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Exploring gender differences in sleep quality and aggression: A comparative study

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Abstract

Sleep is one of the necessities that help individuals to lead a healthy and contented life. If an individual lacks sleep quality and quantity, it could lead to physiological and psychological problems like aggressive behavior and increased experience of negative emotions, etc. Aggression is defined as any behavior aimed at harming or injuring another living being who has a desire to avoid such treatment. The present study explores gender differences and studies the relationship between these variables. The total number of participants in the study was 80, with 35 females and 45 males, belonging to Delhi-NCR (aged 18-25 years). The tools used were Pittsburgh Sleep Quality Index and Buss and Perry Aggression Questionnaire. The present study used a descriptive and cross-sectional design. The results found significant gender differences in aggression, moreover, a significant positive relationship between sleep disturbances (indicating poor sleep quality) and aggression. As a result, this study advances knowledge of the connections between these variables and adds to the body of existing literature.

Keywords: Sleep quality, aggression, young adults

Introduction

The sleeping patterns that they established during their formative years are frequently not maintained by young adults. Due to the more challenging aspects of their lifestyles, young adults may develop sleep issues. Therefore, efforts to increase this population's sleep quality would need to take these challenges into account.

In a finding, reported that sleep duration and frequency may also have an impact on aggression. A single night of sleep deprivation in healthy individuals was demonstrated to result in increased animosity (Cutler and Cohen, 1979) [16]. Aggression issues could be resolved by treating sleep disturbances, according to numerous studies on children and teenagers that found a link between aberrant sleep patterns and aggression (Chervin *et al.*, 2003) [14-15]. Getting enough hours of sleep is important but getting sound sleep is even more important for the optimal functioning of the individual. So, the quality of sleep also matters. Sleep quantity and quality are two different ideas. Sleep quantity is the amount of sleep one receives each night, but sleep quality is how well one sleeps. Further, sleep quality is defined as an individual's self-satisfaction with all aspects of the sleep experience. Sleep efficiency, sleep latency, sleep duration, and wake after sleep onset are the four elements that make up good sleep. Additionally, positive effects of good sleep quality include feeling refreshed, having normal reflexes, and having pleasant interpersonal relations. However, fatigue, irritation, daytime dysfunction, slower reactions, and increased caffeine/alcohol use are all outcomes of poor sleep quality. Hence, it can be said that poor sleep quality leads to diseases and poor health. It is important to assess the factors that impact sleep quality to improve the experience of sleep.

People are more intent on succeeding in life, but often overlook the real factor - a good night's sleep - which affects how well they perform every day. Sleep disturbances induce frustration, which in turn leads to aggression. Aggression is the main driver of disturbance in many facets of a person's life. Aggression is a social issue and social psychologists define it as any behaviour intended to harm another person who does not want to be harmed (Baron & Richardson, 1994) [5]. Defined aggression as "aggression is any form of behaviour directed towards the goal of harming or injuring another living being who is motivated to avoid such treatment."

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Given all the definitions provided above, aggression is a behavior that can be seen, is deliberate, and the victim wants to avoid it.

There are four components of aggression, given by Buss and Perry (1992) ^[12]. These include anger, hostility, physical aggression, and verbal aggression. The American Psychological Association (APA) states that "anger is an emotion characterized by antagonism toward someone or something you feel has deliberately done you wrong". Anger may be a positive thing as well. It might help one vent negative emotions, for example, or it can encourage one to discover solutions to various issues. T.W. Smith (1992) defines hostility as a complex of negative attitudes, beliefs and estimates applied to other people, the idea that other people are probably a source of anger, deceit, provocation, etc. It is basically very strong ill feelings against something/ somebody. Physical aggression involves harm that is inflicted on others physically. This includes hitting, kicking, throwing, and smashing things, using weapons like guns etc. Verbal aggression is the act of using aggressive or foul language to harm others emotionally or mentally. Examples can be name-calling, accusing or defaming somebody, stereotypical remarks etc. As A.H Buss (1961) stated, hostility is the cognitive component of mentality, while anger is the emotional component and aggression is the behavioural component (no matter if it is physical or verbal in nature).

