

## **Social Determinants of Youth Mental Health: Barriers, Facilitators, and Outcomes in the Well-Being of Children and Adolescents**

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### **Abstract**

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#### **First National Multisite Assessment of Emotional and Behavioral Difficulties Among DHH Children in Egypt: Teachers' Perspectives**

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#### **Background:**

Deaf and hard-of-hearing (DHH) children are often underrepresented in mental health research, particularly in low- and middle-income countries. This study is the first in Egypt to assess the mental health of DHH children using the teacher-report version of the Strengths and Difficulties Questionnaire (SDQ).

#### **Methods:**

This national multicenter cross-sectional study is part of a broader, multi-phase project involving eight Egyptian universities to assess mental health among DHH children. In the first phase, 847 DHH students aged 6 to 17 were recruited through conventional sampling from 18 Al-Amal schools for deaf students across six governorates—Cairo, Giza, Qalyubia, Gharbia, Beni Suef, and Damanhour—selected to reflect geographic, socioeconomic, and cultural diversity. Between October 2024 and March 2025, hearing teachers completed the Arabic version of the SDQ in a paper-based, self-administered format. The SDQ assessed students across five domains: emotional symptoms, conduct problems, hyperactivity, peer problems, and prosocial behavior.

Future phases of the project will examine additional factors influencing the mental health of DHH children, with a focus on parent-child relationships and communication. These phases will incorporate input from both teachers—those who are deaf and those with typical hearing—and from parents. Comparative data from students with typical hearing will also be included to enrich the analysis.

#### **Results:**

Overall, 41.09% of students exhibited high or very high levels of total difficulties. Internalizing problems, including emotional symptoms and peer relationship difficulties, were the most prevalent, affecting 41.09% of the sample. Externalizing problems, such as conduct and hyperactivity, were reported in 12.87%. Subscale results showed that 12.75% of students had emotional problems, 61.63% experienced peer difficulties, 17.59% exhibited conduct issues, and 10.15% showed signs of hyperactivity. Only 41.09% demonstrated typical prosocial behavior.

#### **Conclusion:**

This study highlights significant emotional and behavioral challenges among DHH children in Egypt, particularly internalizing symptoms and peer-related difficulties. The findings emphasize the need for targeted mental health screening and support within special education settings. While the sample reflects geographic and cultural diversity, the results represent sample-level estimates and should be cautiously generalized. Nonetheless, they offer valuable insights to inform national strategies for improving mental

health outcomes among DHH children.

Epidemiology Social and behavioral sciences

## Abstract

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### **Adverse Childhood Experiences and Their Association to Depression, Anxiety, and Comorbid Outcomes Among Children.**

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**Background:** Children and adolescents exposed to Adverse Childhood Experiences (ACEs) are at increased risk for mental health conditions such as depression and anxiety. While prior research has explored these associations, few studies have examined which specific ACEs have the greatest impact on child mental health. This study addresses that gap by assessing the relationships between individual ACEs and mental health outcomes in youth. The findings emphasize the importance of targeted interventions focused on the most impactful ACEs.

**Methods:** We conducted a secondary analysis of the 2023 National Survey of Children's Health (NSCH) to evaluate associations between individual ACEs and mental health outcomes categorized as depression only, anxiety only, comorbid depression and anxiety, or no condition. Covariates included demographic characteristics, family environment, caregiver health, and child health behaviors. Multivariable multinomial logistic regression was used to estimate the likelihood of each outcome, using children with no reported condition as the reference group.

