Gender Differences in Psychiatric Disorders at Juvenile Probation Intake

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Objective. We identified gender differences in psychiatric disorders among youths at probation intake.

Methods. We measured disorders with the Voice Diagnostic Interview Schedule for Children among 991 randomly selected youths (200 girls) at probation intake in 8 Texas counties. Logistic regression analyses predicted diagnostic clusters by gender, adjusting for demographics and offense characteristics.

Results. Demographic and offense characteristics explained small but interpretable and specific variance in diagnostic profile. Girls' rates of anxiety and affective disorders were higher than boys' (odds ratios = 0.59 and 0.32, respectively). Girls with violent offenses, compared with other groups, were 3 to 5 times as likely to report anxiety disorders.

Conclusions. Among youths with conduct problems, girls demonstrated an elevated risk for co-occurring anxiety or affective disorder. (*Am J Public Health.* 2005;95:131–137. doi: 10.2105/AJPH.2003.024737)

Antisocial behavior is far more characteristic of boys than of girls: girls' conduct disorder (CD) rates are approximately half boys' rates[1]; across all types of criminal activity, only 28% of arrested youths are female.[2] This gender disparity has led some[3] to propose a "gender paradox," whereby the gender group less likely to be disordered has a more severe form or presentation of the disorder.

This theory suggests that antisocial girls will be more impaired across co-occurring dimensions than are antisocial boys and, accordingly, may have elevated mental health problems.[5,8] Although community samples report moderate co-occurrence of internalizing (anxiety and affective) and externalizing (disruptive behavior and substance use) disorders in both genders,[9] and sometimes higher co-occurrence in adolescent and young adult female subjects than in male subjects,[10,11] even stronger associations might be expected when conduct problems are sufficiently severe to result in justice system contact.[11] Associations between conduct and mood symptoms or diagnoses increase with age, particularly for female patients, perhaps reflecting secondary adverse mental health consequences for antisocial girls.[9]

A growing body of literature, predominantly focusing on male subjects, considers the epidemiology of psychiatric disorder among youths in justice settings.[12] With few exceptions,[13] little is known about the mental health status and service needs among the increasing proportion of girls with justice system contact.

Recently, Teplin et al.[13] reported higher disorder rates for girls than for boys in juvenile detention, consistent with studies of adult female detainees.[14] Recently, we[12] reported high levels of psychiatric disorder among incarcerated male youths. Here, we extend these findings to study girls in the justice system, comparing their rates of disorder to those of boys at probation intake and examining the contribution of both demographic and justice-related characteristics to the presence and co-occurrence of disorder. We hypothesize that prevalence of disorder, beyond that expectably related to delinquency (disruptive behavior and substance use), will be higher in girls, whereas externalizing disorders will occur at similar rates for boys and girls.

METHODS

In 2001, the Texas Legislature provided for a prevalence survey of mental health needs among youths in the care of the Texas Juvenile Probation Commission (TJPC). The TJPC conducted diagnostic screening assessments during the intake process for youths formally referred to juvenile probation departments in Texas' 8 most populous counties (Bexar, Cameron, Dallas, El Paso, Harris, Hidalgo, Tarrant, and Travis). In general, complaints by parents, police, or other agencies regarding a youth's delinquent conduct, conduct indicating a need for supervision, or violation of probation are brought to the attention of probation authorities ("intake"). Those authorities determine whether the referral should be the subject of formal court action ("formal referrals"), with less serious cases receiving less serious sanctions. The present report only considers youths who were formally referred.[15] Participation was voluntary.

Subjects

Because universal assessment was unfeasible, and to eliminate biases that might have resulted from certain delinquent activities occurring on certain days, each county was randomly assigned a day of the week when youths formally referred to probation authorities were asked to complete the Voice Diagnostic Interview Schedule for Children (DISC) on that same day or shortly thereafter. The start date for assessments varied across counties, resulting in a 24- to 28-week window in 2002, yielding a sample of 1244 approached youths (10–17 years of age) referred to probation authorities who were asked to complete the DISC; we retrieved diagnostic data for 991 youths (79.7% of those approached; 200 girls). For the 7 counties for which the TJPC had complete information on monthly totals of youths meeting inclusion criteria, approached youths represented 34% to 100% of all formal referrals on the assigned day; rates were higher in smaller counties with more manageable caseloads.

