

The Implications of COVID-19 Pandemic-Related Stress, Social Support, and Other Mental Health Measures in the Eating Behaviors of College Students

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Background & Aim

- The COVID-19 pandemic is associated with a psychiatric epidemic.^{1,2}
- Lack of research on the effect of COVID-19-related stress on college students, who experience additional stressors.
- College students have previously been found to experience changes in diet and appetite in response to stress, often engaging in stress eating and maintaining poor diets.^{3,4}
- Cross-sectional survey sent to undergraduates in November 2020 asking about their eating behaviors, social support, psychological well-being, and COVID-19-related financial, academic, and exposure stress.
- Hypothesis:
 - Higher pandemic-related stress scores → adverse mental health outcomes & unhealthy dietary behaviors.
 - Increased stress from before to mid-semester → increased unhealthy dietary patterns & increased consumption of junk food.

Methodology

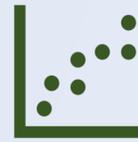
- Cross-sectional survey inquired about the eating habits of students (emotional eating, food intake, valuation of food), social support, overall mental health status, stress induced by the COVID-19 pandemic.



Cross-sectional survey investigating eating behaviors, mental health, COVID-19 related-stress, and social support was sent to all undergraduates at a medium-sized mid-Atlantic university and in some cases forwarded to individuals at other universities.



Investigated Before & Mid-Semester Values Using Paired T-test.



Pearson Correlations were calculated for bivariate relationships between mental health, eating behaviors, social support, and COVID-19 related stress (financial, academic, and COVID-19 exposure-related).

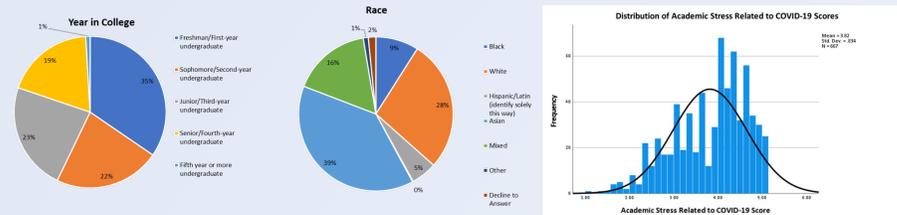
Results

Describing the Sample

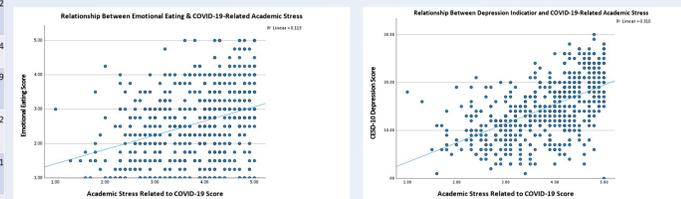
- 758 students in the survey, largely female (~70%)
- Average BMI=22.76 (healthy weight)

Changes in Diet, Stress, & Anxiety

- Significant decrease in healthy food intake (fruits and vegetables) and increased perceived stress scores from before to mid-semester.
- Higher academic anxiety in their Fall 2020 semester compared to their previous semester of schooling ($p < 0.0001$, $d = 1.56$).



Measure	Mean	Median	Mode	Std. Deviation
Sum of Social Support Scale Items	22.1462	22.0000	24.00	4.55592
COVID-19 Exposure Stress	3.4655	3.6667	4.00	1.03694
Financial Stress Related to COVID	2.1219	2.0000	1.33	0.88219
Academic Stress Related to COVID	3.8194	4.0000	4.20	0.83432
CESD-10 Depression Score	14.5558	14.0000	14.00	6.14161
Perceived Stress Score in Last Month	3.3037	3.2500	3.00	0.73410



COVID-19 Stress, Eating Behaviors, & Mental Health

- Academic Stress Related to COVID-19 (ASRC) most strongly correlated with diet variables compared to other forms of COVID-19 Stress.
- Strongest ASRC and diet relationship was the positive correlation between ASRC and emotional eating ($p < 0.0001$, $r = 0.336$).
- ASRC is correlated with food responsiveness ($p < 0.0001$, $r = 0.117$), late-night eating ($p < 0.0001$, $r = 0.202$), emotional overeating ($p < 0.0001$, $r = 0.155$) and consumption of a less healthy diet now than before the semester ($p < 0.0001$, $r = -0.181$) ($p < 0.0001$, $r = -0.181$).
- ASRC positively correlated with frequency of depressive emotions ($p < 0.0001$, $r = 0.479$), anxiety and anger ($p < 0.0001$, $r = 0.466$), overall stress ($p < 0.0002$, $r = 0.504$), and negatively with optimism toward the semester's progress ($p < 0.0001$, $r = -0.421$) and social support ($p < 0.0001$, $r = -0.204$).

Interpretation & Conclusions

- ASRC & Mental Health Measures are mostly correlated with dietary behaviors (emotional eating, food responsiveness, late-night eating), which is an interesting area to explore further.
- Stressors affect the way that people eat more than their actual diet.
- Changes to the learning environment, the pandemic's negative consequences on one's future career, and the uncertainty of schooling due to pandemic dynamics (unique ASRC definition) are positively correlated with eating behaviors.
- This study provides evidence that novel stressors introduced by the pandemic are related to poor eating habits in an already stressed population that tends to experience poor diet.^{3,4} This deserves further investigation.

Sources & Acknowledgements

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