

## A Comprehensive Approach to Improving Children's and Adolescents' Mental Health

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### The Increasing Prevalence of Mental Health Problems Among Children and Adolescents in China

The prevalence of mental health issues among children and adolescents in China has continuously increased over the past few decades. According to a recent national psychiatric epidemiological survey of 17,524 school-aged children and adolescents, the prevalence of mental health disorders was 17.5% [95% confidence interval (CI): 17.2%, 18.0%]. Higher prevalence was reported among males, younger children, and children from developed areas (1). Meta-analyses on the prevalence of mental health problems among school-aged children over the past decade found that the top three mental health issues were as follows: for primary school students, sleep problems (25.2%, 95% CI: 16.0%, 37.0%), depression (14.6%, 95% CI: 12.0%, 18.0%), and anxiety (12.3%, 95% CI: 6.0%, 23.0%) (2); for junior middle school students, anxiety (27.0%, 95% CI: 24.0%, 31.0%), depression (24.0%, 95% CI: 22.0%, 26.0%), and self-harm (22.0%, 95% CI: 17.0%, 29.0%) (3); and for high school students, depression (28.0%, 95% CI: 25.0%, 31.0%), anxiety (26.3%, 95% CI: 22.0%, 31.0%), and sleep problems (23.0%, 95% CI: 21.0%, 26.0%) (4). Therefore, the prevalence of mental health issues among children and adolescents is becoming a major public health challenge in China and is receiving increasing attention from mental health researchers, practitioners, and governments (2–6).

Moreover, the mental health of children and adolescents deteriorated during the coronavirus disease 2019 (COVID-19) pandemic due to disruptions in their routines, restricted peer interactions and support, prolonged online learning, and limited connections with nature (6–8). A recent meta-analysis using a random-effects model reported a pooled prevalence of mental health problems among children and adolescents of 28.0% (95% CI: 22.0%, 34.0%) during the COVID-19 pandemic (7). The prevalence rates of anxiety and depression were 25.0% (95% CI: 20.0%,

32.0%) and 22.0% (95% CI: 16.0%, 30.0%), respectively (7). A large-scale provincial screening study on mental health disorders among primary and middle school students aged 6–18 years in Jiangsu Province in 2022 found that the prevalence of depression, anxiety, and stress symptoms were 14.6%, 8.0%, and 27.4%, respectively (8). Similar trends in mental health issues were observed after lifting COVID-19 pandemic control measures (9). The increasing incidence of mental health problems among children and adolescents not only negatively impacts their well-being and poses significant challenges to their personal growth and development into adulthood, but also hinders harmonious family relationships, community social capital, and erodes the efforts for building a resilient and prosperous society. Mental health is also a major disease burden for families with children and adolescents and the healthcare system. The total direct (e.g., mental health therapy costs) and indirect (e.g., lost quality of life and productivity, economic loss to patients' families) economic burden of mental health disorders among children and adolescents amounted to 1,191 billion in 2017 (10).

### Health Initiatives Aimed at Improving the Mental Health of Children and Adolescents in China

As mental health among children and adolescents becomes an increasing public health concern in China, the central government has implemented a variety of initiatives to address this challenge. In 2019, the Chinese government released the Healthy China (2019–2030) initiative, which included a focus on improving the mental health of the Chinese people (11). In December 2019, to continue the major Healthy China initiative on mental health promotion, the National Health Commission of China, together with other collaborative departments of the central government, released the action plan for improving the mental health of children and adolescents (2019–2022) (12). In line with this initiative, the Department of

Education, together with 17 other departments and organizations of the central government, released another action plan on April 20, 2023, for comprehensively strengthening and improving the mental health of children and adolescents in the new era (2023–2025). This plan focuses on improving students' mental health and promoting their healthy development (13). The long-term goal of improving the mental health of children and adolescents was also highlighted in the China Children's Development Program (2021–2030) (14). These initiatives lay the policy foundation for building a supportive, coordinated, and comprehensive multi-stakeholder network to improve the mental health of children and adolescents over the long term.

### **A Comprehensive Approach to Improving Mental Health in Children and Adolescents**

The increasing incidence of mental health issues among children and adolescents necessitates a public health approach to improving their mental well-being. This approach should involve governments, mental health service hospitals and organizations, communities, schools, and families (15–16). Given the multifaceted factors influencing the mental health of this population, coordinated strategies across multiple stakeholders (from families to governments) and levels (from micro to macro) are essential. Drawing on the socioecological model of cultivating resilience (6), which posits that resilience during challenging times is influenced by various socioecological factors — individual, familial, organizational, community, societal, national, and international — I propose a comprehensive and systematic approach to improving the mental health of children and adolescents. This approach includes promoting positive development at the individual level, fostering harmonious and supportive family relationships, cultivating supportive learning and growth environments in schools and communities, and building resilient socioecological systems at the societal and national levels.

