

Sleep Deprivation, Stress and Maladaptive Coping Style among Working and Non-Working Married Women: A Comparative Study

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ABSTRACT: The present study aims to examine sleep deprivation, stress, and maladaptive coping styles among working and non-working married women with dependent children and to find the relationship between sleep deprivation, stress, and maladaptive coping styles between working and non-working married women with dependent children. The sample consisted of 120 married working and non-working women with dependent children living in a joint family. They were selected by using the random sampling technique, and they belonged to different educational backgrounds and different socioeconomic statuses. The age range was 25–60 years. Married women were working in different government or private sectors. Non-working women were homemakers. A sample was collected from different urban areas. The Perceived Stress Scale (PSS-10), Stress Coping Techniques Scale, and Pittsburgh Sleep Quality Index (PSQI) were used. The data was analyzed using Karl Pearson's correlation and the t-test. Findings revealed that there is a significant difference in sleep deprivation, stress, and maladaptive coping styles between working and non-working married women with dependent children. Non-working married women feel more stress and sleep deprivation and use maladaptive coping styles as compared to working married women. And there is a significant positive correlation between sleep deprivation, stress, and maladaptive coping styles among married women. Non-working married women may benefit from programs that aim to enhance coping skills, thereby reducing stress. Future psychotherapies using advanced technologies to target vulnerable married women, promote adaptive coping patterns, and discourage maladaptive coping techniques are necessary. Counselling sessions and the guidance of a trained psychologist may be beneficial.

Keywords: Sleep deprivation, stress, working women, non-working women, maladaptive coping style, married women.

INTRODUCTION

Stress creates unwanted disturbances and interruptions in sleep (Otsuka *et al.*, 2022). A cross-sectional study was demonstrated, and findings revealed that stress is strongly linked with sleep problems and sleep difficulty in adults (Cardoso *et al.*, 2021). Coping is understood to be a mediator of the relationship between stress and sickness and is described as cognitive and behavioral techniques that are intentionally used in response to the evaluation of stress. Using the right coping mechanism in challenging and testy circumstances or conditions helps stop stress-related illnesses (Carver *et al.*, 1993; Lazarous *et al.*, 1984). A sense of humor, taking initiative to solve issues or complex situations, and positively interpreting situations are all valuable examples of adaptive coping mechanisms that help people deal with stress and maintain their psychological health. As a result, they increase feelings of safety and security (Taylor and Stanton 2007) In contrast, unhealthy coping mechanisms impair psychological health and make people or individuals unable to engage

in uncomfortable circumstances and suppress their emotions (Penley *et al.*, 2002). A large prospective study found that maladaptive coping strategies like substance use, behavioral disengagement, and self-distraction moderate the relationship between stress and insomnia (Pillai *et al.*, 2014). By causing insufficient sleep and prolonging insomnia symptoms, these coping strategies hasten insomnia and increase feelings of discomfort (Abe *et al.*, 2011). A small prospective Canadian study found that people with insomnia use maladaptive coping strategies and have higher levels of arousal at bedtime than people who do not have insomnia. Some researchers have looked into the mechanism of the link or connection between coping and insomnia; maladaptive coping affects sleep efficiency, indirectly amplifying the effects of stress (Morin *et al.*, 2003). However, in this study, coping strategies were assessed at the outset, and no within-person associations were investigated. Harvey *et al.* (2014) proposed a psycho-biological behavioral model of insomnia vulnerability. According to this model, stress reactivity is bidirectional related to neuroticism,

