

# Association Between Sleep, Distress Tolerance and Mindfulness Among College Students: An Examination of Subscale Scores

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## Background

- Sleep problems are a common issue among college students and can affect their academic performance and overall health.
- Previous research has investigated the associations between sleep, distress tolerance, and mindfulness and found that distress tolerance and mindfulness may attenuate sleep problems or its impact.
- Distress tolerance** refers to an individuals' capacity to withstand negative emotional and/or physical discomfort), while **mindfulness** refers to the ability to be fully aware of where we are and what we are doing at a present moment without being overly reactive by what is happening around us.
- Only few studies have explored these relationships among college students and even fewer included ethnically diverse samples.
- Research linking problems with specific components of distress tolerance or mindfulness is scare.
- The present study explores the relationship between sleep problems, distress tolerance, and mindfulness and their subscales in a college student sample.

## Methods

- An ethnically diverse sample of 538 students completed an online survey about psychosocial factors.
- Independent variable: sleep problems
- Outcome variables: distress tolerance, mindfulness, and all subscale scores
- Covariates: sex, age, race/ethnicity
- Multiple linear regression analyses were conducted controlling for demographics.

Table 1		
Measures, constructs and sample items		
Measure	Construct	Sample item
Perceived sleep issues	Sleep	During the past 2 weeks, how much/how often have you been bothered by problems with sleep that affected your sleep quality over all?
	Tolerance	Feeling distressed or upset is unbearable to me.
Distress Tolerance Scale (DTS)	Appraisal	I can tolerate being distressed or upset as well as most people.
	Absorption	My feelings of distress are so intense that they completely take over.
	Regulation	I'll do anything to avoid feeling distressed or upset.
	Observing	I notice how foods and drinks affect my thoughts, bodily sensations, and emotions
Five Facet Mindfulness Questionnaire (FFMQ-15)	Describing	I'm good at finding words to describe my feelings
	Acting with Awareness	I do jobs or tasks automatically without being aware of what I'm doing
	Nonjudging	I believe some of my thoughts are abnormal or bad and I shouldn't think that way
	Nonreactivity	When I have distressing thoughts or images I am able just to notice them without reacting

## Results

- Sleep problems were significantly related to lower distress tolerance overall (BETA=-.225;  $p < .001$ ), and each of the DTS subscales ( $p < .001$ ) after controlling for age, sex and race/ethnicity.
- Sleep problems were positively associated with mindfulness (BETA= .111;  $p < .05$ ) after controlling for age, sex and race/ethnicity.
- Exploration of the FFMQ facets showed that Non-reactivity is the only facet that had a statistically significant negative association with sleep problems while controlling for age, sex and race/ethnicity.
- Non-judging and Awareness facets were positively related to sleep problems after controlling for age, sex and race/ethnicity.

Table 2		
Relationship between sleep problems and Distress Tolerance subscales scores, adjusted		
Subscales	Beta value	<i>p</i> -value
Appraisal	-.234	< .001
Absorption	-.237	< .001
Regulation	-.089	.040
Tolerance	-.209	< .001

Table 3		
Relationship between sleep problems and facets of mindfulness , adjusted		
Facets	Beta value	<i>p</i> -value
Acting with Awareness	.135	.002
Describing	-.073	.092
Nonjudging	.225	< .001
Nonreactivity	-.106	.015
Observing	-.027	.537

## Conclusions

- All components of distress tolerance seem to be related to lower sleep problems in the sample. Thus, interventions aiming to increase the tolerance and management of stressors in college students may help attenuate their sleep issues and, in turn, improve academic performance and health.
- Findings related to sleep problems and overall mindfulness are counterintuitive .Only the non-reactivity facet of mindfulness was related to less sleep problems, highlighting its importance for sleep hygiene.
- Although surprising, the association between acting with awareness and more sleep problems could be explained by other factors like overload of information or preferred time to study. Additional research is needed to disentangle these findings.
- Study limitations and possible explanations of inconsistent findings with previous literature include: use of different mindfulness measure, and use of only one question to measure sleep problems.
- Future research should utilize more comprehensive measures of sleep and longitudinally assess the constructs of interest. Moderation and mediation analyses are warranted.

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