The 253 nonparticipating youths who were approached included 17 (1.4% of those approached) who refused, 6 (<1%) with oral

English skills judged insufficient to complete assessment, and 12 (1%) excluded because of technical or logistical difficulties. Records for 14.1% of approached youths (n=176) were excluded because of problems with data retrieval; 3.4% of approached youths did not participate for other, unspecified, reasons (n=42). Reasons for nonparticipation did not differ by gender.

Procedure

Soon after arriving at the probation office, youths were asked to self-administer the DISC interview; 41.4% (n=410) of youths were assessed on the day they were referred, and 83.5% (n=827) were assessed within 14 days after referral. For further procedural details, see the TJPC's report.[16]

Measures

Demographic and justice information. Information on age, ethnicity, school grade, person with whom the youth resided, date of juvenile probation intake, age at first referral (since automation of records in 1999), number of prior referrals (since 1999), and most serious offense for the current referral was extracted from automated justice records. Youths living with a natural, adoptive, or step-parent or grandparent were coded as living with a close relative. Current offenses were designated as violent (persons- or weapons-related) or nonviolent. Violent offenses included rape, assault, robbery, arson, homicide, and all weapons charges; nonviolent offenses included all others (e.g., nonconfrontational property offenses). Components in this violence construct differed somewhat from those in the Federal Bureau of Investigation's Violent Crime Index,[17] primarily because few youths committed more seriously violent acts.

Psychiatric assessment. The DISC[18,19] is a family of highly structured psychiatric interviews, based on *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria,[1] and has been used in research investigating prevalence of disorders among youths in the justice system.[13,20–23] The Voice version generates past-month disorders, based on prerecorded questions delivered via headphones (viewed simultaneously on a computer screen).

We examined 21 disorders grouped into four diagnostic clusters[12]: disruptive behavior disorders (DBDs), substance use disorders (SUDs), affective disorders, and anxiety disorders. We considered DBDs and SUDs to be externalizing disorders; affective disorders and anxiety disorders reflect internalizing disorders. Because of questions regarding the capacity of youths in the justice system to accurately report impairment,[12] analyses consider criteria without impairment.

Statistical Methods

We examined gender differences in disorder, with and without controlling for demographic and offense characteristics. Logistic regression analyses predicted the likelihood of each diagnostic cluster from gender, controlling for county, ethnicity, age, academic grade, residence with close relative, days between referral and DISC, age at first referral, number of prior referrals, and whether or not the most serious current offense was violent. Because of expectably elevated rates of separation anxiety disorder,[24] analyses for the anxiety cluster were based on all other measured anxiety disorders. Interactions with gender were considered, with significant interactions retained in final models. Regression equations (*SPSS 11.0 for Windows* [computer program]. Chicago, IL: SPSS, Inc; 2001) including dummy variables evaluated differences among groups, at $P<.05$.

RESULTS

Sample Characteristics

Table 1 shows sample characteristics by gender, for participating and nonparticipating youths. Most juveniles were male (79.8%), and Hispanic (50.9%) or African American (28.7%); mean age was approximately 15 years. Most (94%) lived with close relatives. For approximately a third, current charges were at the felony level; for approximately a

