A Center Report . . .

Youngsters' Mental Health and Psychosocial Problems: What are the Data?

(Rev. June, 2005)

Preface

A common request to Centers such as ours is for information about the prevalence and incidence of youngsters' problems. The intent of this report is to provide a synthesis of the best data and to clarify the limitations of what has been gathered so far.

As you will see, available data continue to be quite limited. The synthesis reported here highlights the limitations and underscores major gaps that need filling. It is clear that a great deal more research is needed, and it must be pursued with sufficient resources to enhance and refine the methodology used. At the same time, we all will continue to draw on what has been reported as an essential aid in planning and decision making. In doing so, it is imperative to use that data carefully and wisely – with a full appreciation of its limitations. With all this in mind, we hope you will find our synthesis helpful.

This report reflects the contributions of several staff – particularly DeQuincy Lezine, Angie Mittman, and Perry Nelson, as well as the Center co-directors.

Howard Adelman & Linda Taylor
Center Co-directors

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UCLA CENTER FOR MENTAL HEALTH IN SCHOOLS*

Under the auspices of the School Mental Health Project in the Department of Psychology at UCLA, our center approaches mental health and psychosocial concerns from the broad perspective of addressing barriers to learning and promoting healthy development. Specific attention is given policies and strategies that can counter fragmentation and enhance collaboration between school and community programs.

MISSION: *To improve outcomes for young people by enhancing policies, programs, and practices relevant to mental health in schools.*

Through collaboration, the center will

  # enhance practitioner roles, functions and competence

  # interface with systemic reform movements to strengthen mental health in schools

  # assist localities in building and maintaining their own infrastructure for training, support, and continuing education that fosters integration of mental health in schools

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About the Center's Clearinghouse

 The scope of the Center's Clearinghouse reflects the School Mental Health Project's mission -- to enhance the ability of schools and their surrounding communities to address mental health and psychosocial barriers to student learning and promote healthy development. Those of you working so hard to address these concerns need ready access to resource materials. The Center's Clearinghouse is your link to specialized resources, materials, and information. The staff supplements, compiles, and disseminates resources on topics fundamental to our mission. As we identify what is available across the country, we are building systems to connect you with a wide variety of resources. Whether your focus is on an individual, a family, a classroom, a school, or a school system, we intend to be of service to you. Our evolving catalogue is available on request; and available for searching from our website.

What kinds of resources, materials, and information are available?

We can provide or direct you to a variety of resources, materials, and information that we have categorized under three areas of concern:

> C   Specific psychosocial problems
> C   Programs and processes
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Among the various ways we package resources are our *Introductory Packets, Resource Aid Packets, special reports, guidebooks*, and *continuing education units.* These encompass overview discussions of major topics, descriptions of model programs, references to publications, access information to other relevant centers, organizations, advocacy groups, and Internet links, and specific tools that can guide and assist with training activity and student/family interventions (such as outlines, checklists, instruments, and other resources that can be copied and used as information handouts and aids for practice).

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All materials from the Center's Clearinghouse are available for order for a minimal fee to cover the cost of copying, handling, and postage. Most materials are available for free downloading from our website.

If you know of something we should have in the clearinghouse, let us know.

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration
Maternal and Child Health Bureau

CMHS
Center for Mental Health Services
SAMHSA
Substance Abuse & Mental Health Services Administration

Center for Mental Health in Schools at UCLA

The *Center for Mental Health in Schools* operates under the auspices of the School Mental Health Project at UCLA.* It is one of two *national centers* concerned with mental health in schools that are funded in part by the U.S. Department of Health and Human Services, Office of Adolescent Health, Maternal and Child Health Bureau, Health Resources and Services Administration -- with co-funding from the Center for Mental Health Services, Substance Abuse and Mental Health Services Administration (Project #U93 MC 00175).

The UCLA Center approaches mental health and psychosocial concerns from the broad perspective of addressing barriers to learning and promoting healthy development. In particular, it focuses on comprehensive, multifaceted models and practices to deal with the many external and internal barriers that interfere with development, learning, and teaching. Specific attention is given policies and strategies that can counter marginalization and fragmentation of essential interventions and enhance collaboration between school and community programs. In this respect, a major emphasis is on enhancing the interface between efforts to address barriers to learning and prevailing approaches to school and community reforms.

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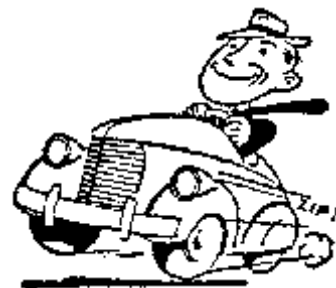
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K A whole lot more, and if we don't have it we can find it !!!! We keep adding to and improving the center — So keep in contact!

Youngsters' Mental Health and Psychosocial Problems:
What are the Data?

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What are the Data?

*C*ommonly heard these days is the shibboleth:

In God we trust; from all others demand data!

Increasingly, policy makers and others who make decisions are demanding;

Show me the data!

In many arenas, the demand for data has outstripped the availability of good data and has increased the tendency to grab for whatever numbers are being circulated in the literature. As a result, when someone says: "This is the *best* data available," it is essential to remember that *best* does not always mean *good.* This caution is particularly relevant in the mental health field where funding to support data gathering continues to be sparse and sound methodological practices are difficult and costly to implement. It is widely acknowledged that available information on prevalence and incidence of mental health and psychosocial problems and related service provision varies markedly in both quantity and quality.[1] For instance, some youngsters may be counted more than once when they have multiple problems. And, a wide variety of activity may be included in reports of what constitutes a MH service. But the biggest problem remains that too little investment has been made in gathering and aggregating such data. As a result, available data are limited by sampling and methodological constraints, and thus the appropriate generalizability of findings is significantly constricted.

The intent of this report is to provide a synthesis of the best available data and to clarify the limitations of what has been gathered so far. Because of the inadequacies of current data gathering, we must rely on subpopulation survey data and best estimates of mental health (MH) problems in schools, primary health care systems, and juvenile justice systems.

The reality is that the primary sources for widely cited data on mental health and psychosocial concerns represent a relatively small body of studies, each of which makes an important contribution and, at the same time, the researchers are the first to acknowledge the limitations of the reported findings. (See Table 1 for a list of these primary sources; Appendix A provides a brief analysis of the strengths and limitations of each.)

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[1]*Prevalence* data indicate the percentage of a population that is affected at a given time. In contrast, date on *incidence rate* indicate the rate at which new events occur in a population (i.e., the numerator is the number of new events occurring in a defined period; the denominator is the population at risk of experiencing the event during this period). Most of the data reported on the scope of problems are indices of prevalence.

Table 1. Primary sources for data on prevalence.[2]

Mental Disorders
- Lavigne, et al. (1996). *Prevalence rates and correlates of psychiatric disorders among preschool children.*
- Costello, et al. (1996). *The Great Smoky Mountains Study of youth: Goals, design, methods, and the prevalence of DSM-III-R disorders.*
- Shaffer, et al (1996). *The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA Study.*
- Kessler, et al. (2005). *Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication.*

Special Education Labels
- Pastor & Reuben (2002). *Attention Deficit Disorder and Learning Disability: United States, 1997-1998.*
- Moore et al. (2000). *Children's Behavior and Well-Being: Findings from the National Survey of America's Families. Snapshots of America's Families II.*
- Wolraich et al. (1996). *Comparison of Diagnostic Criteria for Attention-Deficit Hyperactivity Disorder in a County-Wide Sample.*
- U.S. Department of Education (2002). *Twenty-fourth Annual Report to Congress on the Implementation of the Individuals with Disabilities in Education Act.*

Psychosocial Problems
- Denton & Germino-Hausken (2000). *America's Kindergartners*. West, J., Project Officer. NCES 2000-070. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Angold et al. (1999). Impaired but Undiagnosed. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*(2): pp 129-137.
- Grunbaum et al. (2002). Youth Risk Behavior Surveillance - United States, 2001. *Surveillance Summaries, MMWR, 51*, SS-4.
- Kelleher, K.J., McInerny, T.K., Gardner, W.P., Childs, G.E., & Wasserman, G.E. (2000). Increasing identification of psychosocial problems: 1979-1996. *Pediatrics, 105*, 6, 1313-1321.
- Anderson & Smith (2003). Deaths: Leading causes for 2001. *National Vital Statistics Reports, 52*. Hyattsville, MD: National Center for Health Statistics..
- Nansel et al. (2001). Bullying behaviors among US youth. Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, JAMA, 285*, 2094-2100.
- Johnston, O'Malley & Bachman (2003). *Monitoring the Future Occasional Paper 59*. Institute for Social Research. The University of Michigan, Ann Arbor.

Related Cultural Concerns
- National Highway Traffic Safety Administration (NHTSA) (2002). *Traffic Safety Facts 2002: Children*. U.S. Department of Transportation. DOT HS 809 607
- McLoughlin et al. (2002). Injuries and deaths among children left unattended in or around motor vehicles - United States, July 2000 - June 2001. *MMWR, 51,* 26, pp. 570-572.
- Centers for Disease Control and Prevention. *Web-based Injury Statistics Query and Reporting System (WISQARS)* [Online]. (2002). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer).
- U.S. Census Bureau (2002). *Low Income Uninsured Children by State: 1999, 2000,* and 2001. [online].
- Snyder & Sickmund (1999). *Juvenile Offenders and Victims: 1999* National Report. Office of Juvenile Justice and Delinquency Prevention.

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[2]See the Reference list for full citations.

Another concern to keep in mind is that the data amassed in this brief are presented out of context and without reference to etiology. This tends to create the image of individuals whose problems were instigated by internal pathology (e.g., psychopathology). Such an interpretation tends to minimize attention to environmental conditions that often are the primary instigating causes of subsequent emotional, behavioral, learning, and developmental problems. Data delineating problems also create an image of deficits, disorders, and disabilities which may undermine efforts to stress the range of assets/strengths that can be found among the youngsters being counted.

How Many Young People are Affected?

As a reference point, it should be noted that data for the year 2000 indicate there were 70.4 million children 17 years old or younger in the U.S. (Federal Interagency Forum, 2001). This represents 26% of the population. (64% were designated as white, non-Hispanic, 16% as Hispanic, 15% as African-American, 4% as Asian-Pacific, and 1% as American Indian/Alaskan Native).

Tables 2 and 3 provide the data reported in the primary sources listed in Table 1. These data come from studies that reflect the most rigorous efforts to gather and report findings. As indicated in Appendix A, each has its limitations. For example, the recent *National Comorbidity Survey Replication* reflects limitations related to the sample and methodology that must be taken into consideration in citing the data. These include widely recognized concerns about volunteer samples and those not represented in the sample, administration of lengthy surveys, the nature and scope of survey items, participant recall of the past, what should be viewed as a symptom rather than a common response to life experiences, limitations related to the statistical analyses, the degree to which the interpretations of the findings are generalizable, and more.

Nevertheless, as the best data available, it is not surprising that the findings highlighted by various studies and reports are widely cited and extrapolated from in order to shed some light on young people's problems.

Table 2. Prevalence data from primary sources related to children and youth in the USA labeled as having emotional, behavioral, and learning problems.

(a) Mental Disorders	Sources		
	Lavigne et al. (1996)	Costello et al. (1996)	Shaffer et al. (1996)
	% (2-5 yrs)[1]	% (9, 11, 13 yrs)[2]	% (9-17 yrs)[3]
Overall Prevalence	**21.4**	**20.3**	**32.8**
Any Anxiety Disorder		5.69	20.5
Separation Anxiety	0.5	3.49	5.8
Overanxious Disorder	0.7	1.38	7.7
Simple Phobia	0.6	0.27	3.3
Agoraphobia		0.07	4.8
Avoidant Disorder	0.7	0.03	
Social Anxiety		0.58	7.6
Any Depressive Disorder		1.52	7.2
Major Depression		0.03	5.6
Depression NOS	0.3	1.45	
Any Behavioral Disorder		6.56	11.5
Oppositional Defiant Dis.	16.8	2.75	6.5
Conduct Disorder		3.32	3.9
ADHD	2	1.94	5.1
Comorbid Emotional / Behavioral	5.4	1.47	

1. Percent based on 510 youngsters aged 2 through 5 years. Diagnostic criteria from DSM-III-R.

2. Percent based on 1,015 youngsters aged 9, 11, and 13 years, weighted by population prevalence rates. Diagnostic criteria from DSM-III-R.

3. Percent based on combined reports of 1,285 youngsters aged 9 through 17 years and their parents with Diagnosis-Specific Impairment Criteria. Diagnostic criteria from DSM-III-R.

The data from Kessler, et al., (2005) is limited to the following catgeories:

>anxiety disorders	=	28.8%
>mood disorders	=	20.8%
>impulse-control disorders	=	24.8%
>substance use disorders	=	14.6%
>any disorder	=	46.4%

Median age of onset is reported as much earlier for anxiety (11 years) and impulse-control (11 years) disorders than for substance use (20 years) and mood (30 years) disorders. Half of all lifetime cases were reported as starting by age 14 years. Kessler, et al., conclude that: "About half of Americans will meet the criteria for a *DSM-IV* disorder sometime in their life, with first onset usually in childhood or adolescence. Interventions aimed at prevention or early treatment need to focus on youth."

Table 2. Prevalence data from primary sources related to children and youth in the USA labeled
emotional, behavioral, and learning problems. (cont.)

(b) Special Education	Sources			
	Pastor & Reuben (2002)	Moore et al. (2000)	Wolraich et al. (1996)	U.S. Dept. of Education (2002)
	% (6-11 yrs)[4]	% (6-11yrs)/ % (12-17yrs)[5]	% (K - 5th)[6]	% (Pre-K to 12th)[7]
Overall Prevalence	**12**			**8.87**
Emotional Disturbance		**6.3 / 7.4**		**1**
Learning Disability	**8**			**6**
Other Health Impairment				**0.5**
>ADD/ADHD	**7**		**7.3**	
Mental Retardation & Developmental Disabilities	**1**			**1**
Autism				**0.2**
Speech & Language Impairment				**2.3**

4. Percent based on 8,610 youngsters aged 6 through 11 years. Case identification based on previous diagnosis of Learning Disability, ADHD, Mental Retardation, or Developmental Disabilities. Note that 4% of children had comorbid ADD/ADHD and a Learning Disability.

5. Percent based on approximately 36,000 youngsters aged 6-17 years. Case identification based on a cutoff score of 12 or below chosen to represent a "high level" of problems on the Child Behavioral and Emotional Problems Scale based on the Child Behaviors Checklist.

6. Percent based on 8,528 youngsters enrolled in Kindergarten to 5th grade education in 16 Tennessee schools. Case identification based on teacher reports using DSM-III-R criteria on a version of the Disruptive Behavior Disorders Rating Scale.

7. Percent based on 52,875,000 youngsters enrolled in Pre-Kindergarten to 12th grade education at public or private schools in the 50 states and DC. Case identification based on state reports of the number of students served in federally supported programs for students with disabilities. Among preschoolers aged 3 to 5 years in special education (599,678 children), 55% had speech or language impairments, 3.3% had specific learning disabilities, and 1.4% had emotional disturbances. Among students aged 6 to 21 years in special education (5,775,722 children), 50% had specific learning disabilities, 19% had speech or language impairments, and 8% had emotional disturbances.

