



National Adolescent Health Information Center

The Mental Health of Adolescents: A National Profile, 2008

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OVERVIEW

Parents, practitioners, and policymakers are recognizing the importance of young people's mental health. Youth with better mental health are physically healthier, demonstrate more socially positive behaviors and engage in fewer risky behaviors.¹ Conversely, youth with mental health problems, such as depression, are more likely to engage in health risk behaviors.² Furthermore, youths' mental health problems pose a significant financial and social burden on families and society in terms of distress, cost of treatment, and disability.^{3,4,5}

Most mental health problems diagnosed in adulthood begin in adolescence. Half of lifetime diagnosable mental health disorders start by age 14; this number increases to three fourths by age 24.⁶ The ability to manage mental health problems, including substance use issues and learning disorders, can affect adult functioning in areas such as social relationships and participation in the workforce.

Federal initiatives have highlighted the importance of mental health for youth and adults. Both the Surgeon General and the White House have convened major meetings on mental health, with significant discussion on issues related to adolescents.^{7,8} Several mental health objectives are among the *Healthy People 2010* 21 Critical Health Objectives for Adolescents and Young Adults.⁹ In addition, clinicians increasingly recognize that mental health and related problems are important and demanding parts

of their practices, with pediatricians reporting that nearly one fifth of their patients have an emotional, behavioral, or school problem.¹⁰ To improve mental health, policy-makers and program administrators need accurate information about the issue. This brief highlights existing national data about adolescent mental health status.

Despite limitations of current research, we can draw some conclusions about adolescent mental health. The evidence shows:

- One in five adolescents experience significant symptoms of emotional distress and nearly one in ten are emotionally impaired;
- The most common disorders among adolescents include depression, anxiety disorders and attention-deficit/hyperactivity disorder and substance use disorder.

This brief also assesses shortcomings of current data and offers recommendations to address these limitations. We hope this brief helps strengthen systems that monitor the mental and emotional health of young people at national, state and local levels. Monitoring systems are an important component of efforts to promote mental health, and prevent and treat mental health problems. Such efforts promote a healthy adolescence and lay the groundwork for healthy adulthood. Before turning to mental health data, we review definitions of mental health and describe methods for assessing mental health status.

BACKGROUND

■ *What is mental health and mental illness?*

The 1999 Surgeon General's Report on Mental Health defined mental health as "successful performance of mental function, resulting in productive activities, fulfilling relationships with other people, and the ability to change and to cope with adversity." Mental illness refers to diagnosable mental disorders that are characterized by alterations in thinking, mood, or behavior (or a combination thereof) associated with distress and/or impaired functioning.⁸ A 2004 report by the World Health Organization (WHO) includes a similar distinction between mental health and mental illness.¹¹ With children this includes a wide range of emotional and behavior problems that in lay terms may not be considered mental, or psychiatric disorders. Here, the terms emotional, behavioral, and mental disorders are used interchangeably.

Common disorders include mood disorders such as depression; anxiety disorders; behavioral problems such as oppositional defiant disorder or conduct disorder; eating disorders such as anorexia nervosa and bulimia; addictive disorders; and other disorders commonly seen in childhood and adolescence such as autism, learning disorders and attention-deficit/hyperactivity disorder (AD/HD). Research suggests that co-occurrence of disorders is not uncommon in adolescence, although national data are largely lacking. According to the Surgeon General's report, "children with pervasive developmental disorders often suffer from AD/HD. Children with a conduct disorder are often depressed, and the various anxiety disorders may co-occur with mood disorders. Learning disorders are common in all these conditions, as are alcohol and other substance use disorders (DSM-IV)."⁸ Schizophrenia, a relatively rare diagnosis, typically has its onset in late teens/early adulthood for males and in the late 20s to early 30s for females.¹²

According to the Surgeon's General's report and WHO, mental health encompasses positive aspects of well-being and healthy functioning as well as negative aspects of mental disorder and dysfunction.^{8,11} Ideally, a comprehensive overview of adolescent mental health status would reflect both positive and negative aspects. A comprehensive overview would also recognize that family, community and social contexts influence mental health status. For example, exposure to violence can have adverse consequences for mental health status.⁸ However, research in the health and mental health fields has traditionally focused on negative indicators of individual pathology. Available data reflect this emphasis, with relatively little focus on contextual influences. **Box 1** describes efforts to assess positive mental health in adolescence.

■ *How do we measure the mental health status of youth?*

This report presents data from studies using nationally representative samples only. While community and regional studies have yielded useful data,^{13,14,15} variation in study methodologies limits their generalizability to the national level. Local studies vary in the sampling, age groupings, disorder definitions, and analysis. For example, one review of 52 studies found estimates of the psychopathology rate among children and adolescents ranging from 1% to nearly 51%.¹⁶

The national studies reviewed for this report use various methodologies for assessing mental health status. Findings may be biased due to misrepresentations. For example, findings understate the prevalence of problems if respondents attach a strong stigma to mental health problems. Alternatively, problems may be overstated if respondents desire benefits that may accompany certain diagnoses. **Table 1** (on page 12) lists the main studies cited in this report, including abbreviations.

Approaches to assessing mental health status can be categorized as follows:

- *Positive indicators such as well-being and resiliency.* As indicated above, few nationally representative data are available using this approach. **Box 1** provides more information about positive mental health and protective factors.
- *Broad questions to measure symptoms of well-being or emotional distress.* This approach includes research that measures limitations in functioning due to mental health problems. Several national surveys of youth and parents offer this type of

Box 1: Measuring Positive Mental Health

"There is a relative dearth of information about teens' positive mental health – that is, on teens who are optimistic, happy and prepared for life."^a

Since the late 1950s, several conceptual frameworks have addressed positive mental health. These frameworks include a range of emphases, such as cultural definitions of mental health, subjective sense of well-being, and capacity for coping and resiliency in the face of stressors.^b In the adolescent health field, similar efforts have expanded the definition of health from one that examines negative behaviors and outcomes to one that incorporates positive youth development and functioning.^{c,d,e} A 2005 textbook on adolescent mental health states, "As important as it is to reduce or eliminate problems among children and adolescents, it is just as important to help them thrive and form positive connections to the larger world."^f

Frameworks for conceptualizing positive adolescent development cover many domains, including:

- individual assets (e.g., social and emotional competency, self-efficacy, positive identity, life satisfaction and pro-social involvement) and
- environmental factors that foster positive youth development (e.g., family, school and community connections).^{g,h,i,j,k,l}

There is no national consensus on measuring positive mental health. However, several states and many communities have adapted existing frameworks to measure positive function.^{c,m,n} One example of an effort using a more comprehensive approach is a 2001-02 study of 34 industrialized countries, including the U.S. In addition to examining prevalence of problems such as substance use and violence, this analysis also addressed satisfaction with life and relationships with parents. Most adolescents reported positive satisfaction with life, with the percentage reporting this decreasing slightly among older teens.^o In addition, adolescents generally report close relationships with their parents, with some variation by demographic factors. Younger adolescents were more likely to feel close to their parents than older teens. Black and Hispanic youth feel close to their mothers more than White youth. Youth with less educated parents were more likely to feel very close to their parents than did youth whose parents had more education.^p

The references (on page 15) provide more information about positive mental health indicators. A listing of positive indicators is available from The Forum for Youth Investment's "What gets measured, gets done: Indicators of youth well-being, expanded resource list." Available online at: http://www.forumfyi.org/Files/FF_WGMGD_Resources.pdf.

data, such as the Youth Risk Behavior Surveillance System (YRBSS),¹⁷ National Health Interview Survey (NHIS),^{18,19} National Survey of America's Families (NSAF),²⁰ and the National Survey on Drug Use and Health (NSDUH).²¹

- *Formal assessment techniques, including standardized scales or interview schedules.* These scales are usually linked to psychiatric classification systems such as the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) of the American Psychiatric Association.²² Examples of studies using these techniques include the NHIS,^{18,19} the National Co-Morbidity Study,²³ and the National Longitudinal Survey of Adolescent Health (AddHealth).²⁴ It should be noted that, over time, the criteria for inclusion of some disorders has changed and the criteria for defining some disorders has been revised. Consequently, data collected at different points in time may be problematic for monitoring trends.
- *Data about receipt of services for mental health related problems.* NSDUH asks about receipt of counseling services as well as substance use services;²¹ the Medical Expenditure Panel Survey (MEPS) conducts interviews regarding health care use and analyzes billing records related to services;²⁵ and, the Pediatric Research in Office Settings and Ambulatory Sentinel Practice Network (PROS/ASPN) asks health care providers about services performed.²⁶

Combining the research findings from different approaches yields a more comprehensive profile of mental health than relying on any single approach. Despite shortcomings of different approaches, these data collectively provide useful information to inform programs and policies to improve adolescent mental health.

HOW ARE YOUNG PEOPLE DOING?

Mental health issues are a serious concern among adolescents. Although most adolescents are doing well, about one in five report symptoms of mental health problems, depression being the most common. To describe the prevalence of mental health problems, we organize the findings as follows: global estimates of behavioral and emotional problems, estimates of specific disorders, suicide, and utilization of mental health services.

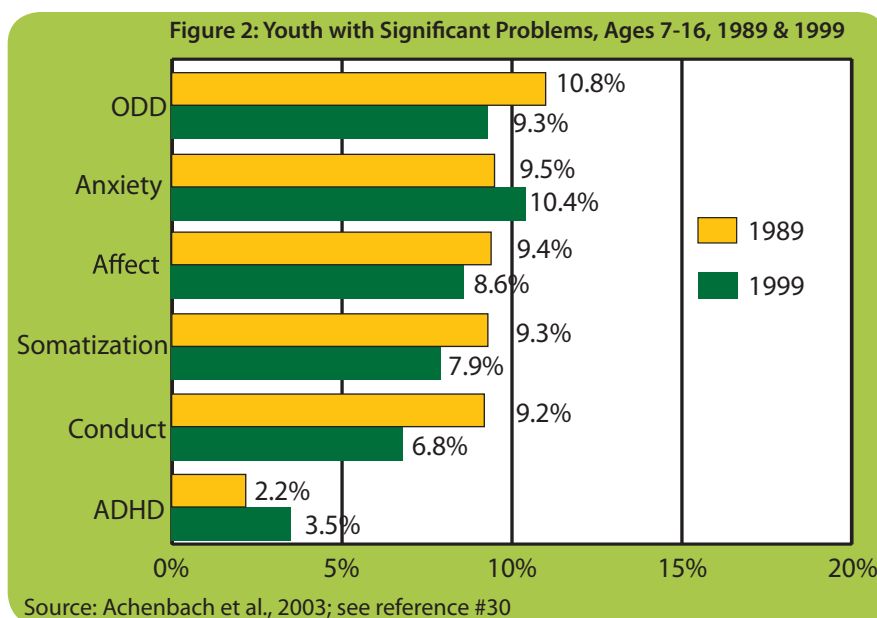
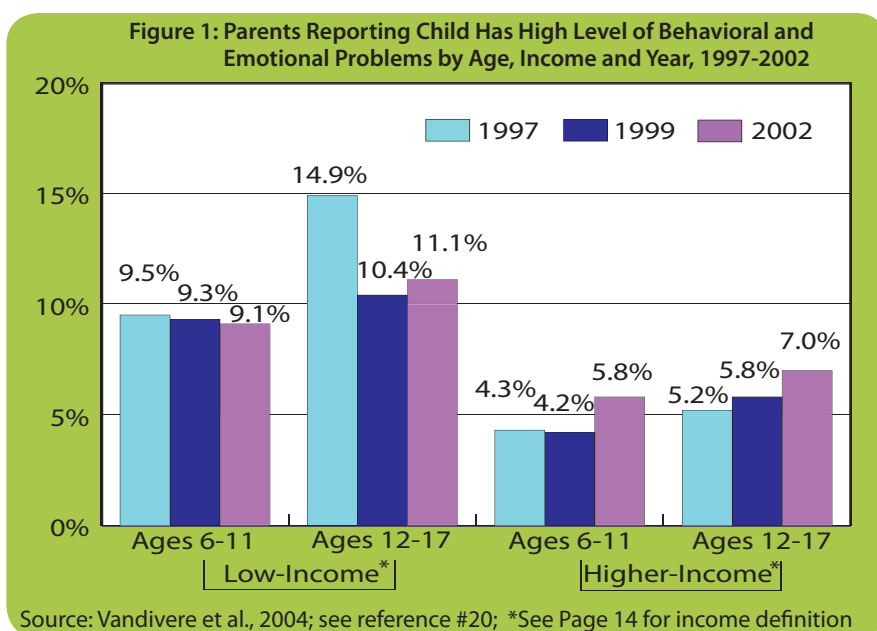
■ *Global estimates of behavioral & emotional problems*