TABLE 1—Sample Demographic and Offense Characteristics

	Participants				
	Total (N=991) Mean (SD)	Boys (n=791) Mean (SD)	Girls (n=200) Mean (SD)	Nonparticipants (n=253) Mean (SD)	TJPC,[a] Mean no. or %
Age, y[b]	14.7 (1.4)	14.7 (1.4)***	14.4 (1.4)	14.6 (1.5)	14.7
Last completed school grade[c]	8.3 (1.5)**	8.3 (1.5)	8.2 (1.5)	8.0 (1.6)	7.7
Number of prior formal referrals (since 1999)[b,c]	1.5 (2.2)	1.6 (2.2)*	1.3 (2.0	0.9 (1.4)	1.1
Age at first referral	14.0 (1.4)	14.0 (1.4)	13.9 (1.4)	14.1 (1.6)	14.1
Days between referral and DISC	13.6 (37.5)	12.9 (37.3)	16.4 (38.1)	... ...	...
Gender, no. (%)					
Male	791 (79.8)	791 (100.0)	... ...	190 (75.1)	75.0
Female	200 (20.2)	... ...	200 (100.0)	63 (24.9)	25.0
Residence with close relative	812 (94.3)	643 (94.1)	169 (94.9)	206 (92.4)	91.2
Ethnicity					
African American	279 (28.2)	223 (28.2)	56 (28.0)	70 (27.7)	26.8
Hispanic	504 (50.9)	409 (51.7)	95 (47.5)	134 (53.0)	46.9
White	195 (19.7)	148 (18.7)	47 (23.5)	43 (17.0)	24.9
Other	13 (1.3)	11 (1.4)	2 (1.0)	6 (2.4)	1.4
Most serious current offense					
Violent	224 (22.6)	179 (22.6)	45 (22.5)	62 (24.5)	28.6
Felony charges[b]	357 (36.0)	314 (39.7)***	43 (21.5)	86 (34.0)	26.9

Note. TJPC = Texas Juvenile Probation Commission.
[a]Population of formal referrals to juvenile probation authorities in 8 participating counties for calendar year 2002, N = 21 476.
[b]Significant gender difference.
[c]Participants > nonparticipants, $P<.001$.
*$P<.05$; **$P<.01$; ***$P<.00$.

quarter, the most serious current offense was characterized as violent. On average, youths had 1.5 prior TJPC referrals. Reflecting the wide range of presenting offenses, only 8 youths (<1%) were transferred to adult court, and only 42 (4.2%) were remanded for secure out-of-home placement. Juveniles charged with more serious crimes began their criminal careers at slightly younger ages; for youths with violent current offenses, the mean age of first referral was 13.8 versus 14.0 years for those with nonviolent current offenses ($t_{334.4}=2.06$, $P=.041$).

Among approached youths, participants had more prior referrals ($t_{604.2}=5.26$, $P=.000$) and had completed more years of school ($t_{1210}=2.95$, $P=.031$) than nonparticipants; there were no other significant differences between participants and nonparticipants.

For the most part, the present sample reflected the statewide composition of the Texas juvenile probation population (Table 1). The current sample was similar to the statewide sample in gender, age, and grade but included somewhat fewer White and more Hispanic youths. Likely reflecting our focus on larger population centers, there were more felony offenses in the current sample.

TABLE 2—Voice DISC Diagnostic Profiles for Overall Sample and by Gender (N = 991) [a]

Disorder	Overall		Boys (n = 791)		Girls (n = 200)	
	No.	%	No.	%	No.	%
No DISC disorder	538	54.3	437	55.2	101	50.5
Any DISC disorder	453	45.7	354	44.8	99	49.5
Any anxiety disorder (without separation anxiety) [b]	196	19.8	138	17.4	58	29.0***
Agoraphobia	90	9.2	65	8.3	25	12.8
Generalized anxiety disorder	34	3.5	28	3.6	6	3.1
Obsessive-compulsive disorder	52	5.4	41	5.3	11	5.7
Panic disorder	28	2.9	22	2.8	6	3.0
PTSD	39	4.0	27	3.5	12	6.2
Social phobia	53	5.4	36	4.6	17	8.5*
Specific phobia	69	7.1	47	6.1	22	11.4*
Separation anxiety	204	26.5	160	25.1	44	32.8
Any affective disorder	73	7.4	47	5.9	26	13.0**
Manic episode	9	0.9	8	1.0	1	0.5
Hypomanic episode	12	1.2	8	1.0	4	2.1
Major depressive disorder [c]	61	6.3	39	5.1	22	11.4**
Dysthymic disorder	2	0.2	1	0.1	1	0.5
Any disruptive disorder	198	20.0	158	20.0	40	20.0
ADHD	10	1.1	9	1.2	1	0.5
Conduct disorder [d]	172	18.0	140	18.3	32	16.8
Oppositional defiant disorder	61	6.4	41	5.3	20	10.5**
Any substance use disorder	252	25.4	208	26.3	44	22.0
Alcohol abuse	66	7.0	56	7.3	10	5.4
Alcohol dependence	31	3.1	24	3.0	7	3.5
Marijuana abuse	90	9.5	75	9.9	15	8.1
Marijuana dependence	121	12.8	100	13.2	21	11.3
Other substance abuse	28	3.0	21	2.8	7	3.8
Other substance dependence	34	3.6	25	3.3	9	4.9