Table 2. Prevalence data from primary sources related to children and youth in the USA labeled emotional, behavioral, and learning problems. (cont.)

(c) Psychosocial Problems	Denton & Germino-Hausken (2000)	Angold et al., (1999)	Grunbaum et al., (2002)
	% (Kindergarten)[8]	Weighted % (9-13yrs)[9]	Weighted % (9th-12th grade)[10]
Overall Prevalence	**15%**	**14.2%**	
Impairment related to subthreshold psychiatric symptomatology		9.4%	
Had gone without eating for $24 hours to lose weight or avoid gaining weight			13.5%
Felt sad/hopeless almost every day for $ 2 weeks (in the year)			28.3%
Attempted suicide (in the year)			8.8%
Argue with others often/very often	33%		
Fight with others often/very often	15%		
Physical fight (in the year)			33.2%
Threatened or injured with a weapon on school property (in the year)			8.9%
Dating violence victim (in the year)			9.5%
Make friends never/sometimes	11%		
Comfort others never/sometimes	18%		
Impairment unrelated to psychiatric symptoms		4.8%	
Sibling Relational Problems		1.4%	
Parent-Child Relational Problems		3.6%	
Current frequent cigarette use			13.8%
Episodic heavy drinking			29.9%
Current marijuana use			23.9%
Current cocaine use			4.2%
Lifetime methamphetamine use			9.8%

8. Percent based on parent reports from approximately 22,000 children enrolled in about 1,000 kindergarten programs during the 1998-1999 school year.

9. Percent based on interviewing 1015 youngsters aged 9-13 years and their parent.

10. Percent based on 13,601 questionnaires from students in grades 9-12 in public and private schools in the 50 states and the District of Columbia.

Table 2. Prevalence data from primary sources related to children and youth in the USA labeled emotional, behavioral, and learning problems. (cont.)

(d) Related Cultural Concerns	
Category	*Rate or Percent*
Alcohol-related traffic fatalities (0-14 years) [a]	0.76
Children (0-14 years) left unattended in or around motor vehicles - nonfatal injuries [b]	15.14
Children (0-14 years) left unattended in or around motor vehicles - fatalities [b]	0.13
Firearm injuries - nonfatal (Age groups 5 to 9 - 15 to 19) [c]	1.6 - 77.9
BB/Pellet gun injuries - nonfatal (Age groups 5 to 9 - 15 to 19) [c]	8.3 - 32.1
Firearm injuries - fatalities (Age groups 5 to 9 - 15 to 19) [c]	0.4 - 13.1
Children (0-18 years) in families at or below 200% of poverty level [d]	38%
Children (0-18 years) in families at or below 200% of poverty level without health insurance [d]	8%
Youngsters (10-17 years) in custody of the justice system [e]	368

a. NHTSA (2003). Traffic safety facts 2002. Rate per 100,000.
b. McLoughlin et al. (2002). Injuries and deaths among children left unattended in or around motor vehicles - United States, July 2000-June, 2001. Rates per 100,000.
c. Centers for Disease Control and Prevention (2002). WISQARS Injury Mortality Reports. [Rates per 100,000].
d. U.S. Census Bureau (2002). Low income uninsured children by state: 1999, 2000, and 2001. Three year averages.
e. Snyder & Sickmund (1999). *Juvenile Offenders and Victims: 1999 National Report*. Rate per 100,000.

Table 3. Prevalence data by race (Percent unless otherwise specified).

	White Non-Hispanic	*Black Non-Hispanic*	*Hispanic*	*Asian / Pacific Islander*	*Native American*
Category					
SED / ED	0.7[a]	1.2[a]	0.3[a]	0.2[a]	0.8[a]
SLD / LD	3.9[a], 7.6[b]	4.9[a], 9.5[b]	4.1[a], 7.2[b]	1.7[a]	6.2[a]
OHI	0.5[a]	0.4[a]	0.2[a]	0.2[a]	0.5[a]
ADHD	7.8[b]	5.9[b]	3.9[b]		
MR	0.8[a]	2.1[a]	0.5[a]	0.4[a]	1.0[a]
AUT	0.12[a]	0.14[a]	0.06[a]	0.14[a]	0.08[a]
DD	0.04[a]	0.07[a]	0.02[a]	0.02[a]	0.06[a]
SLI	1.7[a]	1.7[a]	1.2[a]	1.0[a]	1.9[a]
PSYSOC[c]	15	17	17	8	19
SAD[d]	27	29	34		
SUIDEA[d]	20	13	19		
SUIATT[d]	8	9	12		
SUICIDE[e]	1.3-9.3	1.2-4.5	1.1-5.2		
ARGUE[f]	10-33	17-33	10-30	6-22	14-34
FIGHT	8-14[f], 32[d]	14-16[f], 37[d]	11-16[f], 36[d]	7-10[f]	15-18[f]
ANGER[f]	10-15	15-19	12-21	9-16	13-19
UNSAFE[f]	5.0	9.8	10.2		
BULLIED[g]	8.8	6.7	8.1		
FRIENDS[f]	9-20	13-29	17-26	18-27	13-32
COMFORT[f]	15-45	19-56	24-55	28-50	16-55
CIG	17[d], 3-12[h]	5[d], 1-2[h]	7[d], 1-4[h]		
ALC	34[d], 13-34[h]	11[d], 9-12[h]	30[d], 18-27[h]		
MJ	24[d], 15-39[h]	22[d], 13-27[h]	25[d], 21-35[h]		
DRUG[h]	10-24	4-7	13-18		

a. U.S. Department of Education (2002). Twenty-fourth Annual Report to Congress on the Implementation of the Individuals with Disabilities in Education Act.
b. Pastor & Reuben (2002). Attention deficit disorder and learning disability: United States, 1997-98.
c. Kelleher et al. (2000). Increasing identification of psychosocial problems: 1979 – 1996.
d. Grunbaum et al. (2002). Youth Risk Behavior Surveillance - United States, 2001
e. Anderson & Smith (2003). Deaths: Leading Causes for 2001. [Rates per 100,000].
f. Denton & Germino-Hausken (2000). America's Kindergartners. [Varies by reporter (teacher vs. parent)].
g. Nansel et al. (2001). Bullying behaviors among U.S. youth: Prevalence and association with psychosocial adjustment.
h. Johnston, O'Malley, & Bachman (2003). Monitoring the Future. 8th - 12th grade.

Initials:
SED/ED= Severe Emotional Disturbance;
SLD/LD= Specific Learning Disability;
OHI= Other Health Impairment (includes ADHD);
ADHD = Attention Deficit Hyperactivity Disorder;
MR= Mental Retardation;
AUT= Autism;
DD= Developmental Disability;
SLI= Speech and Learning Impairment;
PSYSOC= Total clinician identified psychosocial problems;
SAD= Felt sad or hopeless;
SUIDEA= Seriously considered attempting suicide;
SUIATT= Attempted suicide;

SUICIDE= Suicide death (rates per 100,000);
ARGUE= Argues with others;
FIGHT= Physical fights;
ANGER= Easily gets angry;
UNSAFE= Felt too unsafe to go to school;
BULLIED= Reported being bullied weekly;
FRIENDS= Does not make friends;
COMFORT= Does not comfort others;
CIG= Current frequent cigarette use;
ALC= Episodic heavy drinking;
MJ= Current marijuana use;
DRUG= Illicit drug use other than MJ

How are the Data Commonly Reported?

Drawing on the primary references cited in Table 1, the following statistics are frequently cited in various reports.

C Many reports state the following: Data on diagnosable mental disorders suggest that from 12% to 22% of all youngsters under age 18 are in need of services for mental, emotional or behavioral problems.

C The Surgeon General's 1999 report on *Mental Health* provides one recent example of efforts to highlight available data (U.S. Department of Health and Human Services, 1999). Referring to ages 9 to 17, that document states that 21% or "one in five children and adolescents experiences the signs and symptoms of a DSM-IV disorder during the course of a year" – with 11% of all children experiencing significant impairment and about 5 percent experiencing "extreme functional impairment." Of the 5 percent with extreme problems, estimates suggest that 13% have anxiety disorders, 10% have disruptive disorders, 6% have mood disorders, 2% have substance abuse disorders; some have multiple diagnoses. (Using the 21% figure and the 2000 data indicating 70.4 million children 17 or younger, the estimate would be that about 14 million "experiences the signs and symptoms of a DSM-IV disorder during the course of a year.")

C Data from the 1997 Client/Patient Sample Survey conducted by the U.S. Department of Health and Human Services, Substance Abuse and Mental Health Service Administration (SAMHSA) Center for Mental Health Services (CMHS) indicate that more than 1.3 million children under the age of 18 – or one out of 50 – received mental health services in the U.S. (Update, 2002).

>Over two-thirds of the youth had one of three diagnoses: disruptive behavior disorders (31%), mood disorders (21%) or adjustment disorders (16%). Almost 40% were "seriously emotionally disturbed," using the most stringent definition provided by DHHS. The survey revealed another fact that has significant service implications: one-third (30%) of the youngsters were diagnosed with two disorders; 63% were diagnosed with one, while 7% entered the mental health service system with no psychiatric diagnosis whatsoever.

>Half of the youngsters had problems with family (50%); nearly half (46%) had problems such as eating disturbances, sleep problems, grief and loss reactions, or post-traumatic stress – warning signs of depression or anxiety. In addition, 44% had problems coping with school; and 41% had problems with aggression. Nearly one-quarter (24%) threatened or attempted suicide, while fully 20% were victims of abuse or neglect.

>Nine percent (119,541) of the children were under six years old

C The Snapshots of America's Families Survey (see The Urban Institute, 2000) provides data from parent reports of behavioral and emotional problems for children ages 6 to 11. In 1999, 6.3% of children ages 6 to 11 were reported by their parents to have behavioral and emotional problems (Moore, Hatcher, Vandivere, & Brown, 2000). Higher percentages are reported for those living in poverty – 9.3% as compared to 4.2% of children living above 200% of the poverty level (Moore, Hatcher, et al., 2000). The same

is true for children living in stressful family environments – 15% vs. 4% (Moore & Vandivere, 2000). For children with multiple risk factors (i.e., three of the following: having a single parent, living in poverty, four or more children in household, parent without high school diploma or GED): 18% of those ages 6 to 11 with at least three risk factors are reported to have behavioral and emotional problems compared to 6% of children who have fewer risk factors (Moore, Vandivere, and Ehrle, 2000).

C   Most sources suggest that diagnosis of Attention Deficit-Hyperactivity Disorder (ADHD) is on the rise. However, the estimates generally cited indicate that between 3-5% of school-age children are so-diagnosed. This translates into an estimated 1.5 to 2.5 million children, with boys four to nine times more likely to be so-labeled.

C   A ten year review of research on school-based mental health services estimates that from 3-5% of school children have serious behavioral or emotional disabilities (Hoagwood & Erwin, 1997).

C   As reported in the U.S. Department of Education 24th annual report to Congress,

>over 50% of the 5,775,722 students ages 6 through 21 served in the U.S. under IDEA Section B are diagnosed as having Learning Disabilities (LD)

>white students made up 62.3% of the students served; 19.8% were Black;14.5% were Hispanic; 1.9% were Asian/Pacific Islander; and 1.5% were American Indian/Alaska Native.

>In 2000-01, the rank ordering of the top five disability categories was nearly identical for all racial/ethnic groups; however, students from some racial/ethnic groups were overrepresented or underrepresented in specific disability categories when compared with the IDEA student population as a whole.

C   In 2000, approximately 3 million youths were seen as having been at risk for suicide during the preceding year (NHSDA, 2003).

Note: The picture worsens when one expands the focus beyond the limited perspective on diagnosable mental disorders to the number of young people experiencing psychosocial problems and who are "at risk of not maturing into responsible adults" (Dryfoos, 1990). Several reports have amply documented the problem (Greenberg, Domitrovich, & Bumbarger, 1999; IOM, 1994; NIMH, 1993, 1998; also see fact sheets and reports on the websites for the SAMHSA's Center for Mental Health Services and the USDOE's Safe and Drug Free Schools Program). For general purposes, it is sufficient to note the number of such youngsters in many schools serving low-income populations has climbed over the 50% mark, and few public schools have less than 20% who are at risk. An estimate from the Center for Demographic Policy suggests that 40% of young people are in bad educational shape and therefore will fail to fulfill their promise. The reality for many large urban schools is that well-over 50% of their students manifest significant learning, behavior, and emotional problems. For a large proportion of these youngsters, the problems are rooted in the restricted opportunities and difficult living conditions associated with poverty. All current policy discussions stress the crisis nature of the problem in terms of future health and economic implications for individuals and for society and call for major systemic reforms.

C   According to SAMHSA's *National Household Survey on Drug Abuse:*

>youth who reported past year alcohol or illicit drug use were more likely than those who did not use these substances to be at risk for suicide (NHSDA, 2002). Hispanic females aged 12 to 17 were seen as being at higher risk for suicide than other youths (NHSDA, 2003)

>an estimated 833,000 youths between the ages of 12 and 17 had carried a handgun in the past year (NHSDA, 2001).

>In 2000, almost 7 million persons aged 12 to 20 (under the legal drinking age) were binge drinkers. The rate of binge drinking among underage persons (19 percent) was almost as high as among adults aged 21 or older (21 percent). Underage persons who reported binge drinking were 7 times more likely to report illicit drugs during the past month than underage persons who did not binge drink. (NHSDA, 2002).

C   The following lifetime prevalence estimates are reported in *Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication* (R. Kessler, P. Berglund, O. Demler, R. Jim, and E. Walters, 2005):

>anxiety disorders, 28.8%;
>mood disorders, 20.8%;
>impulse-control disorders, 24.8%;
>substance use disorders, 14.6%;
>any disorder, 46.4%.

>Median age of onset is reported as much earlier for anxiety (11 years) and impulse-control (11 years) disorders than for substance use (20 years) and mood (30 years) disorders.

>Half of all lifetime cases were reported as starting by age 14 years.

The authors conclude that:"Whatever else we can say about mental disorders, then, they are distinct from chronic physical disorders because they have their strongest foothold in youth, with substantially lower risk among people who have matured out of the high-risk age range...." "About half of Americans will meet the criteria for a *DSM-IV* disorder sometime in their life, with first onset usually in childhood or adolescence. Interventions aimed at prevention or early treatment need to focus on youth." (See Exhibit 1)

Exhibit 1

National Comorbidity Survey Replication Study

In June 2005, data were reported from the National Comorbidity Survey Replication study, supported by the National Institute of Mental Health and by health research foundations and pharmaceutical companies.

The findings are from a retrospective study of the prevalence and severity of specific mental disorders of children and youth. Data were gathered using a household survey of 9,282 English speaking respondents, age 18 and older. These data are described in four papers in the June 6, 2005 issue of the *Archives of General Psychiatry*.*

As the *New York Times* (6/7/50) notes: "The report comes amid debate about whether adults and children should be screened for mental disorders, and where the line should be drawn. The answers will have an enormous effect on who receives treatment and which disorders are covered by insurance."