which leads to emotion-focused coping, which feeds sleep disruption and eventually induces insomnia (Harvey *et al.*, 2014). However, it is unknown to what extent more specific coping strategies relate to insomnia. The majority of research on the relationship between coping strategies and insomnia is cross-sectional in nature. It has long been known that sleep, a crucial therapeutic component of human physiology, is crucial to brain functioning, mental health, and a high quality of life (Altevogt *et al.*, 2006; AlDabal and BaHammam 2011). Lack of sleep has a variety of negative impacts on human biology, including exhaustion, drowsiness during the day, and decreased neuro-cognitive function (Azad *et al.*, 2015). Many nations have different prevalence rates for bad sleep quality. It has been observed to range from 19% in a Chinese study to 55.8% in an Ethiopian study using the Pittsburgh Sleep Quality Index (PSQI) (Espie, 2002; Lemma *et al.*, 2012). Nonetheless, investigations on the link between stress exposure and severe sleep disturbances have provided the majority of the empirical evidence for this concept. According to several studies, people who suffer from insomnia may use more maladaptive coping mechanisms. For instance, a cross-sectional study of 330 hypertensive patients in Italy found that those who have symptoms of insomnia employ more coping mechanisms than those who do not, such as behavioral disagreement and positive re-framing, while employing less emotional support (Morin *et al.* (2003); Palagini *et al.* (2016). A cohort study was conducted on Japanese workers regarding coping and insomnia, and findings revealed that individuals with insomnia symptoms mostly employ both adaptive and maladaptive coping styles, with maladaptive coping style tactics being more common than adaptive coping styles (Otsuka *et al.*, 2022). A study of front-line healthcare workers indicated that nurses reported higher levels of sleeplessness and sadness than attending physicians, and nurses had a considerable psychological load when caring for pandemic patients. Another cross-sectional study on sleep quality and stress in the elderly was undertaken, and the results revealed a substantial link between sleep quality and stress in the elderly. A study of variables related to poor sleep quality in Singaporean women was undertaken, and women reported poor sleep quality (Wong *et al.*, 2023). A recent study found that infertile women are more likely to experience stress, worry, and despair (Kamboj *et al.*, 2023). A study was carried out to examine the levels of stress, weariness, and sleep quality in Israelis, and the results suggested a substantial link between sleep quality and stress. (Novak and Lev-Ari 2023) Prior research has shown that sleep quality is an essential element in the relationship between drug use and post-traumatic stress symptom severity (Lehinger *et al.*, 2023). Research on adults was undertaken, and the findings indicated that women's sleep quality was poorer than men's throughout the epidemic (Gargiulo *et al.*, 2021). A study was done among female nursing college students who were predictors of insomnia, and the findings suggested that insomnia was more prevalent in

chronically ill female students (Albikawi, 2023). Recent longitudinal research in Hong Kong indicated that individuals had higher sleep issues in the third wave of the epidemic than in the second wave (Lam *et al.*, 2021). Another study indicated that sleep quality accounted for the relationship between stress and sadness in a group of Chinese seniors living in cities (Liu *et al.*, 2017). Several age-related factors, including age-related physiologic changes, decreased physical activity, and major life changes, may have contributed to the high prevalence of sleep problems among middle-aged and older adults (Chen *et al.*, 2015). Poor sleep health is not a natural component of the ageing process, and sleep issues do not impact all individuals equally. Existing research shows that minority individuals, particularly African American adults, have a greater incidence of sleep disorders and a shorter sleep duration than white adults (Peterson *et al.*, 2021). Furthermore, a previous study suggested that there was a positive relationship between emotion-focused coping and sensitivity to developing insomnia, implying that maladaptive coping predisposes people to having insomnia (Fernandez-Mendoza *et al.*, 2010). Dealing with stress is regarded as the most important aspect of the overall stress process. According to research, an appropriate coping strategy can lessen the impact of stress and its harmful repercussions. Many coping strategies have been developed throughout the years (Houdmont, 2012). A lot of research has been conducted to investigate the association between stress and sleep disorders. The link between poor sleep quality and stress is bidirectional in nature (Van Laethem *et al.*, 2015). The majority of existing research has focused on the influence of stress on sleep quality. The majority of them report a detrimental influence of stress on sleep quality and quantity, as well as excessive drowsiness (Otsuka *et al.*, 2017). Individual coping styles have hardly been studied in sleep and stress studies. The first study to look at this topic was a retrospective study of sleep and stress coping styles among college students (Hicks *et al.*, 1991). According to the findings of this study, short sleepers utilize more emotion-oriented methods than long sleepers (Morin *et al.*, 2003). It is suggested that avoidant coping techniques are more likely to result in excessive drowsiness (Sadeh and Gruber 2000).