Note. DISC = Diagnostic Interview Schedule for Children; PTSD = posttraumatic stress disorder; ADHD = attention-deficit/hyperactivity disorder.
[a]Because of early termination, prevalence for some diagnoses is based on a slightly reduced number.
[b]Anxiety diagnostic cluster does not consider presence of separation anxiety.
[c]Present state DISC and DSM-IV criteria necessitate that youth with major depressive disorder do not also receive a disorder of dysthymia.
[d]Past 6 months.
*$P<.05$; **$P<.01$; ***$P<.001$.

Gender Differences

Boys and girls differed somewhat in demographic and offense characteristics (Table 1). Boys were slightly older than girls ($t_{989}=2.93$, $P=.004$), had more prior justice contacts ($t_{989}=2.04$, $P=.042$), and were more likely to have felony charges ($\chi^2_1=22.94$, $P=.000$). There were no other significant gender differences in demographic or offense characteristics.

Table 2 shows rates of disorder and diagnostic clusters for the sample as a whole and by gender. Nearly half the sample reported meeting criteria for at least 1 disorder. Although boys and girls reported similar proportions of DBDs and SUDs, significantly more girls reported anxiety ($\chi^2_1=13.42$, $P=.000$) and affective ($\chi^2_1=11.66$, $P=.000$) disorders. Significantly more girls reported Social Phobia ($\chi^2_1=4.90$, $P=.027$), specific phobia ($\chi^2_1=6.64$, $P=.010$), major depressive disorder ($\chi^2_1=10.47$, $P=.001$), and oppositional defiant disorder ($\chi^2_1=6.85$, $P=.009$). Girls' rates were elevated, though not significantly, for posttraumatic stress disorder (PTSD), separation anxiety disorder, and agoraphobia.

Although rates of CD did not differ between boys and girls, we examined whether they differed regarding which particular symptoms they endorsed. Boys were significantly higher only in breaking and entering (10.6% vs 4.7%, $\chi^2_1=6.11$, $P=.013$) and staying out late (6.2% vs 2.1%, $\chi^2_1=4.92$, $P=.026$). Girls were significantly higher only in lying (10.0% vs 5.2%, $\chi^2_1=5.95$, $P=.015$), nonconfrontational stealing (32.6% vs 17.9%, $\chi^2_1=20.00$, $P=.000$), and running away (16.3% vs 6.0%, $\chi^2_1=21.73$, $P=.000$). To determine whether the substantial gender difference in nonconfrontational stealing strongly influenced our finding of no gender difference in CD, we repeated analyses without this symptom; boys and girls remained similar in rates of CD.

As in our earlier reports, we did not include separation anxiety disorder when calculating the anxiety diagnostic cluster. Rates of separation anxiety disorder (Table 2) are extraordinarily high (overall 26.5%, criteria only) in our sample and other justice samples (e.g., Teplin et al.[13]), perhaps reflecting a contextual

TABLE 3—Predictors of Diagnostic Interview Schedule for Children's Diagnostic Clusters