The *Times* also notes: "The new findings are sure to renew the debate about whether [some forms of] mental illness can be reliably distinguished from garden-variety emotional struggles that are part of any life." For example, Paul McHugh, a professor of psychiatry from John Hopkins University is quoted as follows: "Fifty percent of Americans mentally impaired – are you kidding me? The problem is that the diagnostic manual we are using in psychiatry is like a field guide, and it just keeps expanding and expanding. Pretty soon we'll have a syndrom for short, fat Irish guys with a Boston accent [like me], and I'll be [classified as] mentally ill."

*Note: For purposes of this document, we have extracted the prevalence data from the paper entitled *Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication* (Kessler, et al., 2005) and treatment use data from *Failure and Delay in Initial Treatment Contact After First Onset of Mental Disorders in the National Comorbidity Survey Replication* (Wang, et al., 2005).

Increasing Rates?

C   Data from the 1997 Client/Patient Sample Survey conducted by the U.S. Dept. of Health and Human Services, Substance Abuse and Mental Health Service Administration (SAMHSA), Center for Mental Health Services (CMHS) indicate that more than 1.3 million children under the age of 18 – or one out of 50 – received MH services in the U.S. This is almost double the estimate of children who received treatment in 1986. That is, the *rate* at which children received services jumped by 70% during an 11-year period, increasing from 1,118 per 100,000 children in 1986 to 1,897 per 100,000 children in 1997 (Update, 2002).

C   In the Surgeon General's *Call to Action to Prevent Suicide 1999*, the rate of suicide among those 10-14 years of age is reported as having increased by 100% from 1980-1996, with a 14% increase for those 15-19. (In this latter age group, suicide is reported as the fourth leading cause of death.) Among African-American males in the 15-19 year age group, the rate of increase was 105%. And, of course, these figures don't include all those deaths classified as homicides or accidents that were in fact suicides.

C   Another report (Kelleher et al., 2000) indicates that, of all pediatric visits in the period from 1979 to 1996, the prevalence of psychological problems among children 4 to15 years of age increased from 7% to 18%.

C   Currently, there is increased interest in diagnosing child depression and as a result the number are increasing. Present estimates are 2% for prepubertal children and 5-8% for adolescents (Son & Kirchner, 2000).

C   Among youths aged 12 to 17, those aged 14 or 15 reported higher rates than those younger or older for the following violent behaviors: serious fighting at school or work, group-against-group fights, and attacking others with the intent of seriously hurting them (NHSDA, 2001).

C   With the reauthorization of the 1997 version of IDEA, concern has focused on the large and increasing numbers of students designated as having learning disabilities (currently over 50% of those served under Part B of the federal legislation. Efforts have been proposed to reverse the trend.

Watch Out for Mutant Statistics

In his 2001 book entitled: *Damned Lies and Statistics: Untangling the Numbers from the Media, Politicians, and Activists*, Joel Best stresses the dangers of data misstated and misused. He begins with a nomination for what can be seen as the worst (most inaccurate) data-based statement in a scholarly journal. The statement made in an 1995 issue of the journal read: "Every year since 1950, the number of American children gunned down has doubled." For many folks concerned about children's well being, such a statement not only might go unchallenged, but would be repeated to support the need to do something about a growing problem. Unfortunately, as Joel Best cogently notes, the statement is statistical nonsense.

> "Just for the sake of argument, let's assume that the 'number of American children gunned down' in 1950 was one. If the number doubled each year, there must have been two ... in 1951, four in 1952, eight in 1953, and so on. ... By 1965, it would have been 32,768 (in 1965, the FBI identified only 9,960 criminal homicides in the entire country, including adult as well as child victims). In 1970, the number would have passed one million; in 1980, *one billion....*" and so forth.

In tracing the source of the statement, Best found that it was a transformation of one that had been published by the Children's Defense Fund in *The State of America's Children Yearbook – 1994.* The statement made in that source was "The number of American children killed each year by guns has doubled since 1950." The statement was not that the number was doubling each year, but that there were twice as many deaths in 1994 as in 1950.

No one wants that many children killed by guns. But we do need some other data to help interpret the scope of the problem. For example, as Best notes, the U.S. population grew about 73 percent. He also notes that it is unclear what the primary source was for the data. How were they gathered? Did the method of counting child gunshot victims change over the period cited? Do the data combine homicides, suicides, and accidents?

The point is that the demand for data can increase the tendency to grab statements citing compelling statistics and then inappropriately reword, uncritically repeat, and frequently misuse the statistics. To underscore the danger in all this, Best has coined the term *mutant statistics* to describe the phenomena where data are "garbled almost beyond recognition."

We would add a corollary term – *politically and economically motivated statistics.* These are data that are inappropriately extrapolated and overgeneralized in order to justify policies and practices. When data are distorted in these ways, major issues are masked. Good policy and practice requires critical analyses of available data – especially when the data are as limited as they are in the mental health field.

Are they Served?

Although the extent of unmet need for youth in our country is unknown, the data from the 1997 survey indicate that more than 1.3 million children under the age of 18 – or one out of 50 – received mental health services in the U.S. (This is almost double the estimate of children who received treatment in 1986. That is, the *rate* at which children received services jumped by 70% during an 11-year period, increasing from 1,118 per 100,000 children in 1986 to 1,897 per 100,000 children in 1997.)"

> **>Age** – 51% receiving MH services were 13-17 years old; 40% were between 6 and 12; and 9% were preschoolers— nearly 120,000 children under the age of 6.

> **>Gender and Race** – More boys (56%) than girls (44%) received mental health services, as did more Whites (65%) than Blacks (19%) or Hispanics (14%).

> **>Income** – 57% were poor – paid for by Medicaid (42%), other public insurance (10%) or charity care (5%). 31% had private insurance, or paid with personal resources (9%). This suggests that modifications in existing Medicaid policy and other public mental health insurance programs could have a profound impact on the availability of mental health resources for youth.

> **>Living Situation** – 68% lived with one or both natural parents, 11% with other relatives in kinship care, 3% in step or adoptive families. However, 13% lived in custodial arrangements – (foster care, group homes, or jail and juvenile detention). Children in custodial arrangements may be particularly vulnerable since unstable and insecure living arrangements are likely to interfere with use of services, quality of treatment, and timely and smooth transitions between community services and home.

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communities—those in most need of creative dialogue and informed public policies that respect the challenges endemic to multiple-problem communities.

Cont. from: *Mental Health Care for Youth: A National Assessment* reported in *Update: Latest Findings in Children's Mental Health** [http://www.ihhcpar.rutgers.edu/downloads/issuebrief.pdf].

Kinds of problems: Over two-thirds of youth had one of three diagnoses: disruptive behavior disorders (31%), mood disorders (21%) or adjustment disorders (16%). Almost 40% were "seriously emotionally disturbed," using the most stringent definition provided by HHS. Another fact that has significant service implications: one-third (30%) of the youngsters were diagnosed with two disorders; 63% were diagnosed with one, while 7% entered the mental health service system with no psychiatric diagnosis whatsoever.

Half had problems with family (50%); nearly half (46%) had problems such as eating disturbances, sleep problems, grief and loss reactions, or post-traumatic stress— warning signs of depression or anxiety. In addition, 44% had problems coping with school; and 41% had problems with aggression. Nearly one-quarter (24%) threatened or attempted suicide, while fully 20% were victims of abuse or neglect.

Where treated: Almost three-quarters (73%) were treated in outpatient services. About 20% were hospitalized at inpatient facilities. Despite increasing rates of use of residential mental health services among youth from 1986 to 1997, residential mental health services play a very small role in treating children with mental health problems; only 5% of youth were admitted to these program settings in 1997.

About Serving Preschoolers

From: ***Mental Health Care for Youth: A National Assessment*** reported in ***Update (Fall 2002): Latest Findings in Children's Mental Health**** [http://www.ihhcpar.rutgers.edu/downloads/issuebrief.pdf].

With respect to referral routes to services, preschoolers differed from older children. "For example, preschoolers were brought into the mental health system by parents or caretakers, while older children were typically referred by teachers or school personnel. Caretakers brought preschoolers to mental health facilities reporting a variety of concerns (what physicians call "presenting problems"). These included aggression (45%), family/parent problems (45%), and difficulty coping with developmentally appropriate activities (33%). One-quarter of the preschoolers were identified as victims of abuse or neglect (25%). Preschoolers had different diagnostic profiles than older children, but ones appropriate to their age. Preschoolers were likely to receive one of three diagnoses: disruptive behavior disorder (34%), adjustment disorder (26%) or developmental or pervasive disorder (13%). Older children had a wider range of diagnoses, including mood and substance use disorders. To respond effectively, service providers will need to address these age-based differences and tailor programs accordingly. Nearly 15% were not diagnosed with a mental illness, having either no assigned diagnosis (6%) or problems stemming from the environment (9%), suggesting that they may need multiple services.

The demographic characteristics of the preschoolers:

>Gender and race – More boys than girls received treatment (59% vs. 41%). Although more White (61%) than Black (23%) or Hispanic (15%) preschoolers used mental health services, Blacks (829 per 100,000 children) received services at much higher rates than Whites (493) or Hispanics (457).

>Payment source – State funds supported the care of the vast majority of preschoolers in mental health services: nearly three-quarters (73%) of children under the age of six were covered by Medicaid or some other form of public insurance; only 25% paid with private insurance or personal resources. By comparison, 41% of older children paid privately. This suggests that changes in public insurance policies could have profound impact on the availability of services for the youngest children needing care.

>Living situation – Preschoolers were about twice as likely as other children in mental health services to be in kinship arrangements (16% vs. 10%) or foster care (13% vs. 5%)—a finding which means that caretakers who are not parents may need supportive services to ensure timely and appropriate help for the children in their care."

Pottick K.J., & Warner L.A. (2002). More than 115,000 disadvantaged preschoolers receive mental health services. Update: Latest Findings in Children's Mental Health. Policy Report submitted to the Annie E. Casey Foundation. New Brunswick, NJ: Institute for Health, Health Care Policy, and Aging Research, Rutgers University. Vol.1(2).

From other sources:

C   The Surgeon General's 1999 report on *Mental Health* (U.S. Department of Health and Human Services, 1999) states that an estimated 6 to 9 million youngsters with serious emotional disturbances are not receiving the help they need – especially those from low-income families. And, it underscores that "an alarming number of children and adults with mental illness are in the criminal justice system inappropriately." The report warns of the inadequacies of the current MH system and that the situation will worsen because of swelling demographics that are resulting in more older Americans and children and adolescents with MH-related concerns.

C   This warning is echoed in a GAO 2003 report. Because of the difficulty many parents have in accessing MH services, some chose to place their children in the child welfare or juvenile justice system in order to obtain services. Child welfare directors in 19 states and juvenile justice officials in 30 counties were surveyed and estimated that in fiscal year 2001 parents placed over 12,700 children into the child welfare or juvenile justice systems so that these children could receive MH services. (Because of sampling problems, GAO considers this to be an underestimate.) Those reporting indicate that most of these children are males, adolescent, often having multiple problems, and many who exhibit behaviors that threaten the safety of themselves and others.

C   Epidemiological studies indicate that, in some communities, two-thirds of children with psychiatric disorders and significant impairment do not receive specialist care (Leaf et al., 1996).

C   While Hispanic females aged 12 to 17 are seen as being at higher risk for suicide than other youths, recent data suggest that only 32 percent of these youngsters received mental health treatment (NHSDA, 2003).

C   Hoagwood and Erwin (1997) estimate that of the 3-5% of school children with serious behavioral or emotional disabilities, less than 2% received needed MH services.

C   At the same time, researchers suggest that schools often have become a de facto mental health system in responding to mental health concerns of children and adolescents. Only 16% of all children receive any MH services. Of these, 70-80% receive care in a school setting (Burns, Costello, Angold, Tweed, et al., 1995) Rones & Hoagwood, 2000).

Unmet Need for Mental Health Care Among U.S. Children: Variation by Ethnicity and Insurance Status by S.H. Kataoka, L.Zhang, & K.B. Wells. *American Journal of Psychiatry, 159,* 1548-1555, September 2002

RESULTS: In a 12-month period, 2-3% of children 3-5 years old and 6-9% of children 6-17 years old used mental health services. Of those 6-17 years old who were defined as needing mental health services, nearly 80% did not receive mental health care. Controlling for other factors, the authors determined that the rate of unmet need was greater among Latino than white children and among uninsured than publicly insured children.

CONCLUSIONS: These findings suggest that most children who need them do not receive MH services and that Latinos and the uninsured have especially high rates of unmet need relative to other children. Rates of use of mental health services are extremely low among preschool children.

A RAND report (2001) on the current national picture of mental health costs and utilization for children ages 1-17 indicates that

(1) Most youth do not get the care they need and Hispanic and African American children are the most likely to go without needed care.

>Based on an estimate that 9% of youth need help with emotional problems, on average, nearly three-quarters of these youth do not get the care they need

(2) The current cost of treating children and adolescents is estimated at nearly $12 billion, with most of the money spent on outpatient rather than inpatient care.

>Privately insured youth account for nearly half of total mental health expenditures. This finding runs contrary to the popular notion that Medicaid recipients generate the majority of the costs. In fact, they generate only about one-quarter of the costs. However, Medicaid recipients account for more services *per child* because they make up only about 16 percent of the child population. Privately insured children, who make up about 70 percent of the child population, account for far more services *as a group*. (From the data, the researchers could only tell what kind of insurance coverage the children had, not if that insurance actually paid for the mental health services. For example, even when children have private insurance, more than half of the mental health services they receive are covered in other ways. Many services are provided outside of insurance plans, such as through schools. Some children may receive care through charity and public providers, or their families pay out-of-pocket when they reach the coverage limit on their private insurance.)

>About 7% of all families cite financial barriers as the reason for not getting their troubled youth the mental health care they need

>One estimate, arguably at the high end, suggests that the United States spends more than $4 billion annually on school-related services from mental health professionals

>Adolescents (ages 12-17) are the biggest users of services, accounting for 60 percent of total costs (even though they only make up 35 percent of the population)

>Children (ages 6-11) account for about 35 percent of the bill and also make up about 35 percent of the population.

>Preschoolers (ages 1-5) account for about 5 percent of the bill and make up about 30 percent of the population.

>Outpatient care now accounts for nearly 60 percent of all mental health expenditures for young people, a large portion probably from school-based programs.

>Inpatient care accounts for about 33%, with an additional 7% of the costs going for medication and other related services

(3) On average, only 5-7 percent of all youth are treated by mental health specialists each year.

>Although the data are sparse, they suggest that many troubled youth are turning to the family doctor for help. For example, more than one-third of mental health visits by privately insured children are to a primary care physician rather than to a specialist. A similar trend can be seen for adults.

(4) Use of psychotropic medication has grown dramatically.

>More than $1 billion was spent in 1998 on psychotropic medications to treat, on average, percent of all youth, predominantly those ages 6-17.

>Stimulants and antidepressants accounted for nearly three-fourths of the bill.

>Stimulants were the most common medication for children ages 1-11; antidepressants were used nearly as often as stimulants for adolescents.

From: RAND [http://www.rand.org/congress/health/0602/kids/kids.pdf**]**

Drawing on the publications by Ringel and Sturm (2001) and Stein, Sturm, Kapur, and Ringel (2001), RAND reports:

On average, 5% to 7% of all young people receive mental health care each year.