MATERIAL AND METHODS

Design. A comparative study design was used.

Objectives. To examine the sleep deprivation, stress and maladaptive coping style among working and non-working married women with dependent children.

To find the relationship between sleep deprivation, stress and maladaptive coping style between working and non-working married women with dependent children.

Hypotheses. There is a significant difference in sleep deprivation, stress and maladaptive coping style between working and non-working married women with dependent children.

There is a significant relationship between sleep deprivation, stress and maladaptive coping style among married women.

Sampling and Participants. Sample consisted of 120 married working and non-working women with dependent children living in joint family. They were selected by using random sampling method technique and they belonged to different educational background and different socioeconomic statuses. The age range was 25-60 years. Married women were working in different government or private sectors. Non-working were homemakers. A sample was collected from different urban areas of Haryana like Rohtak, Hisar, Dharuhera, Gurugram, Karnal, Panipat, Faridabad etc. Women who ran home business were excluded from the study and only those women were included in the study who have at least one child.

Data Collection Procedure. The researcher explained the study to married working and non-working women and written informed consent was obtained for participation. General instructions were given to participants in order to complete the standardized questionnaires. Proper sitting arrangements were made to ensure the privacy of married women filling out responses. Questionnaires were distributed to all participants, the responding process was fully explained to participants and doubts were clarified. Then, filled out questionnaires were collected from participants for statistical analysis of collected data. Ethics committee permitted and approved the study.

Tools used. Demographic sheet was used to collect age, monthly family income, sex, marital status, job status, blood group, education, occupation, residential status, number of children. The Perceived Stress Scale (PSS-10) is a 10 item self-reported questionnaire by Cohen *et al.* (1983). It is used to assess stress levels in young individuals and adults aged 12 and above. Stress Coping Techniques Scale by Dr. Vijay Lakshmi and Dr. Shruti Narain has been used to measure coping style. This scale measure coping style on two dimensions-Adaptive and Maladaptive. There are total 61 items for responses. The scale is applicable for individuals from 15 years and above age group. It takes only 20 to 25 minutes for smoothly completion. This scale can administered by self or by the investigator or researcher. Test re-test reliability was calculated and found to be 0.82 and split half reliability found to be 0.79. All were significant at 0.01 level. Scoring of all items can done by assigning score 5,4,3,2,1 for always, almost always, sometimes, almost never, and never. Pittsburgh Sleep Quality Index (PSQI) was used to measure the sleep quality. It was developed in 1988. It is self reported measure and it takes 5-10 minutes for administration. The seven component scores of PSQI had an overall reliability coefficient of 0.8, indicating a high degree of internal consistency. 19 items are

categorized into 7 components: 1) sleep duration, 2) sleep disturbance or complexity 3) sleep latency 4) daytime dysfunction due to sleepiness 5) sleep efficiency 6) overall sleep quality 7) use or intake of sleeping medicine.

Statistical Analysis. Data was tabulated in Microsoft Excel and then data analyzed in IBM SPSS, Version 26. Mean, S.D, Karl Pearson's correlation and t test was conducted. Then, results were interpreted.

