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Investigating Hypersomnolence and its Association with Emotion Regulation and Loneliness in Healthcare and Corporate Sectors in India

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The present study investigates the group differences and the association of hypersomnolence, emotion regulation, and loneliness among healthcare and corporate professionals in India. This cross-sectional study employed 114 Indian participants designated to corporate (N=44) and healthcare sectors (N=70) aged 18-50 years through purposive sampling. Hypersomnolence, Emotion Regulation, and Loneliness were measured by the Epworth Sleepiness Scale (ESS) (Watching, 1990), the Emotion Regulation Questionnaire (ERQ) (Gross & John, 2003), and De Jong Gierveld Loneliness Scale (DeJong Gierveld & Van Tilburg, 2006). Data were analyzed through t-test of independent means and Pearson's correlation coefficient. The findings have indicated significant differences among sectors in hypersomnolence, reappraisal, and suppression. There is a significant correlation between hypersomnolence with reappraisal and suppression.

Keywords: Hypersomnolence, Emotion Regulation, Loneliness, Healthcare Sector and Corporate Sector

Hypersomnolence is characterized by excessive daytime sleepiness and trouble in maintaining wakefulness which has displayed several effects on cognitive, emotional and social functioning (Knutson, 2010). Especially, in demanding occupational environments like healthcare sectors and corporate sectors, factors like inconsistent working hours (night shift/ day shift), increased stress levels and compromised sleep routine have contributed to hypersomnolence leading to a decrease in work efficiency and well-being (Ozder & Eker, 2015; Yazdi, Sadeghniiat-Haghighi, Loukzadeh, Elmizadeh, & Abbasi, 2014). The research evidence has been suggestive of the fact that healthcare professionals especially, those engaged with shift work often experience sleep difficulties and are at higher risk of hypersomnolence, eventually leading to an increase in work errors and emotional exhaustion (Borkhatariya & Patil, 2024). Similarly, the intensive work culture in the corporate sector has shown that excessive daytime sleepiness has led to workplace mishaps, workplace cognitive failures (lapses in attention, memory, and work activity), and even safety behaviors (Brossoit et al., 2019). Additionally, another study has suggested that poor sleep environments are rising among these sectors resulting in poor hygiene and compromising the basic workplace safety for corporate professionals leading to fatigue and deterring physical and emotional well-being (Calwell, Caldwell, Thompson, & Lieberman, 2019).

Loneliness can be defined as a subjective state of emotional distress where individuals feel a lack of established and sense of

affiliation with interpersonal relationships regardless of the social network they belong to. It is a matter of concern in healthcare settings as the pressure to deliver the best even with limited resources may lead to undesirable consequences and it affects the overall work quality, burnout, and stress among the professionals. Also, the workplace environment has a considerable effect on one's sense of loneliness and its perceived effects (Kolcz, Ferrand, Young, O'Sullivan, & Robinson, 2023). Moreover, in the corporate sector, loneliness might impact workers' occupational functioning, and management researchers have emphasized on enhancing work-related motivation through social and financial incentives. Loneliness is also associated with maladjustment in the workplace environment and less optimism among employees which may have consequences for the employee's career progression and productivity (Bryan et al., 2024). The impact of perceived loneliness can also be determined by other psychosocial factors, such as workplace culture and social support systems. Loneliness is reported to affect psychological and physiological processes like diminished sleep quality and lack of emotional well-being (Hawkley & Cacioppo, 2010).

Emotion regulation is characterized as a fundamental psychological process that helps individuals monitor, manage, and respond to their emotional experiences and is deeply influenced by sleep quality (Palmer & Alfano, 2017). Poor sleep quality has been linked to maladaptive regulation strategies like emotional reactivity and difficulty in employing adaptive regulation strategies (Palmer & Alfano, 2017) which has been reportedly heightened by stressful events that the healthcare and corporate sectors come across which has a direct impact on sleep (Garrivet et al., 2025). The existing literature has shown that healthcare workers often engage themselves with maladaptive strategies like expressive suppression (involving inhibiting emotion-expressive behavior) rather than cognitive reappraisal (interpreting the situation that helps in transforming its emotional impact (Kshtriya, Lawrence, Kobezak, Popok, & Lowe, 2022; Liang et al., 2022; Rodríguez-Rey et al., 2024). For the corporate sector, it has been that cognitive reappraisal is usually utilized among employees as it is associated that it will turn out to be more beneficial but it makes people act superficial to what they are feeling. Although, it can be utilized for fostering self-other differentiation helping the employees to navigate the workplace situations in a constructive manner (Milyavsky et al., 2019; Yordanova & Dineva, 2022).

