



Hackensack
Meridian Health

A community-based model to address mental health concerns in New Jersey adolescents following the COVID-19 Omicron wave

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Abstract

The COVID-19 pandemic is increasingly detrimental to adolescent mental health. Early assessments of adolescent mental health during the pandemic show worsening of existing conditions as well as increasing incidence of various mental health crises. After the emergence of the Omicron variant in late 2021, the state of New Jersey encountered increases in both morbidity and mortality from COVID-19 infections. In addition, communities once again returned to social-distancing practices due to high infection rates. New Jersey schools returned to a virtual learning format, resembling conditions from the start of the pandemic in Spring 2020. It remains unclear what impact the COVID-19 Omicron wave had on adolescent mental health. In response to this wave, a team of medical students completed a literature review of community-based health engagement models and developed an adapted model to address the mental health concerns in New Jersey adolescents. This team's model focuses on a longitudinal engagement approach as well as uses real-time data collection to specialize the approach for each group of adolescents. The team later piloted this model with a local high school. Mental health assessments made it possible to better focus the aims of a mental health workshop to this group of students and receive immediate feedback after the workshop. Preliminary results show a strong response from longitudinal engagement and identify key components of adolescent mental health that should be prioritized. This model holds the potential to be replicated with other schools and community groups for the purpose of addressing adolescent mental health concerns.

Background

The impact of the COVID-19 pandemic on health and safety in the United States is well described [1]. The direct impact of SARS-CoV2 infection involves severe respiratory complications and loss of life, amounting to over 800,000 deaths by the end of 2021 [2]. The indirect impacts of this pandemic, including long-term and psychological harms, remain poorly understood.

There is considerable interest in the impact of COVID-19 on the mental health of students in the United States [3-4]. On December 6, 2021, Surgeon General Dr. Vivek Murthy issued the "Protecting Youth Mental Health" advisory, emphasizing adolescent mental health as an urgent public health concern [5]. Recent studies echo this concern, reporting higher rates of anxiety, depression, and stress among adolescents throughout the pandemic [6]. In November 2021, the Omicron (B.1.1.529) variant emerged [7]. Consequently, schools found themselves responding poorly to the transition to virtual learning [8]. It is still unclear to what extent this new wave impacted adolescent mental health and blunted recovery efforts.

In response, students at Hackensack Meridian School of Medicine (HMSOM) partnered with a local high school through a Human Dimension program previously established by faculty [9]. The high school's staff affirmed mental health as an unmet need for their students. In this program, we utilized a community-based model to assess the mental health status of these adolescents and construct a targeted response to address these concerns.

Methods

Literature Review. Our search strategy involved utilizing PubMed and Google Scholar to identify articles related to the aims of this study.
Survey. We issued 2 cross-sectional studies of this student population using an anonymous Google Forms survey in order to assess multiple factors related to adolescent mental health.

Results

Table 1. Literature review of recent community-health engagement models

Source	Study Design	COVID-19-related	Study Aims	Outcomes & Conclusions	Reference
Castillo et al.	Review	No	Reviewing interventions to promote mental health and social equity	Community-based collaborative care resulted in decreased incidence of risky behaviors, domestic violence, etc.	10
Das et al.	Systematic Review	No	Systematically reviewed systematic reviews on mental health interventions	Community-based activities have positive effects on behavioral changes, self-confidence, and self-esteem	11
De Weger et al.	Review	No	Highlight the barriers and enablers for engaging communities	'Meaningful participation' can only be achieved if processes are adapted to ensure that they are inclusive	12
Gotwals and Adamshick	Special Feature	Yes	Establishing community academic partnerships	Integrated health promotion and mental health interventions into the community	13
Lee et al.	Original Article	Yes	Develop engagement plans to African American communities	Enhanced efforts to combat COVID-19 and reduce disease burden on African American communities	14
McMellon et al.	Systematic Review	No	Systematically reviewed research examining effective strategies for engaging communities	Concluded there is little empirical research examining effective strategies for engaging communities	15
Tambo et al.	Review	Yes	Provides an overview of community engagement strategies	The early stages of RCCE provide a useful framework for shaping policy responses	16