	Any Anxiety Disorder		Any Affective Disorder		Any Disruptive Disorder		Any Substance Use Disorder	
	(95% CI)	$R^{2\,a}$	OR (95% CI)	R^2	OR (95% CI)	R^2	OR (95% CI)	R^2
Gender (male vs female)	.59 (0.37, 0.93)**	.025	0.32 (0.18, 0.56)***	.028	1.32 (0.80, 2.18)	.000	1.40 (0.88, 2.24)	.003
Age	1.22 (0.96, 1.55)	.026	1.44 (1.01, 2.04)*	.046	0.85 (0.65, 1.10)	.004	1.29 (1.02, 1.63)*	.057
Ethnicity		.028		.046		.014		.109
African American vs White	0.99 (0.60, 1.65)		0.79 (0.38, 1.68)		0.50 (0.30, 0.85)**		0.27 (0.16, 0.46)***	
Hispanic vs White	0.81 (0.51, 1.28)		0.75 (0.38, 1.47)		0.71 (0.46, 1.10)		0.86 (0.57, 1.28)	
Close kin residence	0.83 (0.41, 1.68)	.030	0.79 (0.29, 2.15)	.048	0.54 (0.28, 1.04)	.022	1.07 (0.52, 2.23)	.109
Age at first offense	0.72 (0.57, 0.91)**	.065	0.79 (0.57, 1.10)	.098	1.26 (0.98, 1.63)	.025	1.08 (0.87, 1.36)	.120
Number prior referrals	1.04 (0.94, 1.15)	.066	1.20 (1.06, 1.36)**	.119	1.22 (1.11, 1.35)***	.055	1.20 (1.09, 1.31)***	.142
Violent current offense	2.67 (1.29, 5.74)*	.067	1.58 (0.86, 2.91)	.124	1.87 (0.77, 4.58)	.057	1.62 (0.66, 4.00)	.148
Violent offense by gender	0.34 (0.14, 0.84)*	.077			0.32 (0.11, 0.90)*	.065	0.33 (0.12, 0.92)*	.154

Note. OR = odds ratio; CI = confidence interval.
[a]Cumulative Nagelkerke's R^2 for Logistic Regression from SPSS.
*P < .05; **P < .01; ***P < .001.

reality–based reaction to pending incarceration, as opposed to clinical disorder.[24]

Predicting Disorder from Demographic and Criminal Offense Characteristics

Table 3 presents results of logistic regression, predicting diagnostic clusters from demographic and offense characteristics. Because neither county nor days between referral and assessment yielded significant or substantial effects in any analysis, both were dropped from final models. Because results for analyses comparing associations with age and school grade were essentially identical (data not shown), analyses are presented with age, rather than grade, in models. Final analyses controlled for gender, age, ethnicity, residence, age at first offense, number of prior referrals, and whether or not the current offense was violent. Even in adjusted analyses, girls remained significantly more likely to report anxiety and affective disorders (odds ratio [OR]=0.59, P=.023; and OR=0.32, P=.000, respectively), with no gender differences for disruptive or substance abuse clusters.

Anxiety disorders were significantly more common in girls, in those younger at first referral, and in those charged with a violent offense. The significant gender interaction indicated that girls charged with violent crimes were 3 to 5 times more likely than other groups to report anxiety disorders; for comparisons with nonviolent girls, violent boys, and nonviolent boys, OR=3.17, OR=5.51, and OR=4.29 (P=.005, P=.000, and P=.000), respectively (Figure 1). Affective disorders were significantly more common in girls, in older juveniles, and in those with more prior justice contacts. There were no significant gender interactions for the affective diagnostic cluster.

Youths reporting disruptive behavior disorders had significantly more prior justice contact and were less likely to be African American than White. Living with a close relative decreased the likelihood of a disruptive disorder somewhat. The significant gender interaction (Figure 1) reflected that girls charged with violent crimes were 3 times as likely as their male counterparts to endorse a DBD (OR=3.02, P=.013).