Data from the 2004 NHIS found that over 1 in 10 (11.6%) adolescents ages 12-17 had serious behavioral or mental health difficulties, as rated by parents using a modified version of the Strengths and Difficulties Questionnaire. Male adolescents were slightly more likely to have these mental health difficulties than female peers (12.3% vs. 10.9%); low-income adolescents had more than twice the rate of higher-income adolescents (17.9% vs. 8.0%).¹⁹ Previous data from NHIS, using a modified version of the Child Behavior Checklist (CBCL), show a similar income disparity. By contrast, looking at trends between 1997 and 2002, the NSAF study found low-income adolescents to be improving slightly, while higher-income adolescents fared slightly worse (**Figure 1**).²⁰

■ *Comprehensive evaluations*

Studies that comprehensively evaluate mental health disorders from childhood through adolescence using national samples could not be located. Most studies address specific disorders. Estimates of the proportion of youth with mental health problems varied tremendously, depending on how mental health problems were defined and measured.

- Using data from the 1992-1994 NHIS surveys, researchers examined parents' perceptions of their children's limitations in school participation due to mental health problems. About 3% (30.7/1,000) of 12- to 17-year-olds have school limitations due to mental health disorders. This includes those with mental retardation, learning disabilities, attention deficit and hyperactivity disorder and other disabling mental health problems such as depression, autism, anxiety, or oppositional defiant disorder.²⁷ This may be an underestimate, since accommodations within schools now enable many with significant difficulties to participate in school.²⁸ Thus, some parents may not perceive their child as limited.

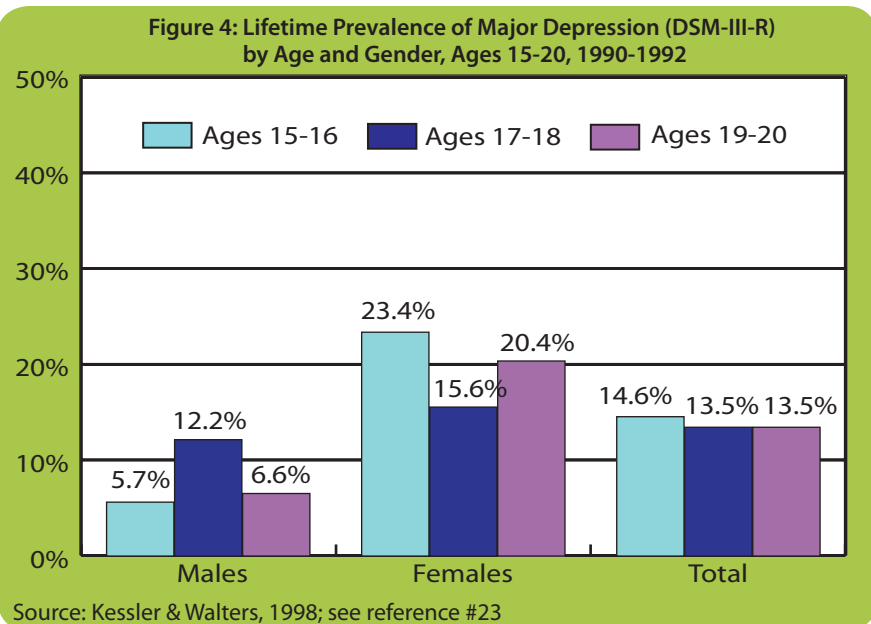
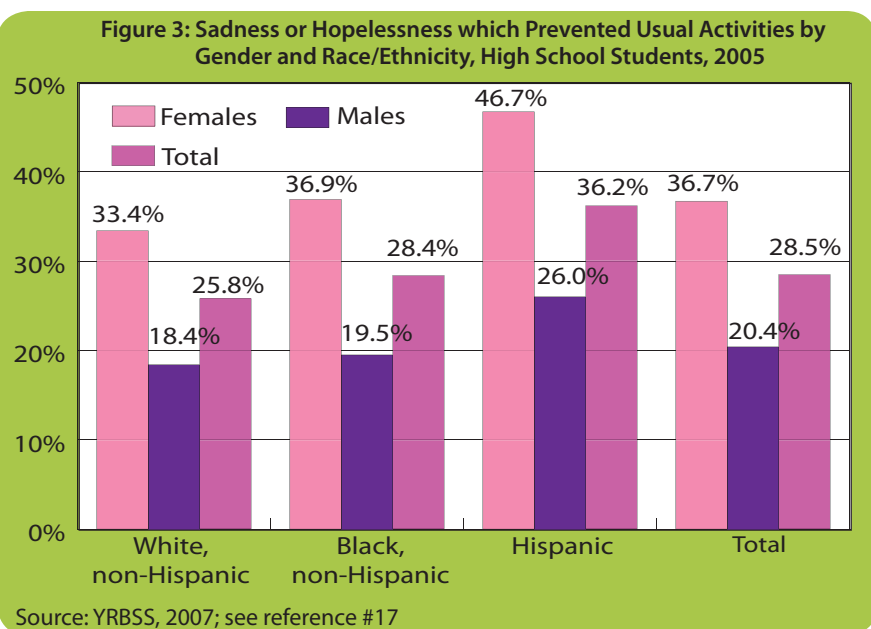


- According to the 1995 National Survey of Adolescents (ages 12- to 17), 16% of males and 19% of females met most of the diagnostic criteria in the DSM-III for one of three psychiatric diagnoses—major depression, post-traumatic stress disorder, or substance abuse/dependence disorder.²⁹
- In 1999, just under one fourth (23.9%) of 7- to 16-year-olds had at least one emotional or behavioral problem, according to research using the CBCL. Overall, there were few statistically significant changes in the prevalence of problems between 1989 and 1999 (**Figure 2**). Of the main diagnostic categories, the one significant finding was the decrease in oppositional defiant disorder between 1989 and 1999.³⁰

■ Specific Disorders

Depression

Depression is one of the most widely studied mental health conditions because of its large burden on individuals, families, and society and its links to suicide. Depression is the most widely reported disorder, with over a quarter of adolescents affected by at least mild depressive symptoms.²⁴ Reported prevalence of depression varies, depending on which symptoms and what degree of severity are measured.