Objectives

The following are the objectives of the present study:

- To examine sectoral differences for hypersomnolence, emotion regulation and loneliness among healthcare and corporate sectors in India.
- To investigate the association between hypersomnolence, loneliness and emotion regulation across the sectors.

Method

Sample

The sample was recruited through purposive sampling to investigate the sectoral differences between hypersomnolence, emotion regulation and loneliness between healthcare and corporate sectors in India. The participants are aged from 18-50 years and are based in India. The inclusion criteria of full-time professionals employed in corporate and healthcare sectors in major urban cities with at least 2 years of experience. The exclusion criteria was for part-time or freelance workers, individuals with diagnosed psychiatric disorders or sleep disorders. The healthcare sector involved doctors, nurses, medical

technologists, psychologists, physio-therapists, healthcare administrators, hospital managers. The corporate sector involved IT and software professionals, finance and banking professionals, human resource managers, marketing and sales executives, consultants, legal professionals, supply chain and operation managers. Refer to Table 1 (for sociodemographic details).

Table 1. Sociodemographic Characteristics of the Sample (N=114)

	Frequency (N)	Percent (%)
Gender		
Male	65	43.0
Female	49	57.0
Sectors		
Healthcare	70	61.4
Corporate	44	38.6
Highest Educational Qualification		
Bachelor's Degree	40	35.0
Master's Degree	65	57.0
Doctorate or Higher	9	8.0

Measures

Epworth Sleepiness Scale (ESS): To measure hypersomnolence, Epworth Sleepiness Scale (EPS) was utilised (Watching, 1990). It is an eight-item likert scale that ranges responses from the rating of 0 = would never doze, 1 = slight chance of dosing, 2 = moderate chance of dozing, 3 = high chance of dozing. It starts by understanding the likelihood of following asleep across the 8-items mentioned. The total scores are further characterised into Normal Range (0-10), Borderline (10-12), and Abnormal (12-24).

DeJong Gierveld Loneliness Scale (DGLS): Loneliness is assessed by DeJong Gierveld Loneliness Scale (De Jong Gierveld & Van Tilburg, 2006) which is a six-item measure with items 1 to 3 which are negatively worded and items 4 to 6 positively worded. For items 1 to 3, the scoring is Yes = 1, More or less = 1, No = 0, whereas for items 4 to 6 it is scored as Yes = 0, More or less = 1, No = 1. The range of scores for loneliness is from 0 (least lonely) to 6 (most lonely). Items 1 to 3 are for understanding emotional loneliness (EL) (one missing an intimate relationship) and Items 4 to 6 are for understanding social loneliness (SL) (one missing a social network).

Emotion Regulation Questionnaire (ERQ): Emotion regulation is measured by Emotion Regulation Questionnaire (Gross & John, 2003). It is a 10-item scale that assesses two ways of emotion regulation: cognitive reappraisal and expressive suppression. It is a Likert scale that ranges from 1 (strongly disagree) to 7 (strongly agree). The Cognitive Reappraisal facet includes items 1, 3, 5, 7, 8, 10 and items 2,4,6,9 belong to the Expressive Suppression facet, which makes the scoring continuous.

Procedure

This study has recruited cross-sectional design where web-link was circulated with a socio-demographic sheet, Epworth Sleepiness Scale (ESS), DeJong Gierveld Loneliness Scale (DGLS) across 18-50 years which were collected and terminated during single data collection point. The participants completed all the sheets and their responses were recorded. The data was scored and was analysed by jamovi (version 2.3.28) and SPSS (version 29) for measuring the sectoral differences for the study variables and Pearson correlation to understand association between the study variables.