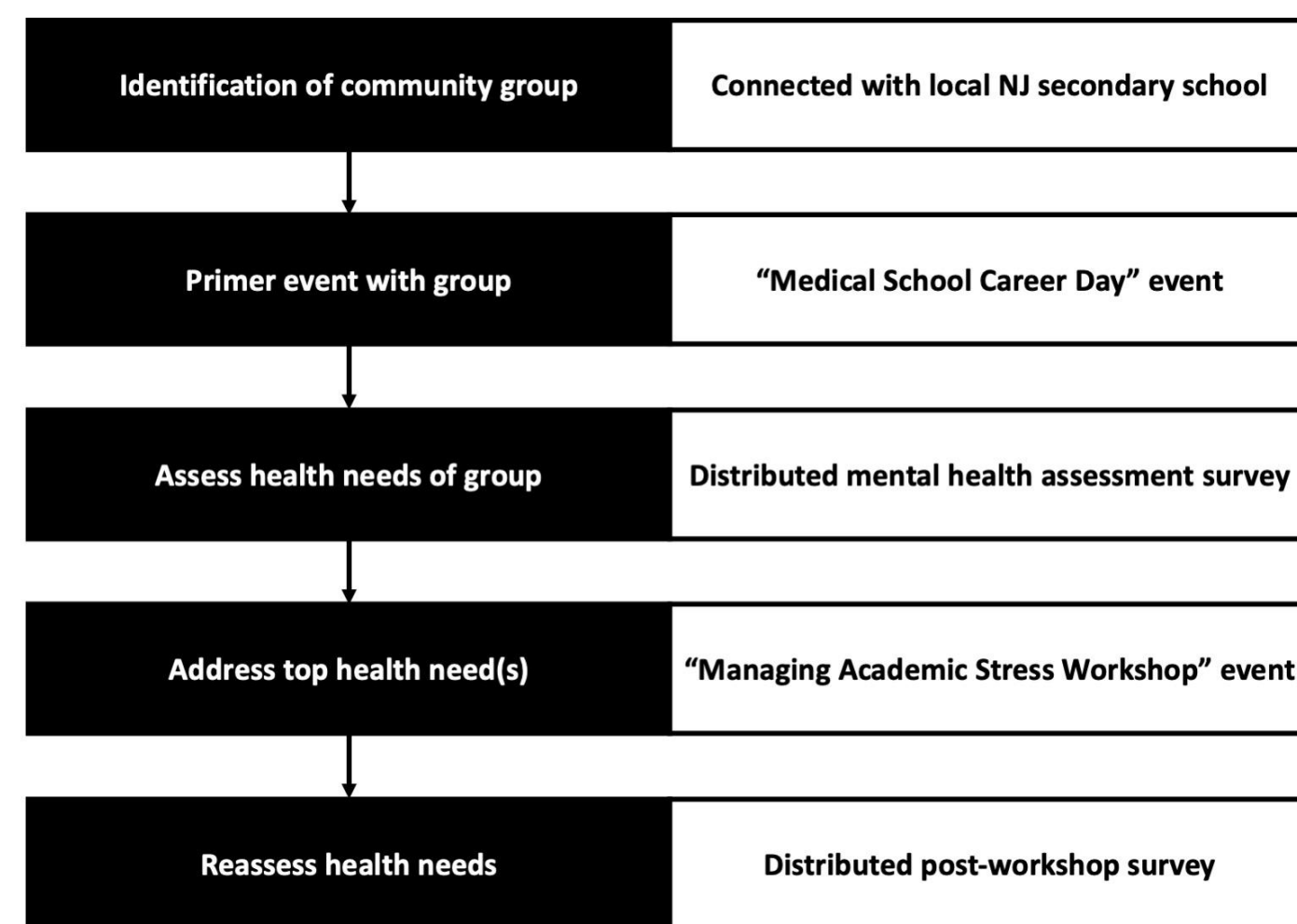


Figure 1. A novel community-based model to address unmet health needs

Table 2. Literature review of resources used to plan and implement the "Managing Academic Stress" workshop

Source	Study Design	COVID-19-related	Activity Implemented	Mental Health Benefit	Reference
Bailey	Review	No	Level setting and purpose	Allows students to define personal, attainable goals and foster motivation to achieve them	17
Ma et al.	Research article	No	Deep breathing with "Breathing 8's Activity"	Active diaphragmatic breathing to reduce stress	18
Behan	Review	Yes	Benefits of mindfulness	Equipping students with the known benefits of mindfulness and mindfulness practices	19
Meo	Review	No	Small group discussion to promote peer learning	Increases students' interest and improves teamwork, retention, self-directed learning, and application	20
Koshy et al.	Education article	No	Critical reflection on actions and change	Equips students with practice of self-reflection and its applications in future endeavors	21