Promoting positive development among children and adolescents. Childhood and adolescence represent a life stage of rapid physical, psychological, and social growth and development, laying the foundation for future physical and mental health. Positive growth and development increase children's and adolescents' inner resources, contributing to their mental health and well-being (17–18). For example, character strengths such

as optimism, resilience, gratitude, and grit are well-documented protective factors against various mental health issues (e.g., emotional and behavioral problems) among children and adolescents (6,19–21). Research among middle school students also found that episodic future thinking predicted better mental health status during the post-COVID-19 period (22), highlighting the protective role of a future-oriented mindset in improving students' mental health. Research during the COVID-19 pandemic also found that incremental theories of health and mental health predicted lower self-reported symptoms of depression and anxiety among adolescents and young adults by promoting more proactive and adaptive coping styles (23–24). This highlights the importance of personal initiatives in improving children's and adolescents' mental health, aligning with Keyes's positive model of mental health, which posits that personal growth initiatives significantly predict the psychological, social, and emotional well-being of youth and adolescents (25–26). Therefore, initiatives such as the P.A.T.H.S. project and Challenge: To Be+ program could be implemented to help children and adolescents discover and use their personal strengths to promote positive youth development and growth (27–28).

Maintaining harmonious family relationships is crucial. Family constitutes a critical micro-environment that influences the mental health of children and adolescents, with long-lasting impacts (26,29). Interactions among family members, particularly parent-child relationships encompassing attachment, parenting styles, and communication quality, can significantly affect the mental health of young individuals (26,30–34). High-quality family relationships not only establish a foundation for mental health but also provide secure and supportive environments for long-term growth and development. Therefore, providing parents with relevant support is essential to foster and maintain harmonious family relationships (e.g., increased quality time with children and adolescents), ultimately safeguarding their children's mental health.

Cultivating supportive learning and growth environments. Schools and communities are meso-level psychosocial systems that profoundly influence the mental health of children and adolescents (35–36). For example, teacher and peer support, both within and outside of schools, are significant predictors of adolescent emotional well-being (37). School climate, including peer and social connectedness, school safety, and the academic environment, is significantly

associated with adolescent mental health and well-being (38). Community-based interventions that build safe and cohesive environments and promote supportive interactions (e.g., the “Building My Future” program) among adolescents, parents, teachers, community members, and other professionals are also beneficial for improving the mental health of children and adolescents and promoting youth development (39–41). Therefore, families, schools, organizations, and communities should implement more coordinated efforts to provide safe, stimulating, collaborative, and supportive learning and growth environments for children and adolescents (42).

Building a resilient socioecological system is crucial for improving children’s and adolescents’ mental health. Beyond families, schools, and communities, their mental health is influenced by various macro-level environmental factors, such as urban planning, green spaces, social media, the internet, and regional and national environments and policies on child development (43–46). Given that exposure to green spaces is beneficial for improving mental health in these populations (47–48), increasing accessibility to such spaces and providing more opportunities for children and adolescents to connect with nature should be priorities in urban planning, environmental protection, and development (49). Ideally, the Healthy China and Beautiful China initiatives can be integrated to improve children’s and adolescents’ mental health by increasing their exposure to the natural environment. However, urbanization and digitalization expose children and adolescents to the risks of addiction to mobile devices and the internet, which could harm their social and emotional health (43,50–52). Therefore, maintaining a safe and clean internet environment and promoting the appropriate use of social media and the internet are pivotal to reducing their negative impacts on children’s and adolescents’ mental health. Reducing screen time (e.g., setting a 30-minute default screen time slot in parental control mode for children and adolescent users) will also free them to engage in healthy lifestyles and increase their connection with nature and social bonds, in turn improving their mental health and well-being in the long term.

In summary, children and adolescents’ mental health is influenced by a broad range of factors at the individual, familial, organizational, community, societal, and national levels. Therefore, efforts and initiatives across all stakeholders should be orchestrated to build a supportive and nurturing environment that

safeguards their mental health and well-being. Coordinated efforts and comprehensive strategies aligned with the Healthy China initiatives for mental health promotion and health promotion in primary and secondary schools will not only establish a solid foundation for children and adolescents’ future health and development but also contribute to building a resilient, healthy, and prosperous China for future generations.

**Conflicts of interest:** No conflicts of interest.

**Funding:** Supported by the National Natural Science Foundation of China (82473741), General Scientific Research Project of Education Department of Zhejiang Province (Humanities and Social Sciences, Y2022485), Zhejiang University Global Partnership Grant, One Hundred Talents Program Research Initiation Fund of Zhejiang University, the Key Laboratory of Intelligent Preventive Medicine of Zhejiang Province (grant number 2020E10004) and Leading Innovative and Entrepreneur Team Introduction Program of Zhejiang (grant number 2019R01007).

doi: [10.46234/ccdcw2024.211](https://doi.org/10.46234/ccdcw2024.211)

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Submitted: July 25, 2024; Accepted: September 09, 2024

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