• One of the broadest indicators of depressive symptoms comes from the YRBSS. This study asks: *Have you ever felt so sad or hopeless almost every day, for two weeks in a row, that you couldn't do some of your usual activities?* Results from the 2005 YRBSS indicate that 36.7% of female and 20.4% of male high school students reported this level of sadness; Hispanic students reported higher rates (46.7% of females & 26.0% of males) than their non-Hispanic Black & White peers (**Figure 3**).¹⁷

• Depression is more than twice as prevalent among females ages 15-20, compared to same-age males, according to an analysis of data from the 1990-1992 National Comorbidity Study (**Figure 4**). Three quarters (76%) of those who fulfilled the criteria for major depression also had other psychiatric diagnoses. In more than two-thirds of the cases, these other diagnoses preceded the depression. Among those with multiple diagnoses, anxiety disorders were experienced first by 40%, addictive disorders by 12%, and conduct disorders by 25% of the young people between 15 and 20 years of age. Only about one half of the depressed youth had ever told a professional of their depression.²³

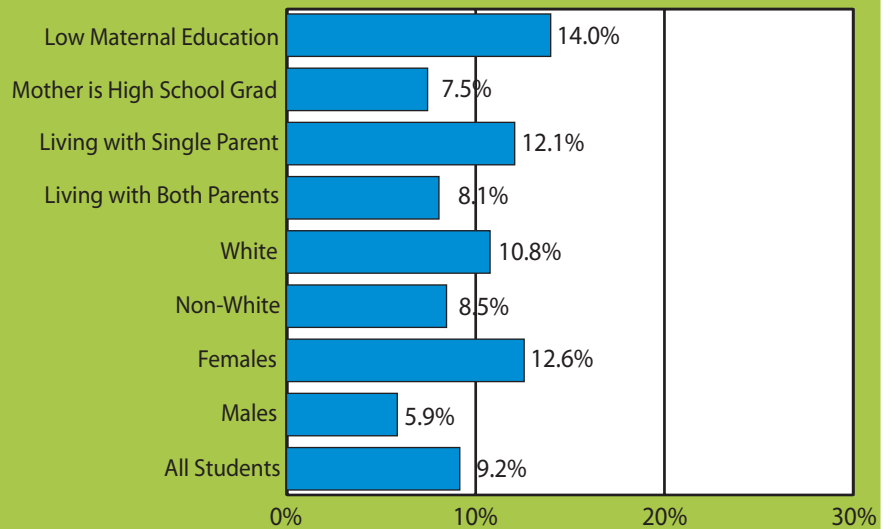
• Rushton et al., using the Center for Epidemiological Studies – Depression Scale (CES-D), identified degrees of depressive symptomatology: minimal, mild, moderate, and severe. Research on adolescents generally combines those with moderate and severe symptoms to identify those who are depressed. Examining AddHealth data, Rushton et al. found that 9.2% of all students met their criteria for moderate or severe depression within the past week (5.9% of males and 12.6% of the females). Those who were non-White, had single parents, or whose mothers did not finish high school, had higher depression scores (**Figure 5**). A follow-up study one year later yielded data about the trajectory of depressive symptoms. Although symptoms were continuous for many youth, the severity of the symptoms changed for many (**Figures 6 & 7**):

- ▶ Of those with minimal symptoms the first year, 84% continued to report only minimal symptoms the following year.
- ▶ Of those with mild symptoms the first year, 46% improved, 17% got worse, and 37% stayed the same.
- ▶ Of the youth with moderate/severe symptoms, 44% stayed the same, 24% improved markedly, and 32% improved somewhat.²⁴

Anxiety Disorders

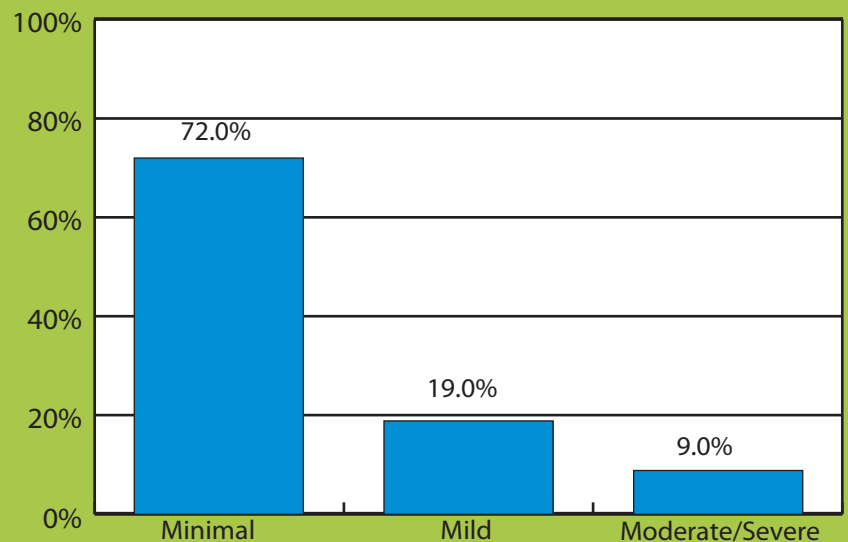
National prevalence data on specific anxiety disorders in adolescents are limited, although regional studies suggest that the combined prevalence of anxiety disorders is among the highest in childhood and adolescence.³¹ National data were located on Post Traumatic Stress Disorder (PTSD): according to the 1995 National Survey of Adolescents (NSA), 3.7% of all males and 6.3% of all females ages 12-17 were reported