 • Adolescents (ages 12–17) are the biggest users of these services.

Hispanic children are less likely than white or African American children to receive mental health care.

 • About 4% of Hispanic children receive care, compared with

 • About 5% of African American children and

 • About 6% of white children.

The estimated annual cost of treating troubled youth is $12 billion.

 • Privately insured youth account for nearly half of total mental health expenditures.

 • Medicaid recipients generate only about a quarter of the costs.

The nature of mental health care for young people has changed considerably.

 • Sixty percent of care is now given on an outpatient basis, much of it from
    school-based programs.

 • Use of psychotropic medication has grown dramatically.

 • More than $1 billion was spent in 1998 on psychotropic medication to treat,
    on average, 4% of all youth, predominantly ages 6–17.

 • Stimulants and antidepressants accounted for nearly three-fourths of the bill.

Ringel J.S., Sturm R. (2001). National Estimates of Mental Health Utilization and Expenditures for Children in 1998. *Journal of Behavioral Health Services Research, 28,* 319–333.
Stein B., Sturm R., Kapur K., Ringel J.S. (2001). Psychotropic Medication Costs Among Youth with Private Insurance. *Psychiatric Services,* 52, 152.

Data on use of treatment reported from the *National Comorbidity Survey Replication* (Want, et al., 2005 estimates that "approximately 80% of all people in the United States with a mental disorder eventually seek treatment, but that the median delay between first onset of the disorder and first treatment contact is nearly a decade.... Age of onset is significantly related to treatment contact...the exceptions being 2 childhood-onset disorders (SAD, ADHD), with a consistent pattern of increasing treatment contact with increasing age at onset...."

The investigators note that:

- ⃝ "The most consistent element in the pattern is that students generally have higher odds of treatment than people who have completed their education...."

- ⃝ "We found that early-onset disorders are consistently associated with longer delays and a lower overall probability of initial treatment contact. The same pattern has consistently been found in previous studies of delays in initial treatment contact. Minors may be less likely to receive timely treatment because they need the help of parents or other adults and recognition is often low along these adults unless symptoms are extreme. In addition, child- and adolescent onset mental disorders might be associated with normalization of symptoms or the development of coping strategies (e.g., social withdrawal in social phobias) that interfere with help-seeking during adulthood. The paucity of available or accessible child mental health services may also be an important factor...."

- ⃝ "... epidemiological studies suggest that school failure, teenage child-bearing, marital violence, and marital instability are associated with early-onset untreated mental disorders."

- ⃝ "School-based screening programs using brief self-report and/or informant scales may be needed to detect early-onset mental disorders. Demand management and other outreach strategies could also help reduce critical delays and failures in initial help-seeking once mental disorders are identified. Training non-health care professionals to recognize individuals with mental disorders and make timely referrals for health care should also be explored...."

Concluding Comments

Data on youngsters mental health and psychosocial problems have the power to influence life-shaping decisions for better and for worse. At this stage in the development of the field, the best available data are still rather limited. They provide snapshots, but the pictures are for the most part fuzzy.

We must use the data with critical care and must support the development of better systems for gathering quality and generalizable prevalence and incidence data on the problems experiences by children and adolescents. Such data systems are fundamental to improving policy and practice. As this report shows, a beginning has been made related to some problem arenas. But policy is needed that focuses on building a comprehensive system for gathering a full set of indicators that can be used to guide efforts to understand the nature and scope of youngsters' problems and as a report care on the well-being of the nation's children.

Note: The federal government (SAMHSA/CMHS) has contracted with Abt Associates for a "Survey of Characteristics and Funding of School Mental Health Services" which should shed further light on all this.

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Appendices

A Brief Analysis of Strengths and Weaknesses of the Primary Sources Cited

A. Primary Sources for Mental Disorders Data

C   Lavigne, et al. (1996). *Prevalence rates and correlates of psychiatric disorders among preschool children*

C   Costello, et al. (1996). *The Great Smoky Mountains Study of youth: Goals, design, methods, and the prevalence of DSM-III-R disorders*

C   Shaffer, et al. (1996). *The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA Study*

•   Kessler, et al. (2005). *Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication.*

Brief Analysis

Lavigne et al. (1996). Prevalence rates and correlates of psychiatric disorders among preschool children. *Journal of the American Academy of Child & Adolescent Psychiatry, 35, 204-214.*

Sample: 4,891 children aged 2 through 5 years with an English-speaking mother were recruited from among 68 Chicago-area pediatricians. 3,860 children and mothers (79%) agreed to participate. Although the sample did not differ in terms of social class or child's age from those who declined, decliners were significantly more likely to be unmarried mothers, mothers of boys, and Hispanic mothers. The authors note that the "differences were small" but reached statistical significance due to the large sample size.

There were 191 children who "screened high" (see below for definition); 319 matched controls participated in the second-stage evaluation (total N = 510). The sample in the second-stage was used for prevalence estimates. The age distribution was: 25.8% aged 2 years, 24.3% aged 3 years, 31.9% aged 4 years, and 18.0% aged 5 years. The sample was mostly from "lower socioeconomic groups" with 40.1% female and 67.1% white; 18.8% were African-American, 7.2% Hispanic, and 6.8% other).

Method: The initial screening was based on the mothers' reports using the Child Behavior Checklist (CBCL). Children who were rated in the 90th percentile or above (and two matched controls per child from those who "screened low") were invited for a second-stage of evaluation by two Ph.D.-level, licensed clinical child psychologists. Diagnoses were assigned based on a "best estimate" taken from the clinical ratings. Psychologists were "asked to follow the guidelines of the DSM-III-R as closely as possible" and also complete the Children's Global Assessment Scale (CGAS). The reported reliability for diagnoses ranged from .62 to .99.

Results: Based on a CBCL cutoff of the 90th percentile, the overall prevalence of problems including both internalizing and externalizing problems was 10.7% in the initial screening sample. The prevalence of DSM-III-R Axis I disorders is reported in corresponding tables. The overall prevalence was 21.4%, and the prevalence of "severe cases" (CGAS < 60) was 9.1%.

Limitations: One of the primary limitations is generalizability. Although the sample was relatively diverse, it was a single-site study with the total sample coming from the Chicago area. The authors note that there were statistically significant differences between participant demographic and those who refused. (They emphasize the impact of a large sample size on significance levels.) Another potential limitation is that some subgroups of mothers are under-represented. Also, note the range of reliability for diagnoses.

The authors chose to use the CBCL as the initial screening instrument, adopting the recommended 90th percentile cutoff for such purposes. Although two matched control groups of children (and mothers) were included for each identified case, the CBCL has lower sensitivity and specificity for internalizing disorders, and thus, the suggestion has been made that cross-informant data be used to strengthen its use in screening. When this is not done, prevalence estimates for externalizing disorders may be higher than those for internalizing disorders and better estimates may be obtained by obtaining secondary reports.

Brief Analysis

Costello, E.J., Angold, A., Burns, B.J., Stangl, D.K., Tweed, D.L., Erkanli, A., & Worthman, C.M. (1996). The Great Smoky Mountains Study of youth: Goals, design, methods, and the prevalence of DSM-III-R disorders. *Archives of General Psychiatry, 53,*1129-1136.

Sample: An 'overlapping cohort' design was used in this study, with 4500 children age 9, 11, and 13 randomly selected to be screened for psychiatric symptoms. Prevalence estimates were based on the subsample selected for further interviews. The analyses reported in this report are cross sectional, conducted on the first time-point of the longitudinal study. Children were recruited from public school districts in 11 counties in the southern Appalachian mountain region of North Carolina. Half lived in a "sizable" town in the area and the rest lived in surrounding rural areas. The sample was primarily Caucasian and rural; 7.8% were African American, .6% Hispanics, .4% Asian Americans, 1.1% individuals of mixed race, and 90% Caucasian.

Methods: Screening questions were answered by the child's parent or guardian (primarily the mother) and covered the "externalizing" broad-band scale items from the Child Behavior Checklist (CBCL), as well as a series of specific substance abuse questions. The study did not screen for non-externalizing disorders such as anxiety, or depression. Children scoring in the top 25% on the screening measure (n= 1009 children), as well as a random sample of the remainder of the children (n= 337 out of 2887) were recruited for the interview phase of the study. Prevalence estimates were based on the 1015 children whose parents actually completed the first interview.

Trained lay interviewers administered The Child and Adolescent Psychiatric Assessment (CAPA; Angold & Costello, 2000). This interview elicits information about symptoms in the previous 3-months that may contribute to a wide range of diagnoses. The interview is designed to be "highly structured" while also allowing interviewers to break from the protocol in order to be sure the interviewee understands and fully answers the question. Interview responses are electronically recorded and diagnoses are generated by computer algorithms. The test-retest reliability Kappa statistics range from .52 (oppositional defiant disorder, separation anxiety) to.95 (substance abuse).

Results: The three month prevalence rates were computed for various DSM-III-R diagnoses (see Table 2). Overall, conduct disorder (3.3%) and oppositional defiant disorder (2.8%) were the most prevalent diagnoses. However, there were significant gender differences. For boys, the three most prevalent disorders were conduct disorder (5.4%), oppositional defiant disorder (3.2%), and ADHD (2.9%). For girls, the three most prevalent disorders were separation anxiety (4.3%), generalized anxiety disorder (2.4%), and oppositional defiant disorder (2.3%). Boys also had a higher risk for having any psychiatric disorder than girls were. Differences based on income were also significant, with children from the poorest families having a higher risk for psychiatric disorders.

The authors conducted a follow-up study (Costello et al., 2003) using data from multiple cohorts assessed annually for up to 8 years (ages 9-16). On average, 13.3% of the sample met criteria for a diagnosis in a given study year. The follow-up report uses DSM-IV criteria to assign diagnoses rather than the DSM-III-R diagnoses used previously. The authors note that, over time, the prevalence of some disorders (social anxiety, panic disorder, depression, and substance abuse) increased. On the other hand, the prevalence rates for other disorders (separation anxiety and ADHD) decreased. Thus, 36.7% of the sample had a diagnosis at some point during the study.

Limitations: Children suffering from emotional disorders were likely underrepresented in the study as compared to behaviorally disordered children. Such under-representation would have implications for the validity of the study's finding that boys generally had a higher overall rate of psychiatric disorders than girls did. Boys were found to have a higher rate of behavioral disorders than girls, and

were also three times more likely than girls to have behavioral disorders that were *comorbid* with another disorder. Thus, use of the CBCL externalizing scale may have screened more disordered boys than girls into the study. While a possibility, this cannot be verified because the gender ratio in the final sample is not reported. (As the authors note, due to the high comorbidity between behavioral problems and other disorders, screening for behavioral symptoms are likely to identify children with a range of emotional problems. As a statistical control for the oversampling of children with externalizing disorders, the study prevalence estimates were also weighted to reflect population rates. Still, the study results showed moderate comorbidity. 38% of the children with behavioral disorders had additional disorders. Of the children with depression, only 47% did not have any other disorder. Of the children with anxiety, 72% did not have any other disorder. Thus, half the children diagnosed as depressed, and the majority of those diagnosed as anxious would not have been identified by a measure that only screened for externalizing and substance use.)

There is also potential error from the instrumentation. Note the range of reliability for diagnoses. While the CBCL has good reliability when used in its entirety, the validity and reliability single scales are less reliable. And, the CAPA is a relatively new instrument.. Few studies have used the CAPA for diagnostic interviewing, so caution is in order in comparing these results to those of other studies (research to date indicates that it has reasonable validity).

While the study reports prevalence rates for mental health disorders that are comparable to those from studies of other populations, the authors do acknowledge potential problems with generalizability. The study uses data from a specific population living in a rural, relatively remote area of the United States that is quite distinct from other locales. Also, those sampled represent a restricted age range (i.e., results cannot be generalized to younger children or older adolescents). This is an especially important consideration when one considers research showing gender difference in depression rates tend to emerge after age 15, when girls become twice as likely as boys to suffer from depression.

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Brief Analysis

Shaffer et al. (1996). The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA Study. *Journal of the American Academy of Child & Adolescent Psychiatry, 35, 865-877.**

Sample: 1,285 randomly selected children, aged 9 through 17 years, and their parents were recruited from households within four geographic regions (Connecticut, Georgia, New York, and Puerto Rico). Youth and their parents were excluded if "their primary language was not English or Spanish in Connecticut and New York, or not English in Georgia." All interviews in Puerto Rico were conducted in Spanish. 47% of the sample were females; 51% were Non-Hispanic white, 15% African-American, 28% Hispanic, and 6% "Other" (Asian, Pacific Islander, American Indian, and others of Non-Hispanic origin). Of adult respondents, 90% were biological mothers, 2% adoptive mothers, 1% Stepmothers, 3% Fathers, 2% Grandmothers, and 2% were other relatives. 33% had a household income below $25,000; 42% had a household income between $25-65,000; and 24% had a household income over $65,000 (1% of households did not provide income data).

The investigators stress: "The sample was drawn for methodological analyses and not to be representative of the population of the United States." ... "The purpose of providing these prevalence data is not to indicate the likely prevalence of disorder in the United States but rather to provide a reference of the relative prevalence rates of diagnoses identified by the same instrument and to illustrate how prevalence varies as a function of measures of impairment."

Method: Trained lay interviewers administered the Diagnostic Interview Schedule for Children (DISC Version 2.3) to assess for diagnoses based on DSM-III-R criteria, with the computerized version of the DISC used in most cases. The test-retest reliability, with Kappa statistics, was reported as ranging from 0.08 to 0.80 depending on informant, diagnosis, and severity criteria applied. The highest Kappas were from diagnoses made using Diagnosis-Specific Impairment Criteria and Children's Global Assessment Scale (CGAS) rated below 70.

Results: Overall prevalence rates ranged from 5.4% to 32.8% for combined (parent and youth) reports, depending on the level of severity required for diagnosis. When DSM diagnostic criteria including diagnosis-specific impairment criteria were applied, the overall rate was 32.8%. When a CGAS score below 70 (Mild impairment) was required, the overall rate was 20.9%, and with a CGAS score below 50 (Severe impairment) the rate was 5.4%. The authors note: "The addition of any of the impairment criteria reduced prevalence most markedly in the anxiety disorders and enuresis and, because these are common conditions, this adjustment also had an effect on total prevalence." The addition of impairment criteria had minimal effects on the estimated prevalence rates for conduct and oppositional defiant disorders. With the additional requirement of a CGAS score below 70, the rates are very similar to those reported elsewhere.

Limitations: Note the range of reliability for diagnoses. The researchers themselves state that the prevalence data cannot be viewed as representative of other geographic nor of other demographic groups. The findings demonstrate that the severity criteria used greatly influence reported prevalence rates, particularly for anxiety disorders. The authors also note that there was an "extremely limited amount of overlap between parent and child reports." Thus, prevalence estimates varied depending on the informant, with combined reports producing higher estimates. Taking only the parent reports into account, the overall prevalence rate is 19.2% (DSM diagnoses with diagnosis-specific impairment criteria). Still, they stress that estimates based solely on parent reports are consistent with the prevalence rates reported elsewhere, which use primarily parent-only reports.