**Results:** Among the 55,162 children surveyed, 7.2% had anxiety only, 0.65% had depression only, and 3.5% experienced both conditions. Among 10 ACEs analyzed, being treated unfairly due to a health condition or disability showed the strongest associations: depression (OR = 4.01, 95% CI: 2.82–5.71), anxiety (OR = 4.52, 95% CI: 3.95–5.18), and comorbid conditions (OR = 6.77, 95% CI: 5.80–7.90). Children who experienced this form of unfair treatment had significantly higher prevalence of anxiety (25.33% vs. 6.71%), depression (2.74% vs. 0.86%), and comorbid depression and anxiety (22.89% vs. 2.78%) than their peers. Living with someone with a mental illness and exposure to violence—either as a victim or witness—were also strongly associated with poor mental health outcomes.

**Conclusion:** All ACEs were associated with elevated mental health risks, but being treated unfairly due to a health condition or disability had the greatest impact. These results underscore the need for trauma-informed, stigma-reducing interventions that prioritize children most affected by discrimination and adversity.

**Keywords:** Adverse Childhood Experiences, Depression, Anxiety, Children, Adolescents

Epidemiology Planning of health education strategies, interventions, and programs Social and behavioral sciences

## Abstract

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### **Mental health and the power of the arts: fostering resilience and self-advocacy in youth**

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**Background/Context.** Underrepresented youth and their families face significant mental health challenges, contributing to poorer community health outcomes. The 2022 report “The Economic Burden of Mental Health Inequities in the U.S.” found that poverty increases the risk of mental health issues like depression, anxiety, PTSD, and psychosis. In 2023, Colorado ranked second in the nation for untreated youth depression. Offering opportunities for artistic expression alongside a mental health curriculum can help youth improve their mental health, manage stress, and advocate for others.

**Description.** An academic policy center and a nonprofit dance organization launched Mental Health is Wealth (MHiW), a high school summer internship program in Colorado. MHiW empowers youth to manage and advocate for mental health while gaining professional work experience. MHiW integrates the arts and mental health through a five-module mental health curriculum, designed by clinical psychologists and delivered in partnership with community artists. MHiW also provides hands-on workplace experience by pairing interns with organizations in sectors aligned with their career interests.

**Lessons Learned.** Qualitative and quantitative evaluation approaches were implemented with interns completing pre- and post-surveys, weekly reflections, and exit interviews to evaluate their perspectives and understanding of topics such as stress, mental health, inequities, and the link between the arts and well-being. Data from the two cohorts to date reveals: 1) notable gains in interns’ understanding of mental health and stigma, with 50% understanding before the program and 80% after, and 2) interns feeling more prepared to manage their own stress and mental health, with 50% feeling prepared before and 100% after. Qualitative feedback highlights: 1) 100% of participants felt the program greatly supported their exploration and refinement of future career goals, and 2) 90% of interns believe MHiW not only increased their awareness of mental health issues but also provided them with the motivation and tools to become proactive advocates in their communities.

**Recommendations/Implications.** The arts have a proven positive impact on overall health, including mental health, but opportunities for collaboration between the arts and health sectors remain limited. Multi-sector initiatives that focus on underrepresented populations play a vital role in promoting and advocating for behavioral wellness.

Administer health education strategies, interventions and programs  
Advocacy for health and health education  
Diversity and culture  
Other professions or practice related to public health

## Abstract

### **Longitudinal associations of childhood ADHD symptoms with mental health in adulthood: The mediating roles of work-to-family and family-to-work conflict**

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**Background:** Individuals with more ADHD symptoms often report higher levels of depressive symptoms and psychological stress. Meanwhile, they tend to have more difficulties in managing work and family responsibilities, which may result in increased experiences of work-to-family conflict (WFC) and family-to-work conflict (FWC). Thus, WFC and FWC may serve as mediating mechanisms linking ADHD symptoms to mental health outcomes. This study examines whether childhood ADHD symptoms are associated with more psychological stress and depressive symptoms through WFC and FWC in adulthood.

