study comprised of 219 college students. The findings of the study suggested that girls were more likely to show gratitude and forgiveness than boys, and girls are more forgiving than boys.

Vescovelli C., (2013) analysed the importance of gratitude among breast cancer patients and its relationship with post-traumatic growth, psychological well-being, and distress and compared patients expressing high level of gratitude with those patients who expressed low level of gratitude. In Study 67 breast cancer patients were assessed. Result of the study revealed that the majority of patients had a low level of gratitude for this increased need of gratitude interventions among them.

Smith S., Kozak N., Sullivan A (2012) investigated the role of loneliness and mood in sleep quality. Study included 97 adults. Study suggested that there is a strong relationship between loneliness and poor sleep quality among young adult.

Digdon N., Koble A., (2011) studied the role of gratitude intervention, imagery and worry on sleep quality. Study included 41 participants. The result of the study showed that all the interventions had positive results on sleep quality and reduced pre-sleep worrisome thoughts

Methodology

1.1 Aim

To assess and compare gratitude and sleep quality among male and female young adults.

1.2 Objectives

- To assess and compare males and females on gratitude.
- To assess and compare males and females on sleep Quality.
- To assess and compare males and females on gratitude and sleep Quality

1.3 Hypothesis

- **To assess and compare males and females on gratitude.**
- **To assess and compare males and females on sleep Quality.**
- **To explore relationship between gratitude and sleep quality among females.**
- **To explore relationship between gratitude and sleep quality among females**

1.4 Variables

- Gender
- gratitude level
- sleep quality

1.5 Sampling design

A convenient sampling was employed to collect a sample (N=124) within the age range of 18-26 years comprising of 62 male participants and 62 female participants. The sample was recruited from various universities of Delhi- NCR diverse educational apartments. Online responses were collected on Google Forms and offline responses were also collected using psychometric tools Pittsburgh Sleep Quality Index and gratitude questionnaire (GQ-6).

1.6 Inclusion and exclusion criteria

Inclusion criteria involve young adults (age range:18-39) while exclusion criteria involve individuals with chronic health conditions affecting sleep and individuals of others age groups, who were below age 18 or above age 27.

1.7 Research Design

questionnaire was used to collect data on young adults. Quantitative research method was employed for the study to analyse the data method as well as survey method was used to collect responses from the participants using psychometric tools Gratitude Questionnaire (GQ-6) and Pittsburgh sleep Quality Index (PSQI).

1.8 Tools

Pittsburgh Sleep Quality Index

The Pittsburgh Sleep Quality Index is a self-report tool for assessing sleep quality, developed by Buysse et al. Pittsburgh sleep quality assesses sleep quality of an individual for over 1 month period. The scale measures seven components. It is Likert based scale which consists of open-ended questions .it has internal consistency of .83 and test-retest reliability of .85%

Gratitude Questionnaire – Six- Item-Form (GQ-6)

Gratitude Questionnaire -6 developed by Michael et al. is a brief scale used to assess gratitude of an individual. It is also Likert based scale which consist of 6 items rated on a scale from 1=Strongly disagree to 7= strongly agree. GQ-6 has internal reliability=.76 to.87.

Result

To study gender differences between gratitude and sleep Quality among young adults. A cross-sectional sample (N=124) was used. T-test, Pearson product-moment of correlational is used to examine the relationship between Gratitude and sleep quality among young adults. Table 1 displays descriptive statistics.

Measures	Groups	Mean	SD	T-value
Gratitude	Female	33.18	6.96	7.36
	Male	26.32	5.18	
Sleep Quality	Female	11.82	5.15	2.97
	Male	7.11	4.49	

Table 1: *Age differences on the measure of Gratitude and sleep quality. (df=122)*

The result showed significant differences between gratitude among female (M=33.18, SD=6.96, N=62) and male young adults (M=26.32, SD5.18, N=62); $t(122)=7.36, p=0.02$ (two-tailed test) as well as sleep quality among female young adults (M=11.82, SD= 5.15, N=62) and male young adults (M=7.11, SD=4.49, N=62)); $t(122)=2.97, p=0.02$ (two-tailed test)

Gender	Measures	N	Gratitude	P value
Female	Gratitude	62		.625**
	Sleep Quality		0.62	
Male	Gratitude			.446**
	Sleep Quality	62	0.44	

Table 2: *Correlation between gratitude and sleep Quality among female and male young adults.*

Table 2 provides the coefficient correlation between gratitude and sleep quality among female and male young adults. Gratitude and sleep quality are positively correlated with each other among female young adults ($r=0.62$) and male young adults ($r=0.44$) at a 0.05 level of significance ($p<0.05$). The coefficient of correlation showed a moderate relationship between female and male young adults

Discussion

The study aimed to assess and compare sleep quality and gratitude among male and female young adults. Gratitude can be defined as a positive emotion that an individual experiences upon receiving gift. Gratitude can be also categorized as dispositional gratitude and state gratitude. Dispositional gratitude refers to the individual tendency to experience gratefulness consistently while State gratitude refers to positive affect after receiving a positive outcome and aims to reciprocate benefit to the benefactor. It is evident through various kinds of research that dispositional gratitude has a significant positive result on an individual's overall well-being.

Sleep Quality can be defined as individual satisfaction with sleep experience. Sleep quality includes four dimensions sleep efficiency, sleep latency, sleep duration, and wake after sleep. Sleep quality can affect multiple domains of life such as physical health, severely impacting cognitive functioning and mental health. Especially among young adults study was conducted by Ganpat Maheshwari, Faizan Shaukat (2019) revealed that medical students had poor sleep quality which had a huge impact on learning an memory processing.

