Predictors of Flourishing Among College Students with and without Diagnosed Depression and Anxiety

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Introduction

College Challenges and Mental Health: College is a critical period of human development, characterized by independence, challenges, and expectations.[3] anxiety and depression can arise, impacting students' mental well-being as they transition to campus life.

Understanding the relationships between sleep health and psychological health allows colleges to create conducive environments for promoting overall well-being in students. Thus, facilitating a supportive environment for students that also has the potential to enhance academic achievements and prosperity.

Objectives

Identify **behavioral** and **sociological** factors predictive of **psychological well-being** in **college students** with and without diagnosed depression and anxiety.

Methods

- **Data Source:** Fall 2019 and Fall 2020 National College Health Assessment
- **Statistical Analysis:** Factor analysis of predictive variables students either non-diagnosed or diagnosed with depression, anxiety, and/or both
- Multiple regression using best subsets to pick right variables using R (BIC values)
- Standardized beta values to compare model coefficients

Composite Response Variable
Psychological Well-Being

- Kessler 6 (K6) Non-Specific Psychological Distress
- UCLA Loneliness Scale
- Connor-Davidson Resilience Scale 2 (CD-RISC2)
- Diener Flourishing Scale

Factor Analysis of Time Use

Business	Fulfilment	Entertainment	Screen Time	Academic
• Unpaid household • Unpaid children/family • Family time • Commuting to school/work • Paid work	• Spiritual/religion • Volunteering • Mediation • Clubs/orgs • Team/physical	• Friends • Partying • Cultural events • Social media	• Gaming • TV/streaming	• Studying • Classes

Factor Analysis of Problems & Challenges

Financial & Academic	Interpersonal	Discrimination	Bullying
• Academics • Career • Finances • Procrastination • Faculty	• Family • Roommate • Peers • Intimate relationships • Personal appearance	• Microaggression • Discrimination • Sexual harassment	• Bullying • Hazing • Cyberbullying

Factor Analysis of Sleep

Insomnia Symptoms	Sleepiness	Total Sleep Time
• Time of fall asleep • Can't go back to sleep • Hard time falling asleep	• Feel sleepy • Take a nap • Enough sleep to be rested	• Weekday • Weekend

Factor Analysis of Violence

Nonintimate SA	Nonintimate	Intimate
• Penetration attempt • Penetration • Touched	• Physical fight • Physical assault • Verbal threats • Stalking	• Forced sex • Name calling • Limit contact • Physical assault • Unwanted sex with drugs

Psychoactive Drug Use

- ASSIST Cannabis Risk Score
- ASSIST Tobacco Risk Score
- ASSIST Alcohol Risk Score

Socioeconomic Status (SES)

- USDA Food Security Score
- Parent level of education

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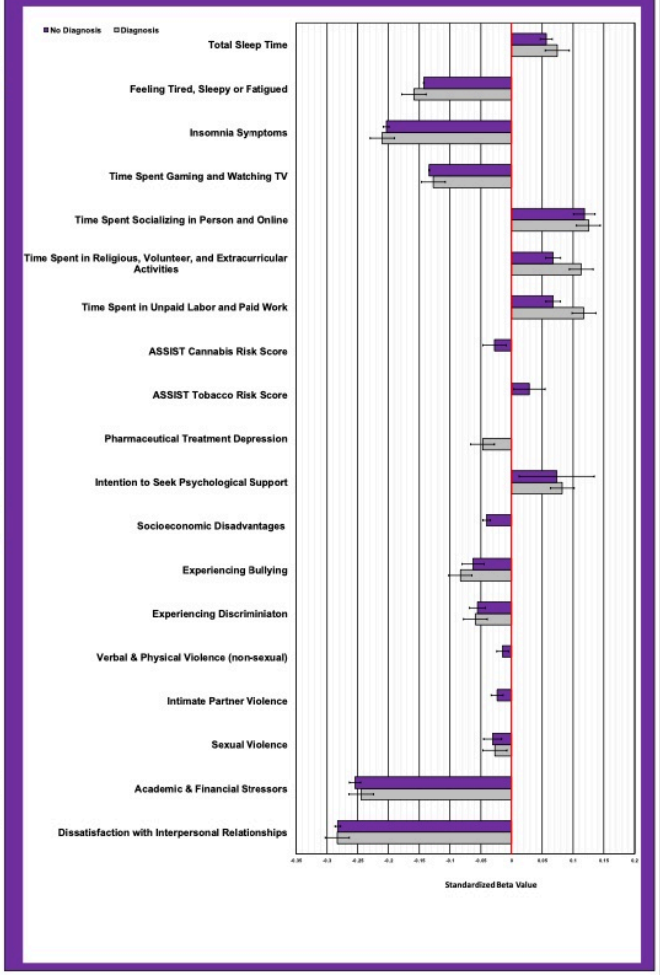
Significant Predictors of Psychological Well-Being



