

Mind Match: A Holistic App-Based Intervention for Post-Pandemic Adolescent Mental Health

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Abstract

The global COVID-19 pandemic and subsequent quarantine measures had profound implications for the mental well-being of adolescents. Studies have shown that adolescents who received MRIs post-pandemic demonstrated more severe mental health problems (Gotlib et al, 2021). As of 2021, more than 36% of DC youth who have depression did not receive any mental health care (NAMI, 2021). These statistics underscore the urgent need to address the mental health challenges faced by teenagers, particularly those from underrepresented backgrounds with limited access to mental health services (Mental health disparities: Diverse populations, 2017). In response to the downstream effects of COVID-19 on underrepresented adolescents' mental health, our program, Mind Match, offers a comprehensive approach. It incorporates a mental health curriculum, an online certificate program, and a peer mentorship program. These components are facilitated through an innovative mental health monitoring application called Here 4 You, which also serves as a centralized platform for mental health support. Underclassmen engage in self-directed lessons, while upperclassmen can choose to become certified mentors for their peers. To monitor progress, our app will include a quarterly survey assessing depression, anxiety, social connectivity, and mental health knowledge. We will track academic performance, attendance, and in-school health resource utilization. With adequate funding, our app has the potential to mitigate the adverse effects of COVID-19 on adolescent mental health, making it an invaluable addition to school environments.

Epidemiology

There is a positive correlation between pandemic-related stressors and poor mental health in teens (Rosen, et. al, 2021). In a national survey completed by Vanderbilt University, researchers found that 14% of all parents reported that their child's mental health worsened during the pandemic (Henkhaus et al., 2020). Similarly, in an assessment completed by Children's National Hospital in DC, families noticed large amounts of social-emotional irregularities in their child's behavior: 64% noticed anxiety, 60% noticed irritability, and 52% were worried about their children's social health. Locally, students from DC reported mental unwellness during the pandemic (CORE, 2021). Seventy-seven percent relayed they had COVID-19-related anxieties and two-thirds shared they were unable to participate in activities that they enjoy (CORE, 2021). Poor mental health among youth has heightened over the years, with underrepresented minorities displaying higher rates of mental unwellness (Hawks, 2023). The pandemic only increased the gap in mental welfare between both groups (Hawks, 2023). Individuals from marginalized communities have less effective access to mental health care, which contributes to these communities exhibiting higher rates of internalizing and externalizing behaviors (Pumariga et al, 2022). These disparities in mental health care were also found in Washingtonians of low socioeconomic status, as they were less likely to access adequate health care during the pandemic (CORE, 2021).

Children's National Hospital adult survey on their children's perceived socioemotional issues

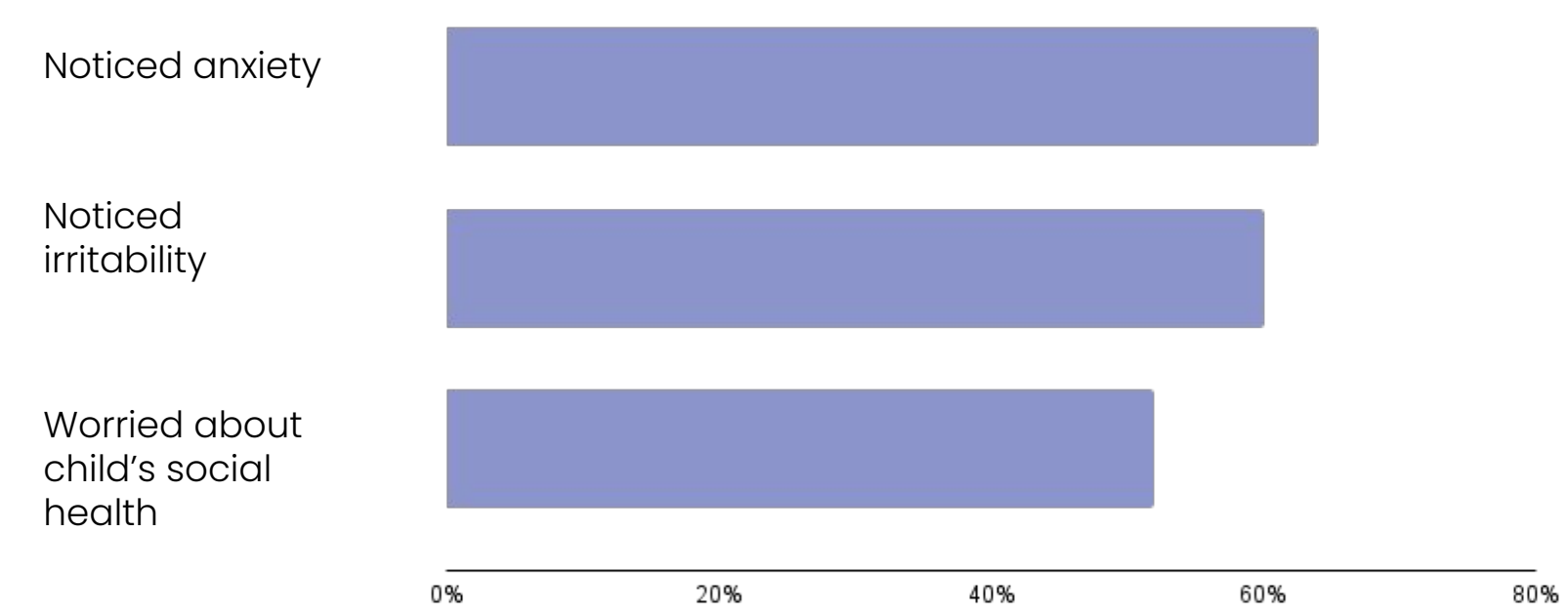


Figure 1 - Data from Children's National Hospital (DC) adult survey on their children's perceived socioemotional issues

Program Implementation

The proposed solution to address the downstream effects of COVID-19 on the mental health of underrepresented minority (URM) teenagers in the US involves implementing Mind Match—a comprehensive mental health program for high school students. It includes a mental health curriculum and a mental health monitoring application—Here 4 You. Here 4 You is a platform accessible through webpages or as a downloadable app. It serves as the central platform for the program, where students can engage with the curriculum and receive support for their mental well-being. This initiative will be piloted in the District of Columbia (DC) area, as more than 36% DC teens who have depression did not receive any care (Mental Health in Washington DC, 2021).