*Also see: Schwab-Stone, M.E., Shaffer, D., Dulcan, M.K., Jensen, P.S., Fisher, P., Bird, H.R., Goodman, S.H., Lahey, B.B., Lichtman, J.H., Canino, G., Rubio-Stipec, M., & Rae, D.S. (1996). Criterion validity of the NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3). *Journal of the American Academy of Child and Adolescent Psychiatry, 35*, 878-888.

Brief Analysis

Kessler, R., Berglund, P., Demler, O., Jim, R., & Walters, E. (2005). Lifetime Prevalence and Age-of-Onset Distributions of DSM-IV Disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry, 62,* 593-602. **Available: http://archpsyc.ama-assn.org/cgi/content/full/62/6/593**

Sample: The data reported are from a retrospective study of the prevalence and severity of specific mental disorders of children and youth. Data were gathered using a household survey of 9,282 English speaking respondents, age 18 and older in the coterminous United States..

Method: Face-to-face interviews were carried out by professional interviewers from the Institute for Social Research at the University of Michigan, Ann Arbor, between February 2001 and April 2003. The response rate was 70.9%. The survey was administered in two parts. Part I included a core diagnostic assessment of all respondents (n = 9282) that took an average of about 1 hour to administer. Part II included questions about risk factors, consequences, other correlates, and additional disorders. In an effort to reduce respondent burden and control study costs, part II was administered only to 5692 of the 9282 part I respondents, including all part I respondents with a lifetime disorder plus a probability subsample of other respondents. Interviewers explained the study and obtained verbal informed consent prior to beginning each interview.

For a detailed description of the methodology, see "The US National Comorbidity Survey Replication (NCS-R): Design and Field Procedures by R.C. Kessler, P. Berglund, W.T. Chiu, O. Demler, S. Heeringa, E. Hiripi, R. Jin, B. Pennell. E.E. Walters, A. Zaslavsky, and H. Zheng *International Journal of Methods in Psychiatric Research*, April 2004, Vol. 13, 69-92. http://www.ingentaconnect.com/content/whurr/ijmpr/2004/00000013/00000002/art00002)

Results: Lifetime prevalence estimates are as follows: anxiety disorders, 28.8%; mood disorders, 20.8%; impulse-control disorders, 24.8%; substance use disorders, 14.6%; any disorder, 46.4%. Median age of onset is much earlier for anxiety (11 years) and impulse-control (11 years) disorders than for substance use (20 years) and mood (30 years) disorders. Half of all lifetime cases start by age 14 years and three fourths by age 24 years. Later onsets are mostly of comorbid conditions, with estimated lifetime risk of any disorder at age 75 years (50.8%) only slightly higher than observed lifetime prevalence (46.4%). Lifetime prevalence estimates are higher in recent cohorts than in earlier cohorts and have fairly stable intercohort differences across the life course that vary in substantively plausible ways among sociodemographic subgroups.

Limitations: The limitations related to the sample and methodology that must be taken into consideration in citing the data include widely recognized concerns about volunteer samples and those not represented in the sample, administration of lengthy surveys, the nature and scope of survey items, participant recall of the past, what should be viewed as a symptom rather than a common response to life experiences, limitations related to the statistical analyses, the degree to which the interpretations of the findings are generalizable, and more. Critics have specifically cautioned about the ongoing diagnostic classification problems arising from current definitions and overreliance on current classification systems and measures. There continues to be great controversy about the field's ability to reliably distinguish some forms of mental illness "from garden-variety emotional struggles that are part of any life." The suggestion that fifty percent of Americans are mentally impaired will certainly fuel the controversy.

B. Primary Sources for Special Education Data

C   Pastor & Reuben (2002). *Attention Deficit Disorder and Learning Disability: United States, 1997-1998*

C   Moore et al. (2000). *Children's Behavior and Well-Being: Findings from the National Survey of America's Families. Snapshots of America's Families II*

C   Wolraich et al. (1996). *Comparison of Diagnostic Criteria for Attention-Deficit Hyperactivity Disorder in a County-Wide Sample*

C   U.S. Department of Education (2002). *Twenty-fourth Annual Report to Congress on the Implementation of the Individuals with Disabilities in Education Act*

Brief Analysis

Pastor, P.N. & Reuben, C.A. (2002). Attention deficit disorder and learning disability: United States, 1997-98. National Center for Health Statistics. *Vital and Health Statistics, Series 10*, 206.

Sample: The 1997 and 1998 National Health Interview Survey (NHIS) was conducted by the National Center for Health Statistics (NCHS). The NHIS is a nationally representative survey of the civilian, noninstitutionalized population. The focus of the study was 78,041 households, and the child section of the NHIS focused on children 6-11 years of age, with one child being chosen at random from each household. A total of 8,647 children were reported on, typically by a parent (90% of the time). The response rate was around 83%.

Methods: The parent interviewed was asked if a doctor or health professional had ever told them that their child had Attention Deficit Disorder (ADD) or a Learning Disability (LD). Parents were also asked about other health concerns, including mental retardation. Undiagnosed cases were not included in the analysis. Parents' reports of symptomatic behavior would not be enough to identify the child as having a disorder.

Results: A diagnosis of ADD was reported in nearly 7% of children aged 6-11. Approximately 8% of children had a diagnosis of learning disability. These disorders occurred comorbidly in 4% of children, while 3% of children were diagnosed with only ADD, and 4% with only a learning disorder.

Rates of ADD differed by age and ethnicity. The rate of ADD was higher among children age 9-11 (4.2%) than among those age 6-8 (2.3%); much higher in boys (4.7%) than in girls (1.7%); and higher among white non-Hispanic children (4.1%) than among Black ((1.8%) or Hispanic (1.4%) children. Rates of LD were not significantly different across gender, or race and ethnic group. However, rates of LD were higher in children living in low-income families (6.0%), or with single-mothers (6.1%).

The rate of mental retardation or other developmental delays (MR) was only 1% among children without ADD or LD, and was comorbid with ADD in only a miniscule number of children (n=18). In contrast, MR was largely comorbid with LD (31% of cases), as well as with both LD and ADD (34% of cases).

For children with a diagnosis of LD, enrollment in special education classes was nearly 5 times greater (54%) than for children with just ADD (11.7%). Use of mental health care was only 3% among children with neither LD nor ADD, as compared to 17% for those with LD, 34% for those with ADD, and 51% for those with both disorders.

Limitations: The prevalence rates reported by this study are subject to varying interpretations. Self-reports of diagnoses "made by a mental health professional" are quite fallible. The study provides no data on specific diagnostic criteria used to make the reported diagnoses. Types of diagnostic assessment vary among clinicians, and many factors can affect parents reports. That this is a problem is highlighted by ADD studies that report higher prevalence rates using DSM-IV compared to DSM-III-R. Also, there is a bias resulting from who is likely to be referred, who seeks, and who receives diagnosis and treatment and who doesn't, including who is insured and who in not. For example, lower prevalence rates were found for Black and Hispanic children, but this could be due to these ethnic groups being under-represented with respect to some forms of mental health services. And note the finding that uninsured children had lower rates of both ADD and LD.

Brief Analysis

Moore, Hatcher, Vandivere, and Brown (2000). *Children's Behavior and Well-Being: Findings from the National Survey of America's Families.* **Snapshots of America's Families II.** http://www.urban.org/content/Research/NewFederalism/NSAF/ Snapshots/1999Results/ChildrensBehaviorandWellBeing/Behavior.htm **Accessed October 22, 2003.**

Sample: Interviews were conducted with over 42,000 households between February and October, 1999. From interviews with primary caregivers, information was available on almost 36,000 children aged 3 to 17 years. Thirteen states were particularly targeted because collectively they represent over half of the U.S. population as well as representative diversity (Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin). The sampling strategy was designed to be representative of the civilian, noninstitutionalized population of households with at least one member under the age of 65. Additionally, because of practical limitations, the survey excluded those who were homeless and/or could not speak either English or Spanish.

Note: Percentages reported in publications based on data from the NSAF employ sophisticated weighting strategies in order to reduce potential bias resulting from undercoverage, nonresponse, baseline sampling probabilities, and other factors that would otherwise increase the sampling error. For more information, see Brick et al. (1997).

Method: The NSAF sample was generated through a random-digit dial (RDD) survey of households with telephones followed by contacts with a sample of households without telephones in sampled areas based on the probability that residents did not have telephones. Interviews with households without a telephone were conducted by providing cellular telephones to connect the respondents to the interview centers. In households with children, up to two children could be sampled, one from each age category: < 6 years old or 6-17 years old. Information was provided by the "Most Knowledgeable Adult" (MKA), usually the mother.

The NSAF Survey Questions that form the basis for the "Child Behavioral and Emotional Problems Scale" are derived from the Parent Report version of the Child Behavior Checklist (CBCL). There were three general behavioral/emotional questions asked for children of all ages, and then three additional questions that were dependent on the child's age group. The items selected were "identified as providing the best discrimination between demographically similar children who were referred or not referred for mental health services" (Ehrle & Moore, 1999, p 4-2).

Results: Moore, Hatcher, Vandivere, & Brown (2000) compiled estimates using a cutoff score of 12 or below on the Child Behavioral and Emotional Problems Scale to indicate presence of a "high level" of problems. They reported that for children aged 6 to 11 years, approximately 6.3% of children fit this profile, whereas 7.4% of adolescents aged 12 to 17 years scored in that range. This represented a reduction in the number of children with behavioral and emotional problems from 1997 (6.6% of children aged 6-11 years, and 8.8% of children aged 12-17 years).

Limitations: Basically, this is a methodologically sound survey study using a large, nationally representative sample. At the same time, the limitations of such surveys are well-recognized by the researchers.

One difficulty this survey encountered are language barriers. According to Census 2000 estimates, 6% of the U.S. adult population can be categorized in the "Linguistically Isolated" category – those

who do not speak either English or Spanish. As the linguistic demographics of the country include increasing numbers of individuals who primarily speak a language other than English or Spanish, the need to include this group in prevalence studies becomes increasingly important.

Because of practical limitations, the study also did not include youth who were homeless or institutionalized in various settings. Unfortunately, many of the severely impaired youth, particularly those with unstable households may fit into these categories. For example, in 1997, 105,790 juvenile-aged youth were in the custody of correctional facilities (Snyder & Sickmund, 1999). Wasserman et al. (2002) interviewed adolescent male inmates using the Diagnostic Interview Schedule for Children (DISC-IV). They reported that 36% of the sample had an anxiety disorder diagnosis, 6% had a mood disorder diagnosis, 72% had a behavior disorder diagnosis, 88% had a substance use disorder diagnosis, and 36% had attempted suicide within their lifetime. To the extent that youth with mental disorders are located disproportionately in institutional settings within a region, this will lead to smaller reported prevalence rates.

Two other potential limitations are the use of exclusively parent reports and the use of only 6 items selected from the CBCL – which is often used more for screening than diagnosis. The items were chosen for their ability to discriminate between community children and those referred to mental health clinics. The reported internal reliability for the unweighted NSAF data was $\alpha = .73$ for the scale used with children aged 6 to 11 years and .75 for the scale used with children aged 12 to 17 years. No external measures of emotional or behavioral problems were used to further assess validity (Ehrle & Moore, 1999).

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Brief Analysis

Wolraich, M.L., Hannah, J.N., Pinnock, T.Y., Baumgaertel, A., & Brown, J. (1996). Comparison of Diagnostic Criteria for Attention-Deficit Hyperactivity Disorder in a County-Wide Sample. *Journal of American Academy for Child and Adolescent Psychiatry, 35*, 319-324.

Sample: This study was conducted during the 1993-1994 academic year at 16 schools in one Tennessee county. Data were collected from all 398 K-5th grade teachers about each child in their class, for a total of 8,528 children. The response rate from teachers was 100%, and a passive consent format was used whereby parents were asked to call and decline if they did not wish for their child to participate. No demographic information was presented for the sample; however, the surrounding county was described as largely Caucasian with the only significant minority group, African Americans, making up 6.9% of the population.

Methods: Each teacher was given a survey to complete on each child in his or her class. Survey questions asked about symptoms of ADHD, ODD, and conduct disorder. The survey was a version of the Disruptive Behavior Disorders Rating Scale (Pelham et al., 1992) which was modified to be consistent with the diagnostic criteria used in DSM-IV and DSM-III-R (Baumgaertel et al., 1995). In addition, seven items from the Pediatric Behavior Scale (Lindgren & Koeppl, 1986) were used to identify symptoms of a mood disorder (depression or anxiety), with rate determined by number of children scoring greater than two standard deviations above the mean. Teachers were not informed about the criteria used to score the forms.

Results: Using DSM-IV criteria 11.4% of children met criteria for ADHD. This prevalence rate was 57% higher than the DSM-III-R rate of 7.3%. Only 26% of the children who met criteria for ADHD were known by their teachers to have an actual diagnosis of ADHD. Girls who met criteria were much less likely than boys to have received a diagnosis.

The prevalence of ADHD comorbid with ODD was 30.2%, and ADHD comorbid with conduct disorder was 15.6%. The prevalence rate for ODD-only was 4.9% and prevalence rate of conduct disorder-only was 2.1%.

Discussion /Limitations: The fundamental limitations of the study rest in having to rely solely on teacher reports and in the restricted range of sampling (e.g., geographic, age, ethnicity). Other problems are the lack of data on reliability and validity of the diagnoses made through this methodology. Given the controversies related to ADHD diagnosis, it is unfortunate that matters of false negatives and false positives were not addressed.

The main factor contributing to the difference in prevalence rates appears to be the change in diagnostic criteria between the two editions of DSM manuals. In DSM-III-R, ADHD is conceptualized as an unidimensional disorder, comprised of both hyperactivity and inattentiveness. In the DSM-IV, ADHD is conceptualized as a multidimensional categorization with 3 subtypes: combined type (most similar to the DSM-III-R classification), predominantly inattentive, and predominantly hyperactive-impulsive. The increased prevalence of ADHD using DSM-IV appears due to the number meeting criteria for the inattentive subtype (5.4% prevalence rate). Another 2.4% were classified as having the hyperactive-impulsive subtype. Only 3.6% met criteria for the combined-type. In a previous study conducted with German students aged 5 to 12 years (Baumgaertel, Wolraich & Dietrich, 1995), the prevalence rate of ADHD increased by 64% between the DSM-III-R (11%) and the DSM-IV (17.8%). A reported factor analysis of questionnaire data supports the DSM-IV ADHD subcategories of combined, hyperactive, and inattentive.

Roughly 75% of children reported by teachers as displaying symptoms of ADHD had not received diagnosis or medication according to teacher reports. This must be interpreted with caution because teachers may not be the best source for identifying which children have a diagnosis. Parents may neglect to inform school officials about a diagnosis or purposely withhold the information to avoid labeling in the classroom. Nevertheless, the teacher reports are probably an accurate reflection of the number children they perceive as having relevant symptoms, and their reports of ADHD comorbid with academic (63%) and behavior problems (66%) indicate a strong relationship between learning and behavior problems. However, it is unclear how many false negatives and false positives were present.

References

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Pelham, W.E. Jr, Gnagy, E.M., Greenslade, K.E., & Milich, R. (1992). Teacher ratings of DSM-III-R symptoms for the disruptive behavior disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 31*, 210-218.