Descriptive Statistics of Explanatory and Response Variables

Dependent Variables	Diagnosed	Non-Dx	t-test
Kessler 6 (K6) Non-Specific Psychological Distress	10.51	6.84	71.47***
UCLA Loneliness Scale Score	5.98	5.16	45.05***
Connor-Davidson Resilience Scale 2 (CD-RISC2)	5.62	6.15	-12.54***
Diener Flourishing Score	44.15	47.54	-46.06***
Psychological Well-Being Composite Factor	-0.44	-0.18	-26.51***
Predictive Variables: Factor Means	**Diagnosed (n=14950)**	**Non-Dx (n=37102)**	**t-test**
ASSIST Tobacco Risk Score	3.19	1.77	23.15***
ASSIST Cannabis Risk Score	2.98	1.46	28.15***
ASSIST Alcohol Risk Score	5.84	4.28	25.86***
Academic & Financial Stressors	0.21	-0.09	30.39***
Dissatisfaction with Interpersonal Relationships	0.32	-0.13	43.35***
Experiencing Discrimination	0.19	-0.07	22.62***
Experiencing Bullying	0.06	-0.02	7.46***
Sexual Violence	0.11	-0.04	13.02***
Intimate Partner Violence	0.12	-0.05	15.70***
Verbal & Physical Violence (non-sexual)	0.10	-0.04	13.19***
Socioeconomic Disadvantages	0.09	-0.04	12.88***
Intention to Seek Psychological Support	1.89	1.73	47.56***
Pharmaceutical Treatment Depression	1.73	0	N/A
Time Spent in Unpaid Labor and Paid Work	0.12	-0.05	16.32***
Time in Religious, Volunteer, and Extracurriculars	-0.11	0.04	-16.04***
Time Spent Socializing in Person and Online	-0.07	0.03	-10.14***
Time Spent Gaming and Watching TV	0.04	-0.02	5.68***
Insomnia Symptoms	0.30	-0.12	41.43***
Feeling Tired, Sleepy or Fatigued	0.22	-0.09	32.57***
Total Sleep Time	0.045	-0.02	7.01***

Discussion & Policy Implications

Main findings: Our results found that academic and economic stressors, poor satisfaction in interpersonal relationships, and sleep disturbances were the primary predictors of worse psychological well-being.

Sleep is essential for maintaining mental and physical health. Quality sleep helps support cognitive function, mood regulation, and the health of the heart, brain, and metabolism.[1] In college students, good sleep habits can help mitigate the negative effects of traumatic events on psychological stress and suicidality.[2]

Implications: Prioritizing healthy sleep habits and fostering positive relationships can lead to improved mental health, academic performance, and overall well-being among students.

Implications & Future Directions

- Sleep Health Interventions
  - Education about sleep practices
  - Supporting better college sleep environments
  - School start time
- Policies to support DEI efforts
- Investigate interactions between explanatory variables
- Intersectional demographic analyses
- Structural equation modelling

Limitations

Bidirectionality: Response and explanatory variables impact each other. Difficult to tease out cause and effect.
Independence: Some students might take survey across multiple years.
Multicollinearity: Many of the explanatory variables are related to each other (i.e. higher insomnia symptoms strongly correlate with less total sleep time).
Demographics: Data not differentiated or analyzed by gender, sexual orientation, race, etc.

COI: The authors state no conflict of interest

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