Figure 5: Moderate and Severe Depression Using CES-D, High School Students, 1995



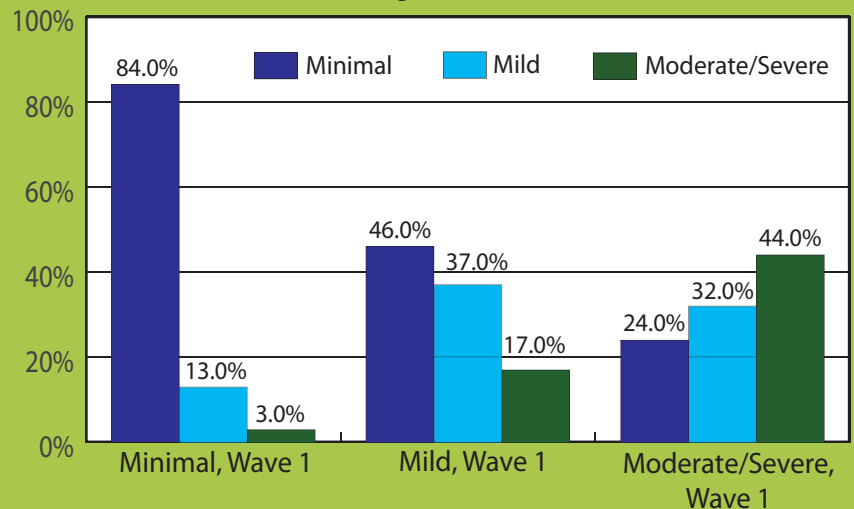
Source: Rushton et al., 2002; see reference #24

Figure 6: Depressive Symptoms, Wave 1, CES-D Scale, Ages 12-17, 1995



Source: Rushton et al., 2002; see reference #24

Figure 7: Depressive Symptoms, Wave 2 by Wave 1 Category, CES-D Scale, Ages 12-17, 1996



Source: Rushton et al., 2002; see reference #24

to have PTSD in 1995. Among these youth, nearly half of the males (47.3%) also had symptoms of major depressive disorder, as did nearly 30% of the females.²⁹

Substance Abuse Disorders

Although substance abuse incidence is widely reported from several national surveys using different samples,^{17,21,32} fewer sources assess the prevalence of the more disabling psychiatric diagnosis of substance abuse dependence disorder, in which one's life is controlled by substance use. The 1995 NSA estimated that 8.2% of males and 6.2% of females ages 12-17 have a substance abuse dependence disorder.²⁹ In 2006, the NSDUH data showed that 8.2% of 12- to 17-year-olds depended on/abused alcohol or illicit drugs; this behavior was slightly higher among female adolescents than male peers (8.4% vs 7.9%).³³

Conduct Disorder and Oppositional Defiant Disorder

Although complete evaluation of all DSM criteria for conduct disorder could not be located, the 1995 AddHealth study reported "proxy variables," including stealing, damaging property, and threatening others which were associated with conduct disorder diagnosis. Using 7 of the 15 criteria in the DSM-IV diagnosis for conduct disorder, AddHealth found that 3.4% of adolescents ages 12-17 met the criteria for diagnosis of a conduct disorder.³⁴ Community studies have found a similar range when the DSM-IV was used, but a higher rate in older studies using the DSM-III-Revised.³⁵

Learning Disabilities and Attention Deficit and Hyperactivity Disorder (ADHD)

Learning disabilities and ADHD disorders are functional impairments that can challenge relationships and well-being. Youth with learning disabilities are nearly twice as likely to report emotional distress and suicide attempts.³⁶ Although often treated in primary care and through educational interventions, these disorders are also considered mental health problems.

The NHIS asks parents if they had ever been told by a professional that their child had a learning disability or ADHD. In 2005, 9.2% of 12- to 17-year-olds were reported to have a learning disability, compared to 6.5% of 5- to 11-year-olds. ADHD was identified among 8.9% of the adolescents and 6.1% of the children.¹⁸ This survey also shows more males than females as having a learning disability or ADHD (**Figure 8**).¹⁹

Eating Disorders

National data related to eating disorders could not be located except for two questions in the YRBSS. The first relates to bulimia symptoms and the second addresses use of diet products. In 2005, 4.5% of high school students took a laxative or vomited and 6.3% took diet pills, powders or liquids without a doctor's advice to lose weight or avoid gaining weight. More females purged than males, with 6.2% of females and 2.8% of males saying they had taken laxatives or vomited to control weight. This gender trend is similar for taking diet pills, powders or liquids with 8.1% of females and 4.6% of males reporting this behavior.¹⁷

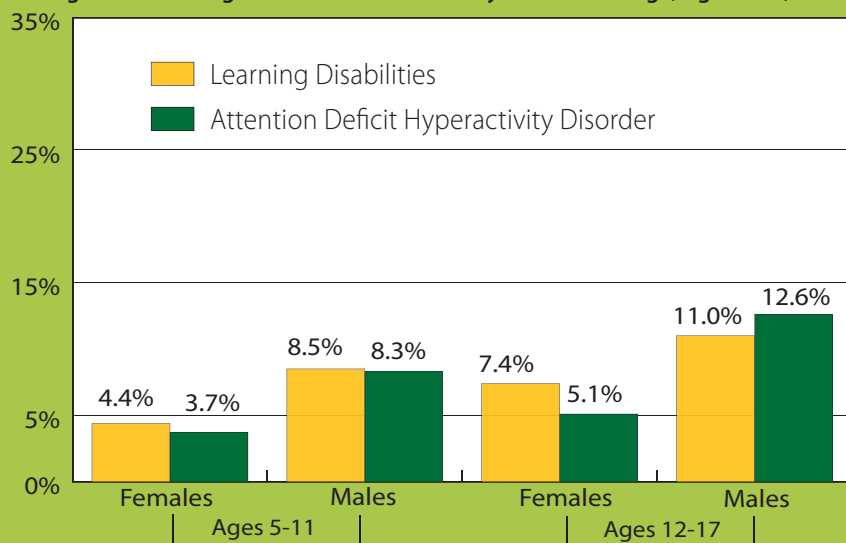
■ Suicide

While not a mental health disorder, suicide is more common among adolescents with certain mental health problems, according to the Surgeon General's report.⁸ In addition to depression, the presence of other mental health problems, such as conduct disorders, eating disorders, and anxiety disorders, also increase the risk of suicide.^{37,38,39,40} Suicide is the third leading cause of adolescent mortality. Nationally, in 2005, there were 270 suicides among 10- to 14-year-olds and 1,613 suicide deaths among 15- to 19-year-olds, accounting for 10.8% of deaths among 10- to 19-year-olds. Males ages 10-14 had a suicide death rate 2.5