RESULTS

Mean, S.D, Standard error mean are shown (Table 1) An independent sample t test was conducted to compare the sleep deprivation, stress and maladaptive coping style for working and non-working married women with dependent children. For sleep deprivation, there were significant differences ($t(118) = -23.426$ $p = .000$) in the scores with mean score for non-working married working women ($M=16.2308$, $S.D=2.48602$) was higher than married working women ($M=5.4182$, $S.D=2.581$). The magnitude of the differences in the means (mean difference= -10.81259 , 95% sleep quality: -11.72660 to -9.89857) was significant. Hence, H1 was supported. So, there is a significant difference in sleep quality between working and non-working married women with dependent children. For stress there were significant differences ($t(78.937) = -6.512$ $p = .000$) in the scores with mean score for non-working married women ($M=20.5220$, $S.D = 3.8028$) was higher than working married women ($M=13.4230$, $S.D = 7.26774$). The magnitude of the differences in the means (mean difference= -7.09909 , 95% stress: -9.26902 to -4.92917) was significant. Hence, H1 was supported. So, there is a significant difference in stress between working and non-working married women with dependent children. For maladaptive coping style there were significant differences ($t(118) = -3.016$ $p = .003$) in the scores with mean score for non-working married women ($M=72.8288$, $S.D=24.41391$) was higher than working married women ($M=58.8888$, $S.D = 26.16637$). The magnitude of the differences in the means (mean difference= -13.93993 , 95% maladaptive coping style: -23.0939 to -4.78591) was significant. Hence, H1 was supported. So, there is a significant difference in maladaptive coping style between working and non-working married women with dependent children. (Table 2, Table 3) reveals that stress has significantly positive correlation with sleep deprivation ($r=.475^{**}$, $p<0.01$) and maladaptive ($r=.193^*$, $p<0.05$). Sleep deprivation has significantly positive correlation with maladaptive coping style ($r=.213^*$, $p<0.01$).

Table 1: Comparison of various variables between working and non-working group.

	Working Status	N	Mean	Std. Deviation	Std. Error Mean
Sleep deprivation	working	55	5.4182	2.55815	.34494
	non-working	65	16.2308	2.48602	.30835
Stress	working	55	13.4230	7.26774	.97998
	non-working	65	20.5220	3.85028	.47757
Maladaptive coping style	working	55	58.8888	26.16637	3.52827
	non-working	65	72.8288	24.41391	3.02817

Table: 2 Comparison of variables between working and non-working married women including Levene's Test for equality of variances and t test for equality of means.

Variable	Levene's Test		T test for equality of means				SED	95% C.I.D	
	F	Sig.	t	df	Sig.	MD			
Sleep deprivation	.014	.906	-23.426	118	.000	-10.81259	.46156	-11.72660	-9.89857
Stress	26.301	.000	-6.512	78.937	.000	-7.09909	1.09015	-9.26902	-4.92917
Maladaptive coping style	.295	.588	-3.016	118	.003	-13.93993	4.62261	-23.09395	-4.78591

Note: Sig.= Significance, MD= Mean Difference, SED= Standard error difference, C.I.D= Confidence interval difference

Table 3: Pearson Correlation among sleep deprivation, stress and maladaptive coping style.

Variables	N	Working women		Non-working women		Sleep deprivation	Stress	Maladaptive coping style
		Mean	S.D	Mean	S.D			
Sleep deprivation	120	5.4182	2.55815	16.2308	2.48602	-		
Stress	120	13.4230	7.26774	20.5220	3.85028	.475**	-	
Maladaptive coping style	120	58.8888	26.16637	72.8288	24.41391	.213*	.193*	-

** Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2- tailed).

DISCUSSION

Stress has a deleterious influence on quality of sleep (Kim and Dimsdale 2007). Previous research has found that persons classified as prone to insomnia utilize maladaptive coping methods such as behavioural disengagement, self-distraction (Pillai *et al.*, 2014). A follow up study revealed that stress exposure leads to insomnia via maladaptive coping methods such as drug use and behavioral disengagement (Provencher *et al.*, 2020). These data show that workers who use maladaptive coping techniques are more likely to experience stress, which can contribute to sleeplessness over time. Previous research has found that those suffering from insomnia are more prone to use maladaptive coping mechanisms (Palagini *et al.*, 2016). From the standpoint of mental health, this study emphasizes the importance of coping style in the treatment of stress and sleep deprivation. Stress, according to prior study, may also cause increased heart rate reactivity and decreased vagal tones, both of which have been linked to poor sleep. Furthermore, stress may be associated with unhealthy coping behaviours such as poor eating habits and drug or alcohol misuse, both of which are associated with issues. Our findings regarding the positive associations of perceived stress with sleep disturbance are consistent with the broader literature. In a recent large study of 4201 adults aged 65 years and older, higher perceived stress was independently associated with poorer sleep quality. Our study advances the literature by focusing on stress and maladaptive coping among married working and non working women a fast-growing population understudied in sleep health research. Our findings indicate that maladaptive coping habits are important to consider when studying and possibly treating sleep disturbance and stress in women (Zaidel *et al.*, 2021). Our findings suggest that there is positive relation between stress, sleep deprivation and maladaptive coping style. Existing research on stress and sleep duration has yielded inconclusive findings, with some research showing that stress is associated