Results

Hypersomnolence

The sectoral differences for hypersomnolence between healthcare and

the corporate sector was measured using Epworth Sleepiness Scale (ESS). The descriptive statistics highlight higher scores for corporate sectors (M = 8.27, SD = 4.07) than healthcare sector (M = 8.27, SD = 4.07) with significant differences between the two sectors (t(112) = -2.93, p < .01).

Loneliness

The sectoral differences for loneliness between healthcare and the corporate sector was measured using DeJong Gierveld Loneliness Scale (DGLS). The descriptive statistics highlight higher scores for corporate sectors (M = 3.07, SD = 1.95) than the healthcare sector (M = 2.70, SD = 2.15) with no significant differences between the two sectors (t(112) = -.923, p > .05) for loneliness. There were no significant differences for social loneliness (t(112) = -1.28, p > .05) and emotional loneliness (t(112) = -.285, p > .05) between the sectors.

Emotion Regulation

The sectoral differences for emotion regulation between healthcare and the corporate sector was measured using Emotion Regulation Questionnaire (ERQ). The descriptive statistics highlight higher scores for the healthcare sector (M = 45.60, SD = 10.51) than the corporate sector (M = 43.70, SD = 13.53) with no significant differences between the two sectors (t(112) = -.838, p > .05) for emotion regulation. For Cognitive Reappraisal, the corporate sector (M = 27.41, SD = 9.32) has scored higher than the healthcare sector (M = 19.83, SD = 4.90), whereas for Expressive Suppression, the healthcare sector (M = 25.77, SD = 7.46) has scored higher than the corporate sector (M = 16.30, SD = 5.84). There were significant differences for cognitive reappraisal (t(112) = -5.57, p < .01) and expressive suppression (t(112) = 7.15, p < .01) between the sectors.

Table 2. A Comparison of Mean Factor Scores on Dimensions of Hypersomnolence, Loneliness and Emotion Regulation in Healthcare Sectors and Corporate Sectors of India (N=114)

	Healthcare Sector of India (N=70)		Corporate sector of India (N=44)		t-test (*df* = 112)
	M	SD	M	SD	
Hypersomnolence	6.24	3.28	8.27	4.07	-2.93**
Loneliness	2.70	2.15	3.07	1.95	-.923
Social Loneliness	1.29	1.30	1.59	1.13	-1.28
Emotional Loneliness	1.41	1.16	1.48	1.13	-.285
Emotion Regulation	45.60	10.51	43.70	13.53	-.838
Cognitive Reappraisal	19.83	4.90	27.41	9.32	-5.77**
Expressive Suppression	25.77	7.46	16.30	5.84	7.15**

**. t-test is significant at the 0.01 level (2-tailed).

Relationship between Hypersomnolence, Loneliness and Emotion Regulation

Table 3 illustrates the association between hypersomnolence, loneliness and emotion regulation. There is significant positive correlation of hypersomnolence with cognitive reappraisal (r(111) = .209, p < 0.05) and significant negative correlation with expressive suppression (r(111) = -.195, p < 0.05). There are no significant correlations of loneliness with hypersomnolence and emotion regulation.

Table 3. Correlation between the Hypersomnolence, Loneliness and Emotion Regulation (N=114)

Variable	1.	2.	3.	4.	5.	6.	7.
1. Hypersomnolence	-						
2. Loneliness	.084	-					
3. Social Loneliness	.021	.880***	-				
4. Emotional Loneliness	.130	.858***	.511***	-			
5. Emotion Regulation	.002	.008	.068	-.060	-		
6. Cognitive Reappraisal	.209*	-.042	.028	-.106	.711***	-	
7. Expressive Suppression	-.195*	.051	.071	.016	.746***	.062	-

*Note * p<0.05, ** p<.01, *** p<.001*

Discussion

This study aimed to understand the sectoral differences in hypersomnolence, emotion regulation and loneliness among healthcare and corporate sectors in India as well as association between these variables. It utilised cross-sectional design with 114 participants recruited through purposive sampling.