**Methods:** The dataset comes from the National Longitudinal Study of Adolescent to Adult Health (Add Health), a nationally representative U.S. study examining adolescent development. The data were collected in five waves (1994-95, 1996, 2001-02, 2008, and 2015-16). This study used data from Waves 3, 4, and 5 (N = 9,055; M<sub>age</sub> at W4 = 28.5). The sample comprised 58% females and 59% of non-Hispanic White. Retrospective childhood ADHD symptom items from age 5 to 12 (attention deficit and hyperactivity

symptoms) were retrieved from Wave 3, WFC and FWC from Wave 4, and psychological stress and depressive symptoms from Wave 5.

**Results:** Childhood attention deficit symptoms significantly predicted FWC in adulthood ( $b = 0.09, p < .05$ ), while hyperactivity symptoms significantly predicted WFC in adulthood ( $b = 0.10, p < .05$ ). WFC and FWC significantly predicted psychological stress (WFC:  $b = 0.04, p < .05$ ; FWC:  $b = 0.03, p < .001$ ) and depressive symptoms (WFC:  $b = 0.06, p < .05$ ; FWC:  $b = 0.03, p < .01$ ). Lastly, FWC mediated the relationships of attention deficit symptoms with psychological stress and depressive symptoms, whereas WFC mediated the relationships of hyperactivity symptoms with psychological stress and depressive symptoms.

**Conclusion:** These findings highlight the distinct pathways through which attention deficit and hyperactivity symptoms in childhood contribute to psychological stress and depressive symptoms in adulthood via their work-family interface. While attention deficit symptoms primarily impact adulthood mental health outcomes via WFC, hyperactivity symptoms influence adulthood mental health outcomes via FWC. Addressing work-family conflict may be helpful for individuals with ADHD to reduce stress and depressive symptoms and improve overall well-being.

Occupational health and safety Other professions or practice related to public health Public health or related research

## Abstract

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### Social determinants of adolescent mental health: A machine learning approach using nationally representative data

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**Background:** Adolescent mental health has worsened significantly in the U.S. over the past decade, with growing disparities across socioeconomic, racial, and gender groups. Social Determinants of Mental Health (SDMH)—including economic stability, caregiver well-being, and adverse childhood experiences—are known contributors to adolescent mental health, yet their overall impact and relative importance remain underexplored. This study applied machine learning (ML) modeling and interpretable ML technique to identify the most influential SDMH measures on predicting adolescent mental health.

**Methods:** We used nationally representative data from the 2021–2022 National Survey of Children’s Health (NSCH) with a focus on adolescents aged 12–17. Two parent-reported mental health outcomes were examined: (1) mental, emotional, developmental, or behavioral (MEDB) conditions, and (2) anxiety or depression. Predictors were derived from three SDMH domains following the SDMH in children and youth framework: access to basic social needs, caregiver health and parenting behaviors, and childhood/community experiences. Several ML models were evaluated using cross-validation; the best performance model was further tuned using hyperparameter optimization. Interpretable ML technique was used to quantify predictor impacts on the mental health outcomes. The same analyses were performed using the 2018–2019 NSCH data.

**Results:** Our best models achieved the prediction accuracy of 0.743 for MEDB and 0.823 for anxiety on the holdout test data. SDMH measures collectively accounted for substantial variation in both outcomes. The most influential predictors included bullying frequency, maternal mental health, screen time, adolescent age, and unfair treatment due to health conditions or disability. By interpreting the model, only adolescents who were *never* bullied showed protective effects, while excessive screen time and poor maternal mental health were associated with increased risk. Such impacts were found consistent across survey years.

**Conclusions:** Our findings underscore the significant and unequal influence of SDMH on adolescent mental health and provide a data-driven approach to identify key predictors. Interpretable ML provides insights for targeted interventions in school, family, and community settings. Policies and programs addressing bullying

prevention, maternal mental health support, and digital well-being are critical for improving youth mental health outcomes.

Advocacy for health and health education Assessment of individual and community needs for health education Implementation of health education strategies, interventions and programs Planning of health education strategies, interventions, and programs Program planning Social and behavioral sciences