Brief Analysis

U.S. Department of Education (2002). *To Assure the Free Appropriate Public Education of All Children with Disabilities (Individuals with Disabilities Education Act, Section 618). Twenty-Fourth Annual Report to Congress on the Implementation of the Individuals with Disabilities Education Act, 2001*. **Washington, DC: Author.**

Sample: All the data in this report are based on reports from the 50 states and the District of Columbia. The focus is on children in preschool through 12th grade receiving services under the Individuals with Disabilities Education Act (IDEA). Data cover the 2000-2001 academic year. In the Fall of 1999, the total enrollment in elementary and secondary schools (public and private) was 53,167,000. This included 38,387,000 in kindergarten through grade 8, and 14,780,000 in grades 9 through 12. Overall, 88.8% of the students were enrolled in public schools.

Method: Each state submitted counts of the number of students being served in federally supported programs for the disabled, specifically the IDEA. According to the definitions under the IDEA (§300.7), the following categories are eligible for services: mental retardation, hearing impairment, speech or language impairment, visual impairment, [serious] emotional disturbance, orthopedic impairment, autism, traumatic brain injury, other health impairment, specific learning disability, deaf-blindness, and multiple disabilities. The label "child with a disability" only applies to children who have a) been evaluated, b) been determined eligible, and c) are enrolled in special education and related services. The following categories are specifically reviewed here:

- Autism: "developmental disability significantly affecting verbal and nonverbal communication and social interaction, generally evident before age 3, that adversely affects a child's educational performance."
- Emotional disturbance: "a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree that adversely affects a child's educational performance": inability to learn not otherwise accounted for, problems with interpersonal relationships with peers and teachers, inappropriate behavior in normal situations, pervasive depressed or unhappy mood, persistent physical symptoms or anxiety associated with personal or school problems. The term includes schizophrenia, but excludes "socially maladjusted."
- Mental retardation: "significantly subaverage general intellectual functioning, existing concurrently with deficits in adaptive behavior… that adversely affects a child's educational performance."
- Other health impairment: "limited strength, vitality, or alertness, including a heightened alertness to environmental stimuli, that results in limited alertness with respect to the educational environment" including attention deficit disorder or attention deficit hyperactivity disorder. Also includes diabetes, epilepsy, heart conditions, hemophilia, lead poisoning, cancers, and other conditions.
- Specific learning disability: "a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations… term does not include learning problems that are primarily the result of… environmental, cultural, or economic disadvantage."
- Speech or language impairment: "communication disorder, such as stuttering, impaired articulation, a language impairment, or a voice impairment, that adversely affects a child's educational performance."

The methods used on a sampling of five states are reported in greater detail below. The five states were chosen to reflect geographic and cultural diversity, and together the number of children with

disabilities served in these states represents over 1/3rd of the total number of children served in the U.S. The states are (in alphabetical order): California, Florida, Illinois, New York, and Texas.

Results: A total of 6,195,000 students were enrolled in federally supported programs for the disabled (13.2% of the total enrollment). Nearly half of the students who were served under IDEA were considered to have a Specific Learning Disability. Only one in twelve students served under the IDEA had a Serious Emotional Disturbance (1% of the total enrollment).

Table 4. Special Education Data

Disability category	Number (in thousands)	Percent of total enrollment
All disabilities	*6,195*	*13.22*
Autism	79	0.17
(and traumatic brain injury)		
[Serious] Emotional Disturbance	469	1.00
Mental Retardation	600	1.28
Other Health Impairment	253	0.54
Specific Learning Disability	2,834	6.05
Speech or Language Impairment	1,080	2.30

Limitations: Because the annual report is based on implementation of the Individuals with Disabilities in Education Act (IDEA), by definition it is more an indicator of service use than prevalence. In order to qualify as a "child with a disability" the child must have been formally evaluated by the school system as meeting the definition for one of the identified disability categories **and** need special education and related services. Thus, any child who is diagnosed with one of the identified disabilities who does not get evaluated by the school, is determined to not meet the definitions defined by IDEA, **or** does not need special education services (because of receiving private treatment for instance) will not be counted in the annual report. Further, at any point in the evaluation process, the parent or guardian may refuse to grant consent or withdraw the child from the assessment and the child would not be counted in the report. This probably explains much of the discrepancy between the rates in the annual report when compared to other prevalence estimates that are independent of service use.

The annual report is a summary from the data submitted by each individual state. In turn, each state department of education generally summarizes data submitted by the individual school districts or schools (private institutions often submit information directly to the state). A problem arises whenever states, districts, or schools have differences in category definition or data collection. For example, while the IDEA definitions include an overall category of "Mental Retardation," some states have further distinctions such as "Educable Mentally Handicapped" and "Profoundly Mentally Handicapped." The corresponding threshold for reporting to the U.S. Department of Education may vary as a result. States also collect data at different points in time, and thus some figures may include all students identified in the previous academic year while others will also include students identified in the current academic year. While most states are moving toward electronic submission to standardize collection, there is still variability in collection. For example, the school or district personnel who are assigned to enter data into the system varies considerably. These differences between reporting units can introduce error into the summary statistics that are given in the annual reports.

Finally, there is great variability in who and through what means students are diagnosed. The literature is replete with indications that the processes used often are unreliable and invalid and often biased.

C. Primary Sources for Psychosocial Problems Data

C   Denton & Germino-Hausken (2000). *America's Kindergartners*. West,
        J., Project Officer. NCES 2000-070. Washington, DC: U.S.
        Department of Education, National Center for Education Statistics

C   Angold et al. (1999). Impaired but Undiagnosed. *Journal of the
        American Academy of Child and Adolescent Psychiatry, 38*(2): pp
        129-137

C   Grunbaum et al. (2002). Youth Risk Behavior Surveillance - United
        States, 2001. *Surveillance Summaries, MMWR, 51*, SS-4

C   Kelleher, K.J., McInerny, T.K., Gardner, W.P., Childs, G.E., &
        Wasserman, G.E. (2000). Increasing identification of psychosocial
        problems: 1979-1996. *Pediatrics, 105*, 6, 1313-1321.

C   Anderson & Smith (2003). Deaths: Leading causes for 2001. *National
        Vital Statistics Reports, 52*. Hyattsville, MD: National Center for
        Health Statistics

C   Nansel et al. (2001). Bullying behaviors among US youth. Prevalence
        and association with psychosocial adjustment. *Journal of the
        American Medical Association, JAMA, 285*, 2094-2100

C   Johnston, O'Malley & Bachman (2003). *Monitoring the Future
        Occasional Paper 59*. Institute for Social Research. The University of
        Michigan, Ann Arbor

Brief Analysis

Denton, K. & Germino-Hausken, E. (2000). *America's Kindergartners*. West, J., Project
   Officer. NCES 2000-070. Washington, DC: U.S. Department of Education, National
   Center for Education Statistics.

Sample: "A nationally representative sample of 22,625 children enrolled in 1,277 kindergarten programs during the 1998-99 school year were sampled to participate in the [Early Childhood Longitudinal Study of the Kindergarten Class of 1998-99 (ECLS-K)]." The study used a multiple-stage sampling design – choosing initial sampling units and then selecting public and private schools from within the sampling units. "Approximately 23 kindergartners were selected on average within each of the sampled schools." Of the children sampled, 19,173 participated in the ECLS-K, and 17,223 had info that was used in the study. The overall cooperation rate was determined to be comparable to other large-scale school-based longitudinal studies conducted by NCES. The sample of children was 49% female, 58% non-Hispanic White, and 88% had never utilized AFDC welfare.

Method: Parents/guardians were asked about demographic info, family structure, and the child's social skills and behaviors. Most interviews were done over telephone with computer assistance; respondents without telephones were given computer-assisted in-person interviews. Kindergarten teachers were asked about the social skills of children in their class along with other questions.

Results: According to parent reports, 11% of children did not make friends often, 14% "never or sometimes" joined other children in activities, and 18% "never or sometimes" comforted others (see Table 1). There were few major gender differences. Problems with making friends, joining others, and comforting others varied by maternal education and welfare status. Across all categories, fewer problems were reported when mother's had higher levels of education and no welfare. There were few differences based on family type, but there was a trend toward fewer problems in families where two parents were present. Across all three categories, approximately 10% more children from primarily non-English speaking homes were reported to have problems compared to their peers from primarily English speaking homes. In terms of race/ethnicity, non-Hispanic White children were reported to have the lowest number of problems. Non-Hispanic Black children, American Indian / Alaska Native children; and non-Hispanic multiracial children also had relatively low reports of "never or sometimes" engaging in these prosocial behaviors. A slightly higher percent of Hispanic and Asian children were in that category, and Hawaiian Native / Pacific Islander children were most likely to "never or sometimes" engage in such behaviors.

According to teacher reports, 23% of children did not make friends often, 49% "never or sometimes" comforted others, and 26% did not accept peer ideas. By the teachers' accounts, there were gender differences in every category, with girls exhibiting higher rates of prosocial behavior than boys did. Like parents, teachers reported that there were fewer problems when mother's had higher levels of education, no welfare, and English was the primary language spoken in the home. In terms of race/ethnicity, non-Hispanic White children were again reported to have the lowest percent of problems with prosocial behaviors. Non-Hispanic Black children were reported to have the highest percent of problems, and differences were observed among other racial / ethnic groups as well.

According to parent reports, 33% of children tend to argue with others, 15% "often or very often" fight with others, and 17% "often or very often" got angry easily. Again, there were few perceived gender differences. As with prosocial behavior, problem behaviors also varied by maternal education and welfare status. Across all categories, fewer problems were reported when mother's had higher levels of education and no welfare. There were few differences based on family type, but there was a trend toward fewer problems in families where two parents were present. Children from primarily non-English speaking homes were reported to have fewer problems with arguing, but more problems with easily getting angry when compared to their peers from primarily English speaking homes.

Table 5. Percentage of kindergartners lacking prosocial behaviors, by selected characteristics.

Characteristic	Reporter	Never / sometimes **Make friends**	Never / sometimes **Comfort others**	Never / sometimes **Join others**	Never / sometimes **Accept peer ideas**
Total	Parent	11	18	14	
	Teacher	23	49		26
Child's sex					
Male	Parent	13	22	14	
Female	Parent	10	14	15	
Male	Teacher	27	57		29
Female	Teacher	20	40		23
Mother's Education					
# HS / GED	Parent	12-20	18-29	15-21	
$ some college	Parent	9	15	12-13	
# HS / GED	Teacher	25-30	50-58		27-31
$ some college	Teacher	19-22	43-47		24-25
Family type					
Single parent	Parent	11-13	19	12-16	
Two parents	Parent	11	18	14	
Single parent	Teacher	29-33	54-59		31-33
Two parents	Teacher	21	47		24
Welfare					
Utilized AFDC	Parent	15	21	17	
Never AFDC	Parent	11	17	14	
Utilized AFDC	Teacher	33	57		33
Never AFDC	Teacher	22	47		25
Primary language					
Non-English	Parent	21	30	23	
English	Parent	10	17	13	
Non-English	Teacher	28	56		29
English	Teacher	23	48		26
Child's race/ethnicity					
White, non-Hisp.	Parent	9	15	10	
Black, non-Hisp.	Parent	13	19	16	
Asian	Parent	18	28	22	
Hispanic	Parent	17	24	20	
Hawaiian Native / Pacific Islander	Parent	28	24	40	
American Indian / Alaska Native	Parent	13	16	15	
Multiracial, non-Hispanic	Parent	10	14	14	
White, non-Hisp.	Teacher	20	45		24
Black, non-Hisp.	Teacher	29	56		32
Asian	Teacher	27	50		25
Hispanic	Teacher	26	55		27
Hawaiian Native / Pacific Islander	Teacher	31	58		26
American Indian / Alaska Native	Teacher	32	55		30
Multiracial, non-Hispanic	Teacher	27	47		29

Table 6. Percentage of kindergartners with problem behaviors, by selected characteristics.

Characteristic	Reporter	Often / very often Argue with others	Often / very often Fight with others	Often / very often Easily get angry
Total	Parent	33	15	17
	Teacher	11	10	11
Child's sex				
Male	Parent	33	16	19
Female	Parent	32	14	15
Male	Teacher	13	11	14
Female	Teacher	8	8	9
Mother's Education				
# HS / GED	Parent	35-36	17-21	18-29
$ some college	Parent	28-31	10-13	12-14
# HS / GED	Teacher	12-13	10-14	12-13
$ some college	Teacher	9-10	7-9	10-11
Family type				
Single parent	Parent	32-35	10-18	16-22
Two parents	Parent	31	14	15
Single parent	Teacher	15-18	13-18	14-15
Two parents	Teacher	10	9	10
Welfare				
Utilized AFDC	Parent	36	21	26
Never AFDC	Parent	32	14	16
Utilized AFDC	Teacher	16	15	15
Never AFDC	Teacher	10	9	11
Primary language				
Non-English	Parent	27	15	21
English	Parent	33	15	16
Non-English	Teacher	9	11	12
English	Teacher	11	10	11
Child's race/ethnicity				
White, non-Hisp.	Parent	33	14	15
Black, non-Hisp.	Parent	33	16	19
Asian	Parent	22	10	16
Hispanic	Parent	30	16	21
Hawaiian Native / Pacific Islander	Parent	29	20	16
American Indian / Alaska Native	Parent	34	18	19
Multiracial, non-Hispanic	Parent	35	14	20
White, non-Hisp.	Teacher	10	8	10
Black, non-Hisp.	Teacher	17	14	15
Asian	Teacher	6	7	9
Hispanic	Teacher	10	11	12
Hawaiian Native / Pacific Islander	Teacher	14	11	12
American Indian / Alaska Native	Teacher	14	15	13
Multiracial, non-Hispanic	Teacher	10	10	12

There was no difference in the percent of children who had problems with fighting based on the primary language at home. The lowest percent of problem behaviors were reported for Asian children. A slightly higher number of Hispanic and White, non-Hispanic children had problem behaviors. Black, non-Hispanic children were identified as "often or very often" exhibiting all problem behaviors.

Unlike prosocial behaviors, teachers reported that a lower percentage of children had problem behaviors than parents reported. According to teacher reports, 11% of children argued with others "often or very often," 10% "often or very often" fought with others, and 11% tended to get angry easily. Much like their reports of prosocial behaviors, teachers observed gender differences in every category, with boys having higher rates of problem behaviors than girls did. Differences based on mother's level of education, welfare status, primary language in the home, and race/ethnicity were similar to those based on parents reports.

Limitations: The authors address two potential sources of bias in the study: "One potential source of respondent bias in this survey is social desirability bias. If there are no systematic differences among specific groups under study in their tendency to give socially desirable responses, then comparisons of the different groups will accurately reflect *differences* [emphasis in original] among the groups. An associated error occurs when respondents give unduly positive assessments about those close to them… Since the survey was conducted in the fall it is possible that the teachers did not have adequate time to observe the children, and thus some of the responses may be influenced by the expectations of the teacher based on which groups (e.g., sex, racial, linguistic, disability) the children belonged to." The second concern was partially addressed in the study design.