Not obtaining enough quality sleep on a regular basis may increase the risk of various illnesses and disorders. Ranging from anger issues to heart disease and stroke to obesity and dementia. There is more to proper sleep than just the hours spent in bed. Further, sleep disturbances are the root cause of many physiological, psychological, and emotional problems. Sleep disturbances are very common among young adults because of their academic and work commitments, unhealthy lifestyle choices, and other factors like stress or anxiety. Hence, it is crucial to investigate their effect on daily life occurrences and moods.

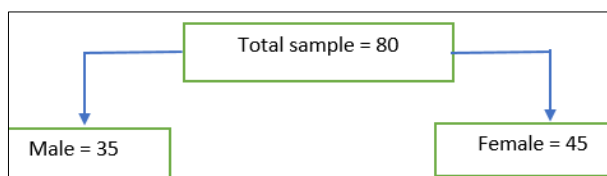
Method

Present Study

The emergence and persistence of violent behaviour among young adults, both males and females, has been linked to a wide range of circumstances. Understanding how these elements interact to influence young people's aggressive behavior offers vital insights for creating preventative strategies. Thus, the study aims to assess the gender differences and the relationship between sleep quality and aggression, in young adults, aged 18-25 years.

Sample

The total number of participants in the study was 80, comprising 35 males and 45 females. The participants belonged to Delhi- NCR, aged 18-25 years. Purposive snowball sampling techniques were used to collect data from the participants. Both are non-probability sampling techniques.



Objectives

The present study was undertaken with the following main objectives:

1. To investigate the gender differences pertaining to sleep quality in young adults
2. To examine the gender differences pertaining to aggression in young adults.
3. To study the relationship between sleep quality & aggression in young adults.

Measures

- **Pittsburgh Sleep Quality Index (PSQI):** The PSQI (Buysse, 1989) ^[13] was developed to assess overall sleep quality in the population. There are nineteen self-reported items that belong to one of seven subcategories: subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medication, and daytime dysfunction. Only for clinical purposes, five additional questions that were graded by the respondent's bed or living partner are included; they are not scored. Higher scores indicate more acute sleep disturbances. Therefore, the higher the score, the worse is the sleep quality.
- **Buss Perry Aggression Questionnaire (AQ):** The Aggression Questionnaire (AQ) developed by Buss and Perry in 1992 ^[12] is a 29-item scale. It is divided into four subscales - physical aggression, verbal aggression, anger and hostility. To assess the aggression levels, the participants are asked to rate the statements on a five-point likert scale, where 1 indicates 'extremely uncharacteristic of me', and 5 indicates 'extremely characteristic of me'. Total aggression scores vary from 29 to 145, with higher values suggesting a stronger tendency to respond or behave aggressively. The internal consistency coefficient (α) for the total scale is .89 while physical aggression has .85, verbal aggression has .72, anger has .83 and hostility has .77. BPAQ has been used in numerous research to evaluate Aggression in various populations. It is a valid and reliable measure of Aggression. Aggression in both adults and children, as well as in clinical and nonclinical populations, has been measured using this method.

Procedure

All the selected participants were given information about the nature of the study which was followed by obtaining informed consent prior to the beginning of the study. The participants belonged to Delhi-NCR, aged 18-25 years. Once the aim and the demographic parameters were decided, t-scales were finalized for the assessment - Pittsburgh Sleep Quality Index (Buysse, 1989) ^[13] and Buss and Perry Aggression Questionnaire (Buss & Perry, 1992) ^[12]. All these scales along with the demographic details were converted into a single Google form questionnaire for the convenience of data collection. For data analysis, relevant statistical techniques were used. An independent t-test was conducted to explore the gender differences in sleep quality & aggression. Correlational analysis was conducted to assess the relationship between sleep quality & aggression and emotional reactivity.