1. Mental health curriculum for underclassmen

An interview conducted with a school-based therapist stated that there is a limited access to mental professionals in DC high schools (Vargas, 2023). To address this, Mind Match incorporates an online mental health curriculum that can be found on the Here 4 You app. Underclassmen engage in self-directed lessons during the health science semester in their PE class. Our goal is to equip students with essential mental health knowledge and skills, such as signs of depression and ways to seek support, during their early high school years. Underclassmen will receive a certificate signifying their completion of this 2-year curriculum at the end of their Sophomore year.

2. Peer Mentorship Program

In addition to the underclassmen mental health curriculum, upperclassmen have the opportunity to complete an optional semester-long training course on Here 4 You, that equips them with the knowledge and skills to become certified mental health mentors. The certification will be recognized on students' transcripts, showcasing their commitment to mental health education and peer support. Certified upperclassmen mentors will then be paired with interested underclassmen, providing monthly check-ins during the advisory period. This fosters a supportive environment for URM teenagers to seek mental health support comfortably.

3. Here 4 You - An easier route to access mental health services

To enhance accessibility, Mind Match integrates the Here 4 You app, providing students with a centralized platform for mental health resources, connections to professionals, clinics, helplines, and additional support beyond the mentorship program. Here 4 You will act as a central hub for mental health information and services, providing a user-friendly tool for students to navigate through the sophisticated US healthcare system.

Theoretical Grounding

The multifaceted stress of the COVID-19 pandemic, transition to online school, declines in the economy, and overall uncertainty led to a downward trend in teenage mental health (Jones et al., 2021). Increased isolation, rates of anxiety, depression, and loss of sleep surged in adolescents during the pandemic (Meherali et al., 2021). Leading to subpar physical health, suicidal thoughts, behavior issues, and emotional distress (Jones et al., 2021). We created a school initiative to teach students healthy ways to manage their emotions, which can improve overall well-being and academic performance. Low-income adolescents from underrepresented backgrounds are more likely to receive mental health services in educational settings (M Mir Ali et al., 2021). This is significant as 87 percent of high school students in D.C. identify as students of color (Office of State Superintendent of Education, 2018). These findings support the need for a robust mental health curriculum in schools. Research shows that the shortage of psychiatrists and other mental health professionals could be resolved by implementing mental health into the high school curriculum, as support and resources are easily accessible to those in need (Luo et al., 2021). Mental health application (apps) that incorporate psychoeducation, medication reminders, and resources for mental well-being helps those with post-traumatic stress disorder (PTSD) and anxiety, which were worsened with the isolation of the pandemic (Jones et al., 2021). Using mobile apps and SMS messaging are proven to be effective mental health interventions, improving physical health, and reducing anxiety, stress, and depression by providing mental health education and coping methods, medication reminders, and other resources for well-being (Rathbone & Prescott, 2017).

“Calm”, a meditation app, was used during a study of its effect on the stress reduction of college students. Students used Calm for ten minutes a day. By the end of the intervention, most students reported Calm helped to reduce their stress, continued using Calm and recommended it to others (Huberty et al., 2019). Another study showed that mental health apps often included explanations about abnormal responses to mild triggers and external stressors (Parker et al., 2018). Similar to Here 4 You, these researched mental health apps also discussed therapeutic methods like relaxation, cognitive guidance, accountability, and self-monitoring.

Program Evaluation

The COVID-19 pandemic increased anxiety and depression among teens (McCurdy et al., 2022). Our program promotes mental health literacy in high school students in D.C. through course modules and a peer-mentorship program. Long-term, we seek to decrease anxiety and depression among teens following the pandemic and increase the accessibility of mental health resources for all. To track our progress, we will implement our survey into the app that students must complete at the end of each quarter. The survey will consist of questions from the Patient Health Questionnaire (Kroenke et al., 2001), as it will monitor students for signs of depression or anxiety. In addition, the survey will consist of questions surrounding the student's social life, connectivity to others in school, and overall understanding of mental health concepts. Furthermore, we will track students' academic performance and attendance and measure their use of in-school health resources quarterly. By incorporating these measures, we can understand short and long term effects of mental health literacy. Additionally, a student's academic performance reflects their overall mental state, motivation, and capacity to excel in school. Students will also have the opportunity to rank the effectiveness of the application and provide feedback, which will be taken into consideration when making changes.

Conclusion

Mind Match aims to promote mental health literacy and awareness among adolescents to help them develop healthy habits and coping mechanisms for the future. Mind Match incorporates mental health education into the high school curriculum to ensure every student accesses the resources needed to understand their mental health. By educating teens on their mental health, we can expect a decrease in symptoms of anxiety and depression (Rathbone & Prescott, 2017). We aim to empower teens with healthy habits and create a school environment where students feel supported. Peer mentorship encourages independent learning, developing relationships, emotional and academic support, and building teamwork and leadership skills (Anderson & Watkins, 2018). When everyone is provided with the knowledge of their health, they are better prepared to recognize the warning signals of anxiety and depression and seek support to enrich their well-being.

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