The comments on social desirability effects not only are relevant to parent reports; based on concerns raised by the study authors, such effects may have influenced teachers. Particular groups may have received favorable ratings from teachers. Although the study does not report on the characteristics of teachers who served as respondents, estimates are made based on previous data about kindergarten teachers. Heaviside & Farris (1993) reported that 85% of kindergarten teachers in public schools were White, non-Hispanic and 98% were Female in 1993. More than 90% of the teachers for classes with less than 50% minority student enrollment were White, non-Hispanic. According to data from the 1999-2000 school year (NCES, 2003) 85% of public and private school teachers were White, non-Hispanic, while 75% of teachers were Female. If favorable ratings were likely to be conferred on students who were most like the teachers, then non-Hispanic White children and female children would be favored. (This possibility is tempered by comparisons with parent ratings.) However, clearly teachers and parents had different reports in terms of gender differences, and the disparity is in the expected direction based on social desirability effects.

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National Center for Education Statistics (2003). Schools and Staffing Survey (SASS), 1999-2000. Accessed 12/3/03. http://nces.ed.gov/programs/digest/d02/tables/PDF/table68.pdf

Angold, Costello, Farmer, Burns, Erkanli (1999). Impaired but Undiagnosed. *Child and Adolescent Psychiatry, 38*, **(2), pp. 192-213.**

Sample: This study is a 1-year follow-up of The Great Smoky Mountains Study (see brief analysis of Costello et al., 1996 in Appendix A). For the follow-up, 90% of the initial 1,015 participants were available (913 subjects).

Methods: This study uses the Child and Adolescent Psychiatric Assessment (CAPA) as the primary instrument for making diagnoses. The child and primary caretaker were each interviewed separately regarding any symptom frequency, duration, and onset for psychiatric status. For each symptom that was endorsed, the interview also asks whether the symptom caused functional impairment in any of 17 areas related to home, and school. In general, some decrement in actual function had to be described for a positive rating to be given (Angold et al., 1995). It was also possible to code a "pure" impairment completely unrelated to symptoms of psychiatric disorders.

Five "caseness markers" were determined based on included measures. The 5 markers were: child receiving specialty mental health services, receiving school-based mental health services, parent's perception of burden due to child's psychiatric symptoms, child or parent perceptions that the child's symptoms constituted a "problem", and child or parent perceptions that the child needed help. In addition to these 5 markers, the presence of diagnosis or impairment at 1-year followup was used as a caseness marker

Results: Of 1,015 children, 140 had *both a diagnosis and impairment* (weighted percentage = 7.4%). This group constitutes the typical SED group, has the highest mental health service-use, and 96% of children in the group had one of the previously mentioned "caseness markers" at 1-year followup (note-not all children were available at follow-up). A second group of 143 children had a *diagnosis but no impairment* (weighted percentage = 11.5%). 76% of children in this group had at least 1 caseness marker at followup; however, this group did not frequently use mental health services. A third group of 143 children had *impairment related to psychiatric symptoms, but no diagnosis* (weighted percentage = 9.4%). As with the SED group, this group had high service-use, as well as a high rate of having at least 1 caseness marker at follow-up (75%). A fourth group of 62 children had a *relational problem not related to psychiatric symptoms*. ("pure relational impairment", 4.8%). This group did not have much service-use. In total, 205 children had some type of impairment (either symptom-related or not) but no diagnosis (14.2%). A fifth group of 527 children had neither a diagnosis nor impairment (weighted percentage 66.8%).

This study also reported rates of the various relational problems. Of the 62 children who had "pure" relational impairment: 29% had a sibling relational problem (weighted prevalence 1.4%), 66% had a parent-child relational problem (3.6%), and 16% had only peer relationship problems (Relational problems NOS, .6%). This study reports that it is the first to publish rates of V codes for this age group.

Regarding mental health service-use, a total of 52% of children using mental health services did not meet DSM diagnostic standards. A total of 21.3% of all children using mental health services were

suffering actual impairment from their symptoms, at the same time as being subthreshold for any diagnostic category. The symptoms most frequently associated with impairment were, by far, oppositional defiant disorder and conduct disorder (75% of impaired cases), followed by anxiety (22.9%; not including separation anxiety, 6.7%; or PTSD, 3.1%). Depression and ADHD were a close third (15.6% and 12.2% respectively).

Discussion: The study authors asserted that psychosocial impairment should be regarded as a psychiatric disorder. Problems in significant relationships can be detrimental to children over time, as well as persist through childhood. In the current study, 87% of the 62 children with "pure" relational impairment had at least one "caseness" marker at follow-up. Often, these problems remain undiagnosed or classified, leading to difficulties in effective treatment for these children.

There are potential problems with using service-use as one of the variables used as a caseness marker. Similar to parents' perception of burden, using service-use to determine whether a child is "chronically or clinically disturbed" is problematic because of the subjectivity and random variability involved. The study also found that reports of impairment are more likely to be generated by disruptive behavior (60% of the reports) than by symptoms of emotional disturbances (18%). However, parents' reports of impairment likely reflect the fact that parents are more likely to be impacted by children's disruptive symptoms than emotional problems, rather than actual prevalence in the population.

Limitations: See the critique in Appendix A of Costello, E.J., Angold, A., Burns, B.J., Stangl, D.K., Tweed, D.L., Erkanli, A., & Worthman, C.M. (1996). The Great Smoky Mountains Study of youth: Goals, design, methods, and the prevalence of DSM-III-R disorders. *Archives of General Psychiatry, 53,*1129-1136.

Also see: Angold A, Prendergast M, Cox A, Harrington R, Simonoff E, Rutter M. (1995). The Child and Adolescent Psychiatric Assessment (CAPA). *Psychological Medicine, 25*, 4, pp. 739-753.

Brief Analysis

Grunbaum, J.A., Kann, L., Kinchen, S.A., Williams, B., Ross, J.G., Lowry, R., & Kolbe, L. (2002). Youth Risk Behavior Surveillance – United States, 2001. *Surveillance Summaries, MMWR, 51,* **SS-4.**

Sample: The Youth Risk Behavior Survey (YRBS) used a three-stage sampling design to gather a nationally representative sample of 9th to 12th grade students. Sampling was stratified to assure representation of racial/ethnic minorities and people from more rural areas. After the initial stages, the probability of particular schools being chosen was proportional to the school enrollment size. Classes were then randomly sampled at each chosen school. Sampling weights were used to "adjust for nonresponse and for varying probabilities of selection." Of the 13,627 questionnaires that were completed, 26 had fewer than 20 valid responses, resulting in a final sample size of 13,601.

Methods: "Students completed the self-administered questionnaire during one class period and recorded their responses directly on a computer-scannable booklet or answer sheet. The core questionnaire contained 87 multiple-choice questions. To meet individual needs, some states and large cities added or deleted some questions." The survey is designed to assess six categories of "priority health-risk behaviors… [that] contribute to unintentional injuries or violence; tobacco use; alcohol and other drug use; sexual behaviors that contribute to unintended pregnancy and sexually transmitted diseases (STDs)… unhealthy dietary behaviors; and physical inactivity."

Selected Results: Refer to main text, Table 2, part c: "Prevalence data from primary sources related to children and youth in the USA labeled emotional, behavioral, and learning problems – Psychosocial problems."

Limitations: The fundamental limitations of the study rest in having to rely solely on student reports and volunteers. Also, as with other surveys that take place in schools, the data are not representative of youth who are not in school (~5% of children nationally). This problem arises especially for those who have dropped out of school. Such youngsters are more likely to be engaged in risky behaviors, and thus the figures reported are likely underestimates of the rates of such behaviors among all youth. However, because the survey spans 9th through 12th grade, some students who may later drop out of school are likely to be surveyed in their earlier years at high school.

Because this is a large scale study, the rates reported here are most accurate for the national scale of the problems. Specific information about states and large cities from the surveys conducted in those areas may be available from the CDC (http://www.cdc.gov/nccdphp/dash/yrbs/).

Brief Analysis

Kelleher, K.J., McInerny, T.K., Gardner, W.P., Childs, G.E., & Wasserman, G.E. (2000). Increasing identification of psychosocial problems: 1979-1996. *Pediatrics, 105*, 6, 1313-1321.

Sample: The study analyzes data from (a) the Monroe County Study (MCS) of 1979 and (b) the Child Behavior Study (CBS) of 1996. The MCS conducted a stratified survey of primary care pediatricians from the Rochester, NY area. Data analyzed were from the "first visits by the 9,612 children 4 to 15 years old." The CBS surveyed pediatric care providers and family medicine care providers from networks representing 44 states, Puerto Rico, and 4 Canadian provinces. Data analyzed were from 22,059 visits, but 994 (4.5%) had inadequate or missing data that precluded further analyses, resulting in a study sample of 21,065 visits. Clinicians reported on consecutive children seen over a 2 month period in the MCS study and reported on approximately 55 consecutive children in the CBS study. Further information about the children sampled was not included in this report. Children who were seen for an emergency were not included in the study.

Methods: In the MCS, clinicians indicated identification of a psychosocial problem by answering "yes" to the question: "Regardless of the purpose of this visit, in your opinion, does this patient currently have a behavioral, emotional or school problem, treated or untreated?" For the CBS, the question was changed to "Is there a new, ongoing, or recurrent psychosocial problem present?" Psychosocial problem was defined as "any mental disorders, psychological symptoms or social situations warranting clinical attention or intervention." Clinicians also coded severity of psychosocial problems as mild, moderate, or severe. The type of psychosocial problem, if present, was coded "using the World Health Organization classification scheme." The category "Hyperkinesis" was changed to "Attention deficit/hyperactivity problems."

Results: The following table is adapted from the original article

	MCS (1979) *N = 9,612*	CBS (1996) *N = 21,065*
Clinician-identified problem	6.8%	18.7%
Adaptation / adjustment reaction	2.3%	4.4%
Attention deficit / hyperactivity problems	1.4%	7.5%
Specific developmental delays (e.g., learning disability)	1.5%	2.1%
Behavioral / conduct problems	1.0%	7.5%
Mental retardation	1.1%	0.4%
Emotional problems (e.g., anxiety, sadness)	0.2%	3.6%
Other (e.g., drug/alcohol abuse, family dysfunction)	0.0%	3.9%
Impairment		
Moderate problem	2.8%	9.0%
Severe problem	0.7%	1.8%
Treatment		
Counseling in the office that day	5.6%	9.6%
Medications (past and present)	0.8%	8.1%
Referral (past and present)	3.5%	7.6%

Limitations: This ambitious report suffers from the problems of real-world sampling in specific geographical venues. Moreover, the deficiencies with respect to reporting more information about the demographics of the patients and more detail about who was not included further hampers interpretations about generalization. (Data are biased to the degree that health care is nonequivalent between demographic groups, e.g., some racial/ethnic groups may have been over/under-represented.) Finally, the data are based on the physicians' perspectives (to the exclusion of parents or children). In this respect, it is widely recognized that physicians are able to spend relatively little time on questions regarding psychosocial problems when a patient has a different primary concern during the visit. Further, the authors note that while only 12% of the children in the MCS sample were seen by someone other than their primary care provider, 43% of the CBS sample was seen by someone else. Thus, as the investigators note, the clinicians making reports had less familiarity with the children, and "the probability that the clinician would recognize a psychosocial problem was diminished."

Brief Analysis

Anderson, R.N. & Smith, B.L. (2003). Deaths: Leading causes for 2001. *National Vital Statistics Reports, 52, 9.*

Sample/Method: Data for this report are based on "information from death certificates" from the 50 states and the District of Columbia filed in 2001. Information about the cause of death are recorded using the International Classification of Diseases – 10 (ICD-10) codes. "Death certificates are generally completed by funeral directors, attending physicians, medical examiners, and coroners."

Results: In general, suicide was the 11th leading cause of death in the United States (29,423 suicides, rate of 10.3 per 100,000). Suicide is the 3rd leading cause of death for children aged 10-14 years (272 suicides, 1.3 per 100,000) and the 3rd leading cause of death for children aged 15-19 years (1,611 suicides, 11.9 per 100,000). See Table 3 in the main text for information disaggregated by race.

Limitations: The official data is based on information from death certificates as completed by a range of officials. Although many efforts have been made to standardize the definition of "suicide" to assure proper recording, there is still significant variability in whether or not a death is classified as a suicide. Most deaths by suicide that are wrongly classified are recorded as accidents. For information purposes, accidents (unintentional injuries) are the 1st leading cause of death for children 10-19 years of age. The number of accidents that are actually suicides is uncertain. The variance is due to many factors including differences in training between the officials who file death certificates (with corresponding variability by geographic region due to the local assignment of responsibility) and the stigma surrounding suicide which sometimes influences the assignment of cause of death.

Brief Analysis

Nansel, T.R., Overpeck, M., Pilla, R.s., Ruan, W.J., Simons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth. Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association, JAMA, 285,* **2094-2100.**

Sample: This large-scale survey provides information about the prevalence of bullying among older children on the national scale. "A nationally representative survey of US youth in grades 6 through 10 during spring of 1998…. The U.S. sampling universe consisted of all public, Catholic, and other private school students in grades 6 through 10 … excluding schools with enrollment of fewer than 14 students." Sampling took place in two stages, stratified by racial/ethnic status and geographic region. Of all students recruited, 86% participated in the survey. The resulting sample was 15,686 students.

Methods: The study used a "self-report questionnaire containing 102 questions about health behavior and relevant demographic variables." Bullying was defined as "when another student, or a group of students, say or do nasty and unpleasant things to [another student]. It is also bullying when a student is teased repeatedly in a way he or she doesn't like." Participants were asked to report on how often they bullied others and how often they were bullied, in school or outside of school.

Results: Approximately 19% of students bullied others at least "sometimes," and approximately 17% of students said that others bullied them at least "sometimes." Some students (6%) were involved in both bullying others and being bullied. "Males both bullied others [26% $ sometimes] and were bullied [21% $ sometimes] significantly more often than females [14% bullying and 14% bullied $ sometimes]… Hispanic youth reported marginally higher involvement in moderate and frequent bullying of others [22%], whereas black youth reported being bullied with significantly less frequency overall [14%]." Males were involved in physical bullying more often ("hit, slapped, or pushed"), while females were involved in verbal bullying more often ("rumors or sexual comments").

Limitations: The fundamental limitations of the study rest in having to rely solely on student reports and volunteers. Also, the study does not include information about bullying among younger children. Demographic information about the sample is not presented in this report, though it may be available elsewhere Generalization to local or state prevalence of bullying would depend on how closely the characteristics of the region in question matched those of the current sample.

Brief Analysis

Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (2003). Demographic subgroup trends for various licit and illicit drugs, 1975-2002. *Monitoring the Future Occasional Paper 59*. Institute for Social Research. The University of Michigan, Ann Arbor. http://monitoringthefuture.org

> With added information from: Bachman, J.G., Johnston, L.D., & O'Malley P.M. (2001). The Monitoring the Future project after twenty-seven years: Design and procedures. *Monitoring the Future Occasional Paper 54*. Institute for Social Research. The University of Michigan, Ann Arbor.
> http://monitoringthefuture.org/pubs/occpapers/occ54.pdf

Sample: For the 2002 survey year, the following approximate number of students were sampled for each grade: 12,100 students from the 8th Grade; 14,300 students from the 10th Grade; and 12,900 students from the 12th Grade. Each spring, the project surveys seniors from "125 to 140 public and private high schools and selected to provide a representative cross-section of high school seniors throughout the coterminous United States." As of 1991, the project also started surveying eighth- and tenth-grade students in a manner similar to the one used for seniors. Sampling took place in three stages: 1) Selection of geographic areas, 2) selection of high schools based on population size in geographic area and then probability sampling based on number of students in the selected grade, and 3) selection of students (all if less than 350 students, or random sampling if more than 350 students).