with shorter duration, while other research fails to find evidence for a relation between stress and sleep duration (Choi *et al.*, 2018). Future research with larger sample sizes should replicate our analyses. However, given the limited evidence available in the literature, our study represents an important first step to understanding stress, sleep deprivation and maladaptive coping style among working and non working married women. There are some limitation of this study. First, this was comparative study based on married women. Second, sample size was limited. Third, it is beyond this study's scope to find a causal relationship between stress levels and the use of maladaptive coping style. Non-working married women scored high on sleep deprivation, stress and maladaptive coping style as compare to working married women. Doing no job could be the reason for their more stress. Generally employment provide few more reasons to live a happy and stress free life. Sleep quality of working women are also good because they are less stressed as compare to non- working. So, working women may not involve too much in maladaptive habits like drinking, substance use, etc. Employment provides self growth, confidence and freedom. A working women may feel self dependent if she earns well as compare to non- working women. So, working women may feel less stressed in their lives. Earnings could be the reason. In contrast, working women may feel helpless and hopeless. Usually they occupy in household works and child bearing practices so, they may feel more stress and they may involve in using maladaptive coping habits. Non-working women are dependent on their husbands for money. If stress increases then sleep deprivation and maladaptive coping would also increase. And if stress decreases then sleep deprivation and maladaptive coping would also decrease among married women. This study explore the sleep deprivation, stress and coping style among working and non-working married women with dependent children living in joint family. Understanding sleep deprivation and maladaptive coping style among working and non-working married women is important to reduce stress in them and

enhance good sleep quality and adaptive coping related habits like good and healthy eating habits, exercise, etc. Previous studies have shown that lack of sleep has a variety of negative impacts on human biology (Azad *et al.*, 2015). Coping strategies like "Behavioral disengagement", and "self-distraction" moderate the relationship between stress (Pillai *et al.*, 2014) Coping acts like a mediator in the relationship between stress and sickness (Carver *et al.*, 1993; Lazarous *et al.*, 1984). A review of the literature reveals that China and Ethiopia have different prevalence rates for sleep disturbances and bad sleep quality (Espie, 2002; Lemma *et al.*, 2012). A cohort study was done on Japanese workers regarding coping and insomnia, and findings revealed that individuals with insomnia symptoms mostly employ both adaptive and maladaptive coping styles, with maladaptive coping style tactics being more common than adaptive coping styles (Otsuka *et al.*, 2022). A study found that maladaptive coping strategies like substance use, behavioral disengagement, and self-distraction moderate the relationship between stress and insomnia (Pillai *et al.*, 2014).

CONCLUSIONS

The present study indicates that married working women have less stress, less sleep deprivation, and less involvement in maladaptive coping styles as compared to married non-working women. If stress decreased, then sleep deprivation and maladaptive coping would also decrease in married working women. Further, there is scope for further research and findings.

FUTURE SCOPE

These findings underscore the necessity for future research and clinical practice to use a holistic approach to stress evaluation. These findings call for more research into the association between perceived stress and coping methods in order to better understand the psychological factors that contribute to poor sleep quality or sleep deprivation in married women. The findings can be used to build health promotion strategies that will influence lifelong health behaviors. The findings of this study will also contribute crucial information on psychological influences on sleep deprivation to the existing literature. In the future, treatments aimed at educating people about adaptive coping methods should be carried out to see if coping styles might help prevent insomnia symptoms. This study backs up the importance of perceived stress in the treatment of insomnia symptoms.

Conflict of Interest. None

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