times that of females; for 15- to 19-year-olds, this disparity increased to 3.9. Adolescent suicide rates have decreased over the the past decade, particularly suicide using firearms. After a sharp decrease in the late 1990s, rates decreased more gradually between 2000 and 2005, with a slight increase between 2003 and 2004.⁴¹ The rate of suicide by suffocation has increased and now accounts for more than half of all suicidal deaths among 10- to 14-year-olds and more than one third of all suicidal deaths among 15- to 19-year-olds.⁴² Suicide attempts vastly outnumber completed suicides. The 2005 YRBSS found that, in contrast to completed suicide, female high school students are much more likely to attempt suicide than male peers (**Figure 9**). Hispanic students and 9th graders have higher rates of suicide attempts.¹⁷ Students involved in physical fights were also more likely to indicate they had attempted suicide.⁴³ Overall, 8.4% of all high school students reported an attempted suicide in 2005, a slight increase from 7.3% in 1991. The percentage of students who say they have seriously considered suicide has decreased significantly since 1991 (**Figure 10**).¹⁷

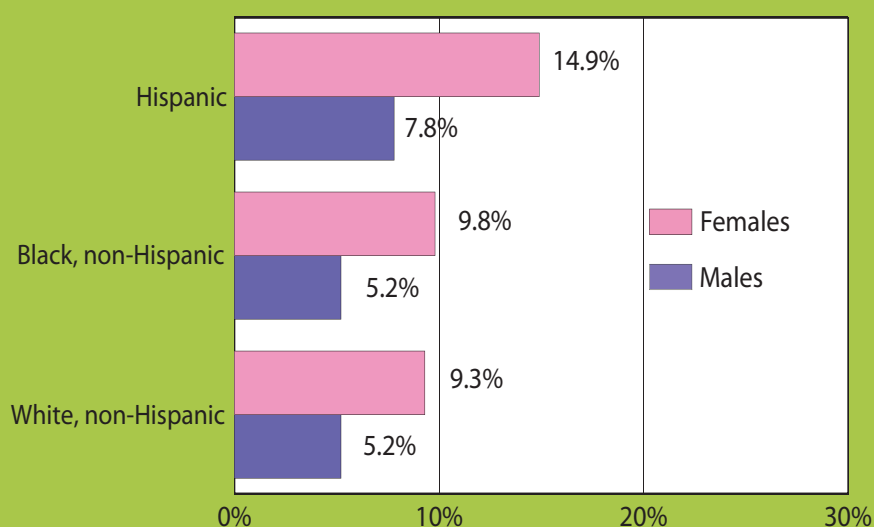
The data presented throughout this section show the range in type and severity of mental health problems experienced by young people. It merits reiterating that these data focus on individual pathology: they do not examine either the context in which mental health problems arise or positive mental functioning. Research on context and positive function will advance policymakers' and program managers' ability to reduce the burden of mental health problems. Despite these limitations, these prevalence data do provide clear evidence that a significant proportion of youth experience emotional distress. We now supplement this prevalence data with research on utilization of mental health services.

Figure 8: Learning Disabilities and ADHD by Gender and Age, Ages 5-17, 2005



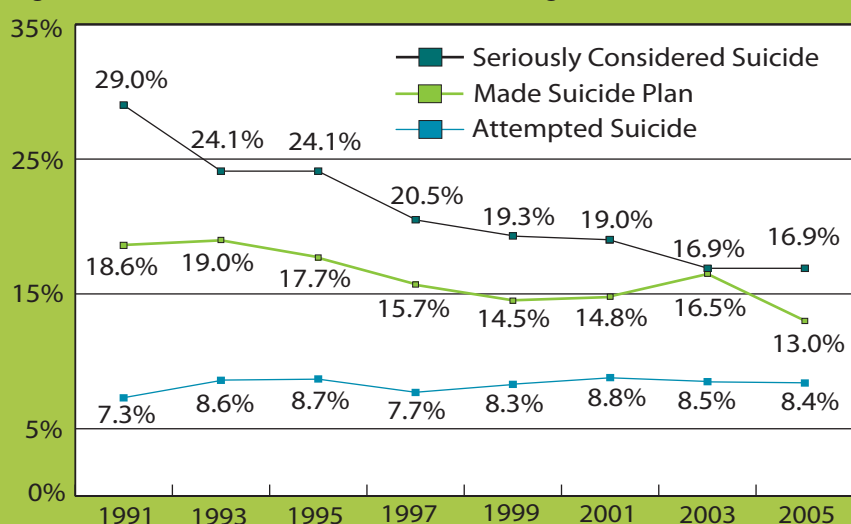
Source: NHIS - NAHIC, 2007a; see reference #19

Figure 9: Suicide Attempts by Race/Ethnicity and Gender, High School Students, 2005



Source: YRBSS, 2007; see reference #17

Figure 10: Trends in Suicidal Ideation and Behavior, High School Students, 1991-2005



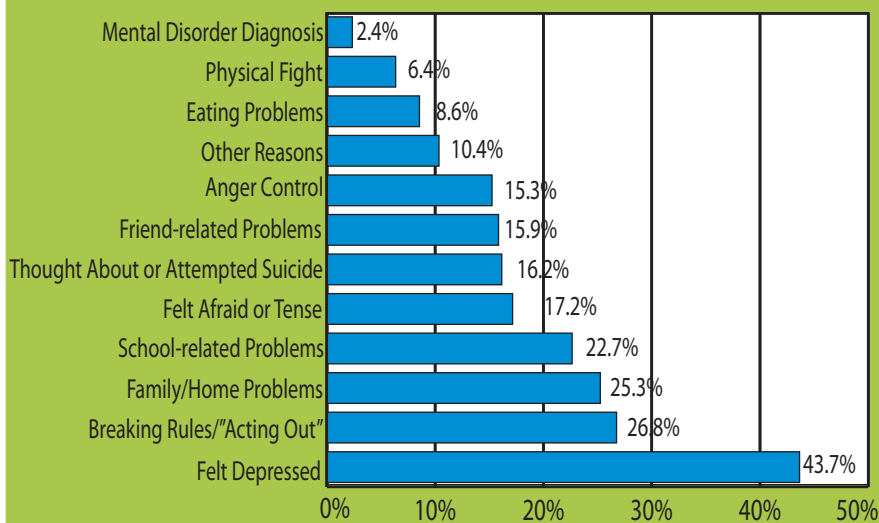
Source: YRBSS, 2007; see reference #17

■ Utilization of Mental Health Services

Utilization data add to our understanding of the prevalence of mental health problems. These data generally mirror the findings cited in the previous section: that is, about one in five youth experiences significant emotional distress and almost ten percent experience more serious mental illness. Utilization data also indicate that many youth may not meet criteria for serious mental disorders, but are in significant enough emotional distress to seek and need services. Data on treatment underscore the huge burden of depression. For example, among adolescents ages 12-17 who reported receiving mental health treatment, four in 10 cited feeling depressed as the reason for treatment (**Figure 11**).³³