Method: The annual "confidential questionnaires, usually administered during regularly scheduled class periods, cover background and demographic characteristics, use of drugs" and drug-related attitudes. The survey asks for detailed information about the use and attitudes about a wide variety of legal and illicit drugs.

Results:

Table 7. Thirty-day prevalence of drug use among 8th, 10th, and 12th grade students in 2002.

Drug	8th Grade	10th Grade	12th Grade
Alcohol	19.6	35.4	48.6
Been Drunk	6.7	18.3	30.3
Cigarettes	2.1	4.4	9.1
Marijuana	14.6	30.3	36.2
Other Drugs	10.8	15.7	20.9

Limitations: The fundamental limitations of the study rest in having to rely solely on student reports and volunteers. Further problems arise because student drop outs are not sampled. The authors note: "This excludes a relatively small proportion of each age cohort … though not an unimportant segment, since we know that illicit drug use tends to be higher than average in this group." Thus, they believe that reported rates marginally underestimate prevalence rates.

D. Primary Sources for Related Cultural Concerns Data

C   National Highway Traffic Safety Administration (NHTSA) (2002).
       Traffic Safety Facts 2002: Children. U.S. Department of
       Transportation. DOT HS 809 607

C   McLoughlin et al. (2002). Injuries and deaths among children left
       unattended in or around motor vehicles - United States, July 2000 -
       June 2001. *MMWR, 51,* 26, pp. 570-572

C   Centers for Disease Control and Prevention. *Web-based Injury
       Statistics Query and Reporting System (WISQARS)* [Online]. (2002).
       National Center for Injury Prevention and Control, Centers for
       Disease Control and Prevention (producer)

C   U.S. Census Bureau (2002). *Low Income Uninsured Children by
       State: 1999, 2000,* and 2001. [online]

C   Snyder & Sickmund (1999). *Juvenile Offenders and Victims: 1999*
       National Report. Office of Juvenile Justice and Delinquency
       Prevention

Brief Analysis

National Highway Traffic Safety Administration (NHTSA) (2002). Traffic Safety Facts 2002: Children. U.S. Department of Transportation. DOT HS 809 607.

Sample: The report uses data from the Fatality Analysis Reporting System (FARS) for 2002. This report specifically pertains to the traffic accidents involving children under 15 years old.

Method: The fatality information in the FARS database "includes motor vehicle traffic crashes that result in the death of an occupant of a vehicle or a nonmotorist within 30 days of the crash." The incident must have involved a "motor vehicle traveling on a traffic way customarily open to the public." The database is maintained by the National Center for Statistics and Analysis (NCSA) of the National Highway Traffic Safety Administration and includes data from the 50 states, District of Columbia, and Puerto Rico. Data are coded on standardized forms for the database and are derived from multiple sources: state documents, Police Accident Reports, state vehicle registration files, state driver licensing files, state highway department data, vital statistics, death certificates, coroner/medical examiner reports, hospital medical records, and emergency medical service reports. There are additional records in FARS about estimated driver and nonoccupant blood alcohol levels. Multiple imputation is used to provide estimates of blood alcohol concentration levels when the data are missing.

Results: In 2002, motor vehicle crashes were the leading cause of death for children aged 2-14 years (2,095 children died from traffic fatalities). An additional 263,000 children were injured in motor vehicle crashes. Of the children who died in motor vehicle crashes, 461 (22%) were killed in alcohol-related accidents.

Limitations: This report relies on the data included in FARS which are from multiple sources, making it a large database. It is limited in that it only includes data for children ages 0-14 years old. That is, the number of older children killed or injured in motor vehicle traffic accidents is not addressed.. Given that many people begin driving during adolescence, they are more likely to be involved in accidents as drivers, passengers, pedalcyclists, and pedestrians. Also, adolescents are more likely to be involved in substance abuse than younger children.

Brief Analysis

McLoughlin, Middlebrooks, Annest, Holmgreen, & Dellinger (2002). Injuries and deaths among children left unattended in or around motor vehicles – United States, July 2000 – June, 2001. *MMWR, 51,* 26, pp. 570-572.

Sample/Method: Analyses for this study used data on "nonfatal injuries treated in hospital emergency departments (EDs) from the National Electronic Injury Surveillance System All Injury Program (NEISS-AIP)." The NEISS-AIP collects data on approximately 500,000 cases from a nationally representative sample of 65 hospital EDs each year.

"Data on fatal injuries occurring across the country were reported from a database developed by the Trauma Foundation's KIDS 'N CARS[TM] program." The KIDS 'N CARS[TM] program documented approximately 9,160 nonfatal injuries and 78 fatal injuries among youth under 14 years of age who were left unattended in or around motor vehicles not in traffic in the year from July, 2000 to June, 2001. The KIDS 'N CARS[TM] program "identifies cases through 1) online searches of LexisNexis[TM], a service providing access to thousands of newspapers and magazines worldwide; 2) keyword searches on Internet search engines…; 3) news accounts from a clipping service; 4) contacts with child death review teams; and 5) information from an informal nationwide network of professional and personal contacts. Documentation from news media archives and other record sources is used to validate all cases identified."

Results: The NEISS-AIP identified 192 cases, "representing a national estimate of 9,160 children with nonfatal injuries treated in U.S. hospital EDs…. Most of the injured children were boys (62%), and many were under 4 years of age (42%). While most injuries were minor, 27% were fractures or internal injuries."

The KIDS 'N CARS[TM] program provided information on 78 children who died during the year. Again, for fatal injuries, most were boys (54%), and most were under 4 years of age (82%). "The most common type of fatal incident was exposure to excessive heat inside a [motor vehicle] (e.g., when a child was left inside a [motor vehicle] during hot weather) (34.6%)."

Limitations: Data on nonfatal injuries from the NEISS-AIP come from hospital emergency departments and thus do not include information about children treated at physician offices or private clinics. Generalizability to specific locales also is tied to how closely an area's demographics match the general characteristics of the populations served by the EDs.

Data from the KIDS 'N CARS[TM] program are not designed to be nationally representative. The program aims to document as many cases as possible but acknowledges that many from rural areas or those with smaller newspapers or less documentation are not captured.

Brief Analysis

Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online]. (2002). National Center for Injury Prevention and Control, Centers for Disease Control and Prevention (producer). Available from: URL: www.cdc.gov/ncipc/wisqars.

Sample/Method: "Death data come from a national mortality database compiled by CDC's National Center for Health Statistics. This database contains information from death certificates filed in state vital-statistics offices and includes causes of death reported by attending physicians, medical examiners, and coroners."

"The nonfatal injury data used in WISQARS Nonfatal are obtained from an expansion of the National Electronic Injury Surveillance System (NEISS) operated by the U.S. Consumer Product Safety Commission (CPSC). The expanded system, called the NEISS All Injury Program (NEISS-AIP), began on July 1, 2000, and collects data about all types and external causes of non-fatal injuries and poisonings treated in U.S. hospital emergency departments (EDs)--whether or not they are associated with consumer products. The NEISS All Injury Program (NEISS-AIP) is a collaborative effort by the National Center for Injury Prevention and Control (NCIPC) and CPSC."

Results: In 2000, a total of 3,042 youngsters aged 0-19 years were killed by firearms (6% Accidents, 33% Suicide, 58% Homicide). Most of the youngsters who died by firearms were older adolescents, ages 15-19 years (86%). Males were more likely to die by firearms than females were, with ratios between 2:1 and 5:1, with older children having a larger gender gap. Black and American Indian / Alaska Native youth were more likely to die by firearms than were other youth. Overall, there were 18,357 nonfatal injuries among youth aged 0-19 years due to firearm gunshots (86% aged 15-19 years). There were 16,201 nonfatal injuries among youth aged 0-19 years due to BB/Pellet gunshots (89% aged 10-19 years).

Limitations: The information about fatal injuries that is derived from death certificates is probably more reliable than the information about nonfatal injuries. The primary limitation is that NEISS-AIP data only derives from hospital emergency departments, and thus does not include injuries treated at physicians' offices or clinics. Therefore the number of injuries is probably most representative of more serious injuries (i.e., those likely to be seen at the hospital ED), while underestimating the total number of injuries. Another limitation is that the NEISS-AIP was designed to be nationally representative, but estimates are less applicable for specific state or local information.

Brief Analysis

U.S. Census Bureau (2002). Low Income Uninsured Children by State: 1999, 2000, and 2001. Accessed 12/01/2003. http://www.census.gov/hhes/hlthins/liuc01.html

Sample: The report is based on data from the U.S. Census Bureau's Current Population Survey Annual Demographic Supplements for 2000 to 2002. Children are defined as younger than 19 years old. Thus, the "sample" includes an estimated 75,809,000 children in the United States.

Method: According to the U.S. Census Bureau the poverty thresholds vary according to the size of the family and the age of members. The thresholds are updated annually for inflation by using the Consumer Price Index and are designed "for use as a statistical yardstick, not as a complete description of what people and families need to live." As an example, in 2000, the poverty threshold for one person under 65 years of age was $8,959. The average poverty threshold (varying by number of children in the household) for a four-person family was $17,603. In 2001, the average thresholds for a single person and four-person family were $9,359 and $18,392 respectively. The income used to compute poverty status includes pre-tax monetary amounts from multiple sources for all family members including earnings, unemployment compensation, social security, alimony, and child support. The original thresholds were derived in 1963-1964 using "U.S. Department of Agriculture food budgets designed for families under economic stress" and " data about what portion of their income families spent on food."

Results: In 2001, 11.7% of the entire population (all ages) were classified as being below poverty. In 2002, 12.1% of the population were classified as being below poverty. The percent of people living in poverty varied by race, as did the changes between 2001 and 2002. In 2002, whereas 8% of White, Non-Hispanic individuals and 10% of Asian and Pacific Islander individuals lived in poverty, 22% of Hispanic individuals and 24% of Black individuals lived in poverty. The poverty rate went down slightly for Asian and Pacific Islander individuals between 2001 and 2002 (-0.4%). However, the poverty rate increased for White, Non-Hispanic individuals (+0.4%), for Hispanic individuals (+0.4%), and for Black individuals (+1.2%).

In 2002, there were 28,872,000 children (38%) who were living in "Low Income" families (at or below 200% of the poverty threshold). The ten states with the highest percentages of children living in low-income families were New Mexico (54%), Louisiana (52%), Alaska (51%), District of Columbia (50%), West Virginia (50%), Mississippi (49%), Arizona (46%), Texas (46%), Alabama (46%), and Oklahoma (46%).

There were 5,984,000 children (8%) in "Low Income" families and without health insurance. The ten states with the highest percentages of children living in low-income families and without health insurance were Texas (16%), New Mexico (15%), Louisiana (13%), Arizona (13%), Oklahoma (12%), Florida (11%), Nevada (11%), Idaho (11%), California (10%), and Montana (10%).

Limitations: The Census Bureau's problems sampling poor families have been widely aired. There is also a problem with the use of standardized thresholds for determining poverty or low income status. These do not vary based on geographic data. As an example, a four-person family with $36,000 (below 200% of poverty threshold in 2001) paying rent in Kent, Ohio would need over $45,000 to meet the same standard of living if they were in New York or Los Angeles (Homefair.com, 2001). Therefore, the numbers may underestimate the amount of need, especially as more people move to urban areas with a higher cost of living.

Reference – Homefair.com (2001). *The Salary Calculator.* Accessed 12/01/2003. http://www.homefair.com/homefair/calc/salcalc.html.

Brief Analysis

Snyder & Sickmund (1999). *Juvenile Offenders and Victims: 1999 National Report*. **Office of Juvenile Justice and Delinquency Prevention.**

Sample: Findings presented are based on juveniles aged 10 to 17 years in the 50 states and the District of Columbia who were in custody (detained or committed) of correctional facilities in 1997.

Methods: The number of juveniles in custody is based on the count of juveniles in both state and private facilities. Data are regularly compiled and recorded by the Office of Juvenile Justice and Delinquency Prevention and published by the Bureau of Justice Statistics. Rates are computed based on the Bureau of Census estimates for 1990-1997.

Results: Overall, there were 105,790 juveniles in custody in the United States during 1997. This reflects a rate of 368 youth in custody for every 100,000 in the population. This rate ranged from 70/100,000 (Vermont) to 662/100,000 (District of Columbia).

Limitations: Because juvenile justice statistics are based on information from closed facilities, the numbers have inherent stability. The primary limitation is a result of varying definitions of which offenders and victims are classified as "juveniles." In a few states the classification only extends up to age 15 years, whereas in other states the classification applies to youth up to 17 years old. These differences can lead to corresponding variance in the number of juveniles reported to be in custody. Thus it is important to examine the rates because they are more reliable; being based on the number of youth in the particular age range within the population.

*To maintain a broad perspective of the reforms needed
to address barriers to learning, we organize our thinking and
materials around the following three categories:*

Systemic Concerns

❗ Policy issues related to mental health in schools
❗ Mechanisms and procedures for
    program/service coordination
        • Collaborative Teams
        • School-community service linkages
        • Cross disciplinary training and
          interprofessional education
❗ Comprehensive, integrated programmatic
    approaches (as contrasted with fragmented,
    categorical, specialist oriented services)

❗ Issues related to working in rural, urban,
    and suburban areas
❗ Restructuring school support service
        • Systemic change strategies
        • Involving stakeholders in decisions
        • Staffing patterns
        • Financing
        • Evaluation, Quality Assurance
        • Legal Issues
❗ Professional standards

Programs and Process Concerns

❗ Clustering activities into a cohesive,
    programmatic approach
        • Support for transitions
        • Mental health education to enhance
          healthy development & prevent problems
        • Parent/home involvement
        • Enhancing classrooms to reduce referrals
          (including prereferral interventions)
        • Use of volunteers/trainees
        • Outreach to community
        • Crisis response
        • Crisis and violence prevention
          (including safe schools)

❗ Staff capacity building & support
        • Cultural competence
        • Minimizing burnout
❗ Interventions for student and
    family assistance
        • Screening/Assessment
        • Enhancing triage & ref. processes
        • Least Intervention Needed
        • Short-term student counseling
        • Family counseling and support
        • Case monitoring/management
• Confidentiality
        • Record keeping and reporting
        • School-based Clinics

Psychosocial Problems

❗ Drug/alcoh. abuse
❗ Depression/suicide
❗ Grief
❗ Dropout prevention
❗ Learning problems
❗ School adjustment (including newcomer acculturation)

❗ Pregnancy prevention/support
❗ Eating problems (anorexia, bulim.)
❗ Physical/Sexual Abuse
❗ Neglect
❗ Gangs
❗ Reactions to chronic illness

❗ Self-esteem
❗ Relationship problems
❗ Anxiety
❗ Disabilities
❗ Gender and sexuality

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