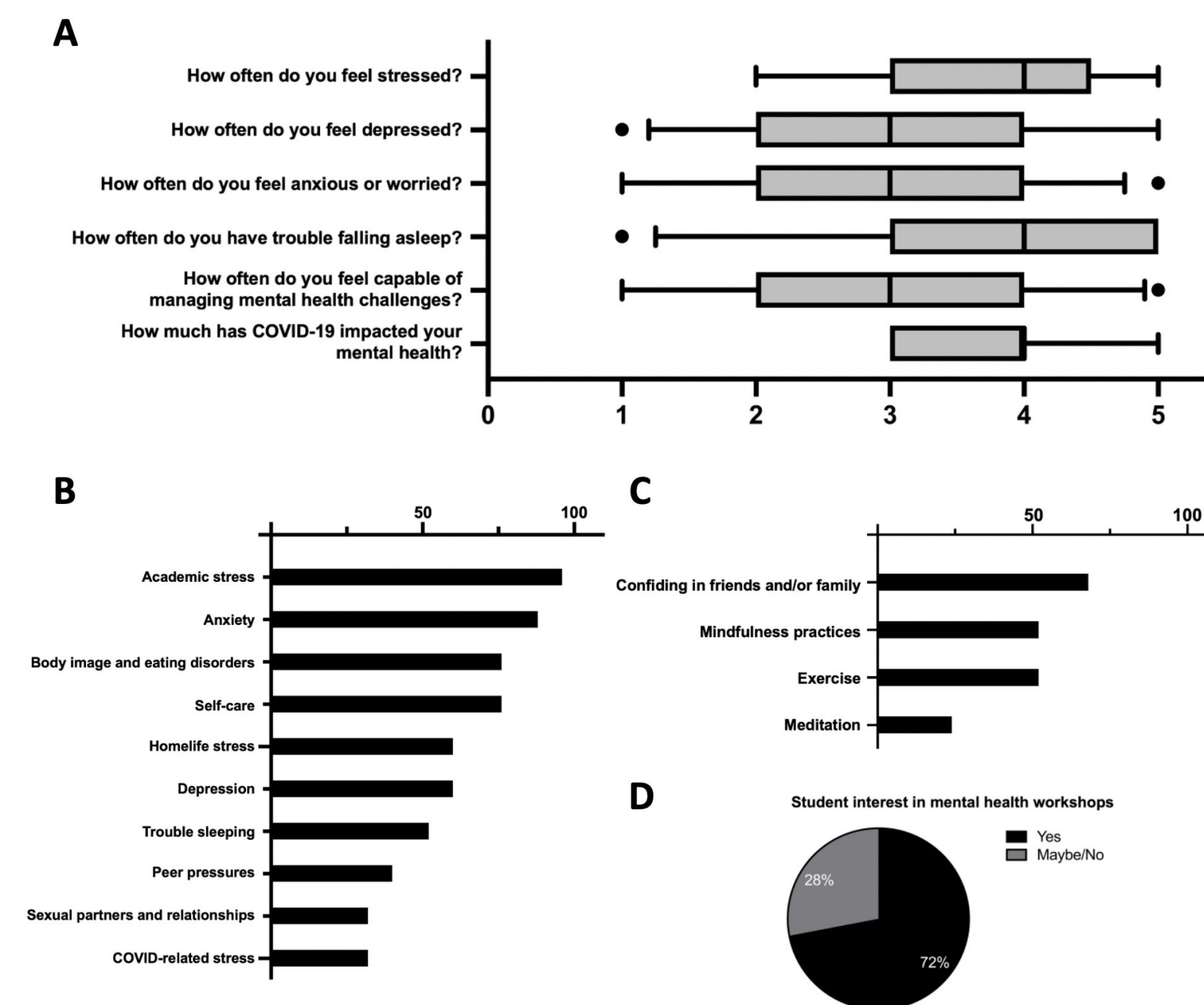


Figure 2. Mental health assessment of local NJ adolescents after Omicron wave. A. Box-plot comparison for student responses to questions related to mental health, 5 indicating "always" and 1 indicating "never." B. Percent of respondents expressing an interest in a given mental health concern they would like to learn more about. C. Percent of respondents that have experience with a given practice linked to improved mental health. D. Percent of respondents interested in attending mental health workshops at the school.