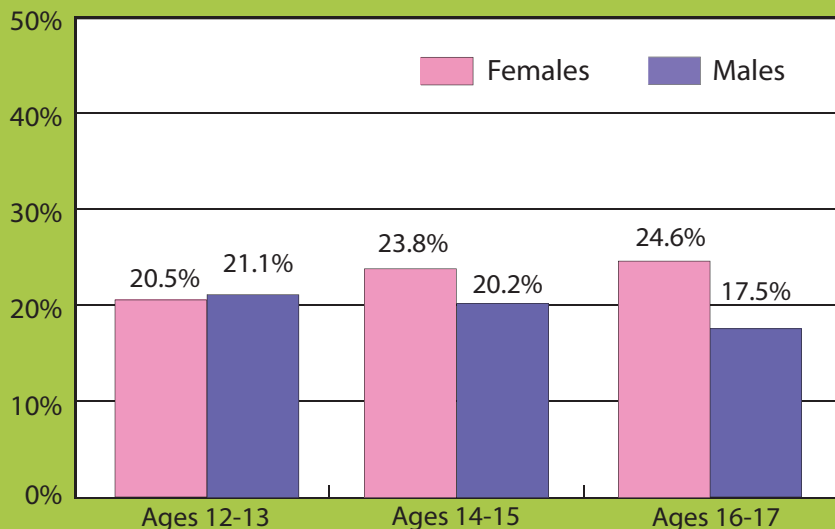
While utilization data are helpful, their limitations should be noted. First, studies consistently indicate that most children and youth with significant emotional distress do not receive mental health services. This suggests that data on the percentage of youth who use mental health services underestimate the actual prevalence of problems. Estimates of unmet need differ, depending in part on researchers' measurement of disorder and definition of services. Examining the 2002 NSAF, researchers found that, of those children ages 6-17 judged to have significant mental health problems according to the adapted CBCL,

Figure 11: Reasons for Mental Health Treatment during Past Year, Ages 12-17, 2006



Source: NSDUH - NAHIC, 2007b; see reference #33

Figure 12: Past-Year Mental Health Treatment by Age and Gender, Ages 12-17, 2006



Source: NSDUH - SAMHSA, 2007; see reference #21

only 39.2% received mental health services in the previous year.⁴⁴ Kataoka et al., using a validated checklist of symptoms from NHIS, NSAF, and the Community Tracking Survey, found that only about 10% of children and adolescents with symptoms of mental health problems received any type of specialty mental health evaluation or service.⁴⁵ In addition to unmet need, researchers have documented disparities by ethnicity, income, and geography in young people's receipt of mental health services.^{46,47} For example, non-Hispanic African-Americans ages 6 to 18 are less likely to receive outpatient treatment for depression than same-age Hispanics and White, non-Hispanics.⁴⁶

A second limitation is that these data only identify problems presented to individual service providers. Many adolescents are also served by programs (e.g., after-school programs) that address young people's mental and emotional problems and promote healthy development. Reflecting the traditional focus described earlier, most available data on mental health services examine individual treatment, usually based on identified disorder or pathology. This focus excludes services outside the formal health care system, such as those provided in community programs.

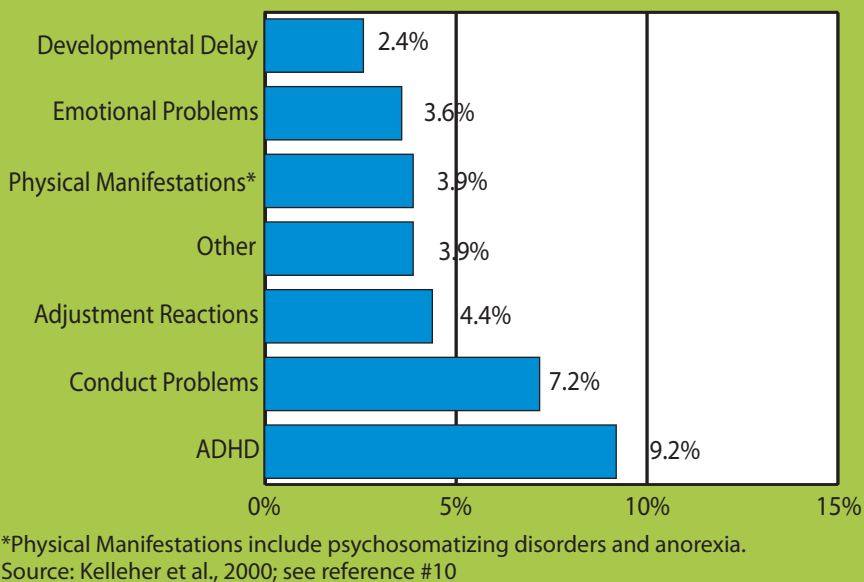
Prevalence of Treatment

The broadest measure of receipt of services comes from the NSDUH, which asks youth if they had received some mental health treatment or counseling for emotional or behavioral problems from a mental health or health care professional in a school, home, outpatient, or inpatient setting. The 2006 NSDUH found that 21.3% of youth ages 12-17 had received some form of mental health treatment. Older males ages 16-17 were least likely to receive services (**Figure 12**). This figure varied little by income. While these data do not indicate the frequency or adequacy of treatment services, they do indicate that many young people receive some type of adult professional help. Youth in the NSDUH were most likely to receive services from a private therapist or a school professional, although they also report receiving services from many other sources.²¹