Numerous studies have examined the relationship between gratitude and sleep quality and predicted gratitude leads to better subjective sleep quality. The positive relationship between gratitude and sleep quality can be explained by positive pre-sleep cognition. however, there is less research that provides evidence that gratitude affects sleep quality among female and male young adults. To address this, the study aims to compare sleep quality among male and female young adults. A correlational study with a sample ($N=124$) of female($N=62$) and male young adults ($N=62$) was used. To assess gratitude and sleep quality among male and female young adults Gratitude Questionnaire (GQ-6) Pittsburgh sleep quality respectively. Online and offline responses were taken, and online data collection was done using Google Forms while offline data collection was collected from universities, institutes workplace settings.

Gratitude among female and male young adults

The results revealed highly significant differences between gratitude of female and male young adults. The findings matched with previous literature which stated Women showed a higher level of gratitude than men (Skalski, S., & Pochwatko, G. 2020). This could be explained by men considering gratitude as a sign of weakness and vulnerability and avoiding expressing gratitude to defend themselves from the negative attitude on the other hand, women felt better by expressing gratitude as it enhances their social relationships which is beneficial to them more as compared to the men. Another study in which mental health and subjective well-being are mediated by gratitude and stress revealed that high school students who practice gratitude are effective in supporting mental health and subjective well-being (Bono, G., Duffy, T., & Merz, E. L. (2023).

Sleep Quality among female and male young Adults

As per the findings, there is a significant difference between the sleep quality of female and male young adults. previous studies have shown that women experience poorer sleep quality than men. Madrid-Valero et al. 2017 studied age and gender differences in the prevalence of poor sleep quality and the result of the study was women experienced poor sleep quality and there is also a negative relationship between age and sleep quality. This could be explained by lifestyle factors, depression, stress, Caffeine consumption, and many other factors. Male young who engage in greater exercise were more likely to report less depressive mood and in female young adult's exercise is linked with early bedtime, increased sleep quality, and were less likely to report depressive mood and enhanced positive affect. Thus, individuals who didn't engage in exercise experienced late bedtime, less positive affect, more anxiety, and anger (Glavin, E. E., Matthew, J., & Spaeth, A. M. (2022). Another study pointed out that to improve sleep quality among young adults, they should modify their lifestyle, and smartphone addiction must be reduced within young adults (Chang, A. K., & Choi, J. 2016).

Gratitude and sleep quality

The result showed a positive correlation between sleep quality and gratitude among female adults and male young adults, thus supporting hypotheses 1 and 2. This indicates increase in gratitude will lead to better subjective sleep quality. This also implies the relationship between gratitude and sleep quality is stronger among males than females suggesting that expressing gratitude has a more significant impact on females than males. Our findings align with the previous studies. A study by Alkozei et al. (2019) showed that Grateful individuals report low symptoms of depression which further reduces pre-sleep worries and leads to enhanced sleep quality. Marta Jackowska et al. (2016) compared two two-week gratitude interventions among young females which included an experimental group (receiving treatment) and a control group (no treatment), the result of the study came out to be there was the positive impact of gratitude on subjective well-being which increased sleep quality and lower blood pressure.

Implications

Studying the relationship between gratitude and sleep quality is essential for individual well-being, therapeutic interventions, and future research. By understanding the relationship between sleep quality and gratitude, therapists can tailor interventions and holistic approaches to promote well-being among young adults. Intervention strategies to increase gratitude journaling can be incorporated into sleep hygiene programs for young adults. These interventions can have a variety of benefits beyond improving the sleep quality of an individual such as enhanced resilience and emotional well-being. The study can identify factors that promote gratitude among young adults with poor sleep quality. This study can be used to provide various intervention programs for students that can improve their academics, and subjective well-being and foster better relationships among them. For example, young adults can be taught to cultivate gratitude which provides them with a coping mechanism to deal with stress and improve their sleep quality during challenging academic time.

Further research building on this study could provide us with insight into the relationship between mental health disorders, poor sleep quality, and Gratitude. This knowledge will help to provide preventive Gratitude interventions to individuals with mental health disorders such as depression, anxiety, etc., and with low resilience to improve their overall well-being.

The current research can be used to identify cultural variations in manifesting gratitude among young adults. Incorporating cultural-related interventions into gratitude-based measures aimed at improving sleep quality among young adults, thus leading to better health outcomes among diverse cultural populations

LIMITATIONS

1. Correlational study- a correlational study has been used to understand the relationship between gratitude and sleep quality, therefore it is difficult to predict that gratitude can improve the sleep quality of an individual. There can be various other factors that can influence sleep quality and gratitude independently
2. Possible confounding variables- there can be numerous factors other than gratitude that can influence sleep quality such as lifestyle factors, the presence of stressors, caffeine intake, age, and sleep hygiene practices. Future researchers must consider these variables and include it in their research to provide in-depth knowledge of individual sleep quality.

Conclusion

In conclusion, the study aimed to explore the relationship between gratitude and sleep quality among male and female young adults. The study revealed highly significant differences between the gratitude of female and male young adults. The study also revealed that there is a significant difference between the sleep quality of female and male young adults. Findings also suggested that the result showed a positive correlation between sleep quality and gratitude among female adults and male young adults.

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