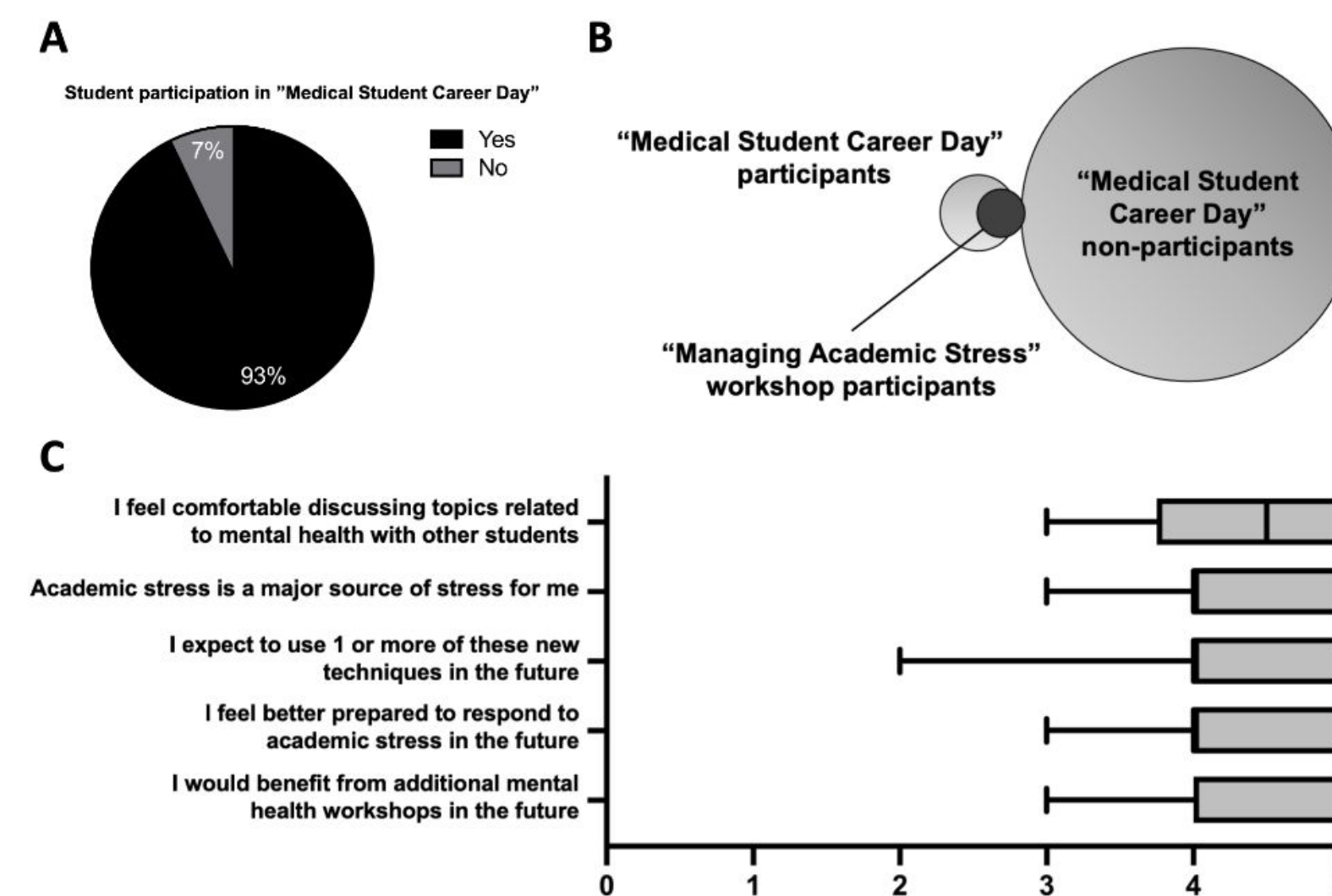


Figure 3. Post-workshop mental health assessment. A. Percent of respondents that previously attended the primer event. B. Overlapping comparison of "Medical Student Career Day" participants and the "Managing Academic Stress" workshop. C. Box-plot comparison for student responses to post-workshop questionnaire, 5 indicating "strongly agree" and 1 indicating "strongly disagree."

Conclusions

Our analysis recapitulates recent concerns regarding the mental health status of adolescents. The team was able to identify evidence of mental health distress in these adolescents in areas such as academic stress, anxiety and body image. Notably, students listed more stressors in their life than mechanisms to respond to those stressors. These findings as well as the popularity of these mental health workshops highlight the necessity for intervention. The post-workshop survey results also provide support for our successful role in working with the students to address mental health concerns. Interestingly, these results show that students who previously participated in the medical school career day were more likely to attend the mental health workshop than those who did not. These findings support other works that emphasize the role for a primer event and longitudinal support for adolescent populations. Overall, this model shows positive preliminary results and has the potential to be replicated in other communities.

Future Directions

- Continuation of this program led by another cohort of medical students, tracking progress over a longer period of time
- Expansion of this model to other schools in New Jersey to replicate and validate these results
- Identification of additional programs to address mental health concerns in New Jersey adolescents

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