Primary care providers report that mental health problems are a significant part of their practice. In the 1996 Child Behavior Study of 21,000 pediatricians, 18.7% of patients ages 4-15 were seen by the pediatrician as having psychosocial problems. The types of problems that were identified by the pediatricians included emotional problems, conduct problems and ADHD (**Figure 13**). While this study does not report on treatment offered by the pediatricians, it does indicate that significant need is identified in the primary care setting and suggests the potential for strengthening services in this setting.¹⁰

Most other research focuses more narrowly on services provided by mental health specialists, and, not surprisingly, reports much lower prevalence of mental health services. The 2002 NSAF asked parents whether their child (ages 6-17) had “received mental health services, including such services from a doctor, mental health counselor, or therapist.” Overall, 8.8% of the sample indicated their child had used mental health services.⁴⁴ Data from the 2005 NHIS found that 8.2% of the parents of adolescents (ages 12-17) reported that their youths had at least one visit with a mental health specialist within the last year.¹⁹ The 1997 MEPS found 4% of those ages 13 to 17 had received psychotherapy and 2% of those under 13 had received psychotherapy. These rates were not significantly different from 1987.⁴⁸

Figure 13: Problems Identified by Pediatricians of Patients Ages 4-15, 1996



CONCLUSION

National data make clear that a sizeable proportion of young people have symptoms of emotional distress. The studies presented here suggest that 20-25% of youth have symptoms of emotional distress, and about one in ten has moderate to severe symptomatology, indicating significant impairment. Although young people receive help from many sources, there remains considerable unmet need. A continuing challenge for those who develop policy and allocate resources is assessing the level of need. Estimates of need for services are likely to vary depending on the method used, e.g., reported symptoms of distress, fulfillment of psychiatric diagnostic criteria, functional impairment, or desire for services.⁴⁹ Larger cultural trends, geopolitical events, and even marketing also change perceptions of need. Monitoring mental health status should extend

beyond current measures of disorder and impairment. Limitations of available data merit reiterating: national data largely focus on measures of individual disorder and dysfunction, without consideration of positive function or regard to contextual factors that shape mental health and well-being. Research has identified contextual factors that place adolescents at greater risk of mental health problems.⁸ There are also factors that strengthen resilience among adolescents, buffering them against problems stemming from negative environments.⁵⁰ Family support, for example, can help mitigate adverse consequences for children exposed to violence.⁵¹

Measures that account for the influence of cultural background would also enhance our ability to assess adolescent mental health status. Culture shapes the way individuals view and respond to emotional distress.⁸ National data are often available by demographic breakdowns and often show, for example, that poor adolescents suffer disproportionately from mental health problems. While this is a useful starting point, a more nuanced understanding of the relationship between socio-economic status and culture could strengthen the capacity of monitoring systems to assess mental health more accurately.

Finally, better data on the mental health status of special populations of adolescents would help decision-makers target resources more effectively. Some national studies have gone beyond traditional demographic breakdowns, to focus on populations known to be at significant risk. An analysis using AddHealth data, for example, shows that sexual minority youth report higher levels of depression, substance use, and suicide attempts.⁵² Smaller studies of incarcerated youth suggest that this population has much higher rates of substance use disorders, PTSD, and learning disorders.⁵³ Youth in the foster care system and maltreated youth also have higher prevalence of mental health problems.^{54,55,56}

While there are clearly limitations in our understanding of adolescent mental health, we know enough to act. The challenge is to translate emerging research findings in these diverse areas—such as context, positive function, resilience, culture and special populations—into indicators that can be monitored over time and used to guide policy and program development. As stated in numerous reports and recommendations, such as those from the federal government and professional medical organizations, adolescents need access to comprehensive mental health services.^{8,57,58}

Table 1: National Data Sources Cited in this Brief*

Abbreviation	Name**	Citation(s)	Sample and Year(s) Data Collected
AddHealth	National Longitudinal Study of Adolescent Health	Rushton et al., 2002; Van Dulman et al., 2002	National probability sample; interviewed and surveyed youth (grades 7-12) at home in 1995 and 1996*
CBCL	Child Behavior Checklist	Achenbach et al., 2003	National probability sample; surveyed parents of children and adolescents (ages 7-16) in 1976, 1989 and 1999
MEPS	Medical Expenditure Panel Survey	Cohen, 1997; Olfson et al., 2002	National stratified probability sample; interviewed children and adolescents (ages 6-18) in 1987 and 1997*
NCS	National Comorbidity Study & National Comorbidity Study replication	Kessler et al., 1998; Kessler et al., 2005	National probability study; interviewed youth (ages 15-24) and adults (ages 18+) at home in 1990-1992 and 2001-2003
NHIS	National Health Interview Survey	Halfon & Newacheck, 1999; NAHIC, 2007a	National probability sample; parents of children and adolescents (ages 6-17) interviewed at home in 1992-1994, 2004 and 2005*
NSA	National Survey of Adolescents	Kilpatrick et al., 2003	Adolescents (ages 12-17) in national probability sample interviewed over telephone in 1995
NSAF	National Survey of America's Families	Kataoka et al., 2002; Sturm et al., 2003; Vandivere et al., 2004; Howell, 2004	Nationally representative households (with children and adolescents ages 6-17) interviewed in home in 1997, 1999 and 2002*
NSDUH	National Survey of Drug Use and Health	SAMHSA, 2007; NAHIC, 2007b	Nationally representative sample of adolescents (ages 12-17) interviewed in home in 2006*
PROS and ASPN	Pediatric Research in Office Settings and Ambulatory Sentinel Practice Network	Kelleher et al., 1997	National sample of Pediatricians and Family Practice physicians; surveyed about patients (ages 4-15) in 1996
YRBSS	Youth Risk Behavior Surveillance System	YRBSS, 2007	National cluster sample of high schools; surveyed students (grades 9-12) every two years between 1991 and 2005

***Please note that this table only lists the data collection years that were cited in this brief. Additional years of data may be available from the sources.**

****The data sources are hyperlinked in the "Name" column where possible.**

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*Definitions for terms used in Figure 1, Page 4:

Low-income = 199% or below of federal poverty threshold;

Higher income = 200%+ of federal poverty thresholds.

Federal poverty threshold for a family of four was \$19,157 in 2004.

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