To begin with, the first objective was to examine sectoral differences for hypersomnolence, emotion regulation and loneliness among healthcare and corporate sectors in India where this study revealed significant differences among healthcare sector and corporate sector for hypersomnolence where corporate professionals have shown higher levels of excessive daytime sleepiness. It aligns with the existing research evidence that are suggestive of intensive and exhaustive work cultures and compromised sleep environments which have contributed to poor sleep (Brossoit et al., 2019; Calwell et al., 2019). This can be explained as corporate sectors have demanding tasks leading to tight deadlines and higher stress levels leading to increased sleep duration at daytime. In contrast, healthcare professionals also have revealed sleep difficulties, it is lower than those in corporate due to coping mechanisms developed through professional training (Borkhatariya & Patil, 2024). For loneliness, the results for this study indicated no significant differences between corporate and healthcare sectors, although corporate professionals had scored little higher and this is consistent with previous findings highlighting the role of workplace environment that can improve and nurture social connectivity (Kolcz et al., 2023). However, the lack of significant differences also directs us that healthcare and corporate sectors face immense challenges to find compatible and nurturing social connectedness with factors like organisational culture and organisational support might play an important role in navigating the ways to deal with loneliness (Bryan et al., 2024). In addition to this, no significant differences between social loneliness and emotional loneliness suggests that workplace dynamics across both sectors may have similar effects. For emotion regulation, this study revealed no significant differences in emotion regulation between the sectors although, utilisation of distinct strategies is shown for the healthcare and corporate sector. Healthcare professionals have higher scores for expressive suppression in this study which aligns with

the previous research evidence as it stems from the need to enable emotional composure in healthcare settings and patient care that potentially be leading towards emotional exhaustion over the time (Kshtriya et al., 2022; Rodríguez-Rey et al., 2024). However, corporate professionals have scored higher in cognitive reappraisal in this study and has shown significant differences consistent with previous research evidence as corporate employees rely on cognitive reappraisal to reframe stressful situations and maximise their work efficiency and productivity (Milyavsky et al., 2019; Yordanova & Dineva, 2022).

The second objective of the study was to investigate the association between hypersomnolence, loneliness and emotion regulation across the sectors. This study has found significant positive correlation between hypersomnolence and cognitive reappraisal whereas it has shown significant negative correlation with expressive suppression. These results suggest that individuals are regulating their emotions through experiencing hypersomnolence, which further follows with reinterpreting their emotions rather than suppressing them. It is similar to the studies that have indicated that sleep quality plays a crucial role in influencing emotion regulation (Palmer & Alfano, 2017). Furthermore, loneliness did not exhibit any significant association with hypersomnolence and emotion regulation, indicating that it does not directly impact the physiological process and has a possibility to contribute to emotional well-being.

The implications of this study highlights the necessity for targeted interventions for the sectors to address sleep disturbances and emotion regulation strategies. Organisational spaces need to reconsider sleep management as a vital factor for emotional well-being of workers and employees. Additionally, sector-specific emotion regulation training needs to be employed for the sectors.

The future directions for this research needs to explore the role of workplace culture and dynamics for social connectedness and well-ebing of employees. Integrating physiological measures like EEG, wearables, biofeedback and other neurophysiological assessments can help in providing in-depth exploration for sleep-related disruptions.

Conclusion

This study has provided insights emphasizing the nexus of hypersomnolence, emotion regulation and loneliness within the healthcare and corporate sectors in India. The findings have necessitated the importance of mental well-being in workplace and healthcare settings. As the professional demands are increasing with the modernisation, sector-specific tailored interventions can enhance work productivity and well-being, protecting them from potential hazards like emotional burnout and stress. The limitations of the study lack of objective measures to measure sleep, variability within the sectors, limited generalizability beyond Indian employees, and unexplored mediators and moderators. Future studies should explore evidence-based policies that support employee health and productivity.

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