Results

A total of 80 respondents who belonged to Delhi-NCR and aged 18-25 years participated in the study.

Table 1: Showing Mean, SD & t value of the male and female participants on sleep quality & aggression

Variable	Males		Females		t-value	p-value
	Mean	S.D.	Mean	S.D.		
Sleep Quality	7.54	3.53	6.58	3.66	1.19	0.239
Aggression	84.60	18.83	68.64	21.57	3.47**	< .001

Note. * $p < .05$, $p < .001$ **

The above table depicts the mean and S.D. of males and females on sleep quality & aggression. It also shows the t-value and p-value of the variables. No significant difference was found between male and female participants in sleep quality. Whereas significant difference at .01 level were found in aggression between male & female young adults. The male showed higher aggression as compared to female participants.

Table 2: Showing the Pearson's correlation between sleep quality & aggression

Sleep quality	Aggression
Sleep Quality	–
Aggression	0.37*

The above table shows Pearson's correlation between sleep quality & aggression which is significant at .05 level and both the variables share a positive relationship i.e as sleep disturbance increases so would aggression increase

Discussion

The aim of the study was to assess the gender differences and the relationship between sleep quality and aggression in young adults, aged 18-25 years. The first objective of the study was to investigate the gender differences in the quality of sleep of young adults. Table 1, shows the Mean, Standard Deviation, t-value, and p-value of males and females on sleep quality, which indicates no significant gender difference in sleep quality in young adults. In line with the results of the present study, the mean of males was marginally higher than that of females. It shows that males had slightly more sleep disturbances than females. However, earlier research findings indicate that men have better sleep than women. Fatima *et al.* (2016) [19] conducted a study to assess the gender differences in sleep quality in young adults and concluded that females had a higher prevalence of poor sleep than males. One of the possible reasons behind this is menopause. Xu *et al.* (2011) [35] have also found that menopausal women had a worse sleep quality than non-menopausal women. But this is not the case for the present study because of the younger age group participants.

Moving on to the second objective of the study which was to examine the gender differences in the aggression of young adults. The mean and S.D. values of males on aggression were higher in comparison to the females. As t obtained is more than t critical, significant gender differences pertaining to aggression were found in young adults. The mean of males was higher than that of females indicating that males are more aggressive than females. The results of the present study is in line with a study by, Owens and MacMulin (2012) on adolescents in South Australian Schools. The findings reveal boys were more physically and verbally aggressive than girls. The presence of high levels of testosterone could account for aggressiveness in men. Male-typical behaviors like physical aggression and anger are known to increase with higher testosterone levels in the

blood (Archer, 1991) [2]. Based on the results obtained, gender differences were observed in aggression whereas no significant difference was observed in the sleep quality of young adults.

The third objective of the study was to assess the relationship between sleep quality and aggression. Table 3 shows the correlation between sleep quality and aggression, the results indicate a positive correlation between sleep quality and aggression. This means as sleep disturbances increase, individuals' aggression levels also increase and vice-versa. This correlation is significant at $\alpha = 0.05$. Due to poor sleep and increased sleep disturbances, the person may become irritable, get triggered easily, and lash out aggressively. Aggressiveness was shown to be related to both the quantity and quality of sleep reported, with lower quantity and quality predicted by higher total aggression (Ireland & Culpin, 2006) [25]. Hence, it can be derived that reduced sleep disturbances would increase an individual's positive emotions reducing irritability and would uplift mood.

Conclusion

The study identified significant gender differences in aggression while no significant gender differences were found in the sleep quality of the participants. Males were found to be more aggressive and scored higher than females. Further, there existed a significant positive relationship between sleep disturbances (indicating poor sleep quality) and aggression. This means that as disturbances in sleep increase, aggression and thus the present study highlights the importance of sleep quality, and how it can affect the mood and in turn increases irritability and aggression in individuals.

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