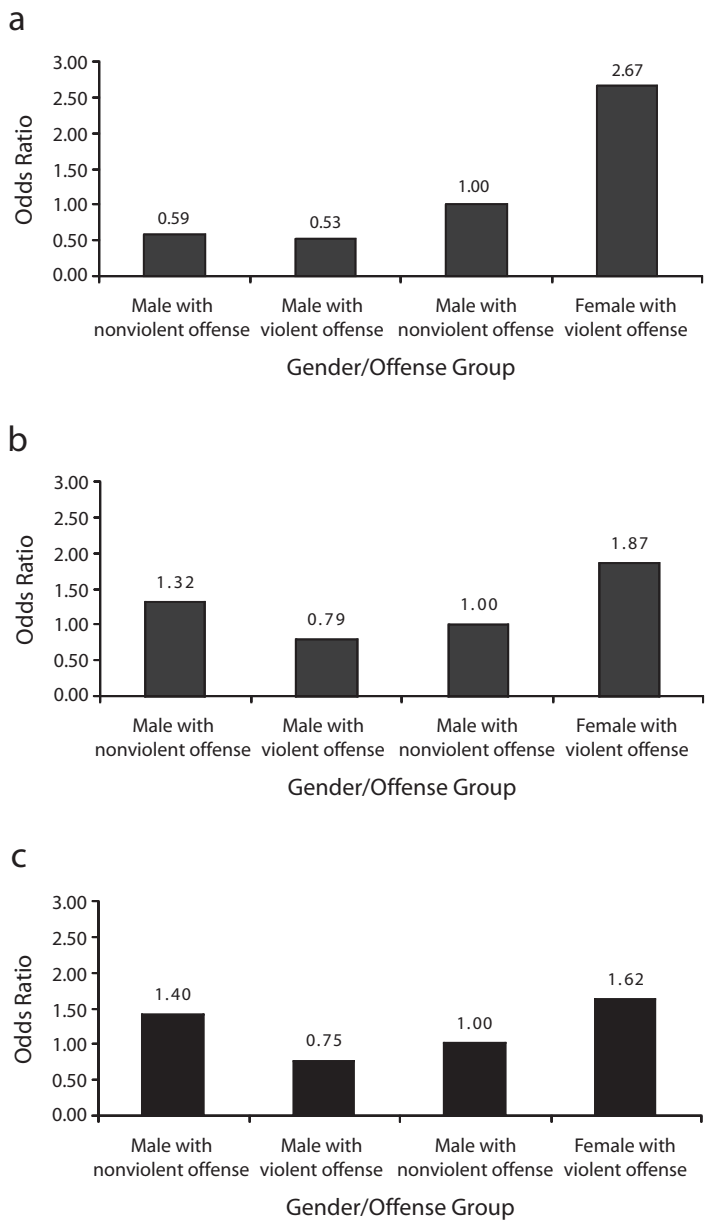
Those with SUDs were older, had significantly more prior referrals, and were less likely to be African American (compared with White). There was a significant gender-by-violence interaction (Figure 1): boys with violent offenses were less likely than those with nonviolent offenses to endorse an SUD (OR=0.54, P=.05), whereas SUD was equally common in girls regardless of current offense. Twenty-two percent of boys (9% of girls) whose most serious offense was nonviolent were charged with substance-related crimes; by definition, current violent offenses included only persons- and weapons-related charges. Although youths with SUDs overall were somewhat less likely to be charged with a violent offense, this specificity was more characteristic of boys. Girls' SUDs were high in our sample, regardless of offense type.

Co-occurring Disorders

Internalizing and externalizing disorders commonly co-occurred, particularly in girls. Among youths with externalizing disorders common to justice samples, significantly more girls than boys with substance disorders also reported anxiety (43.2% vs 22.1%, χ^2_1=8.41, P=.004) or affective disorders (27.3% vs 12.0%, χ^2_1=6.75, P=.009). Similarly, significantly more girls than boys with disruptive disorders also reported anxiety (42.5% vs 25.9%, χ^2_1=4.22, P=.040) or affective disorders (35.0% vs 12.0%, χ^2_1=12.13, P=.000).

DISCUSSION

Compared with boys, girls at probation intake reported more internalizing disorders, consistent with community samples, even when we controlled for personal and offense characteristics. Expectably, given that youths had to have engaged in serious misbehavior for inclusion, gender differences in externalizing disorders were not found. Despite the lack of a gender difference in rates of CD overall, girls were more likely than boys to report covert CD symptoms. Given the presence of a disorder "expectable" in a justice sample (DBD or SUD), girls were more likely



Note. DISC = Voice Diagnostic Interview Schedule for Children.
[a]Exponentiated sum of unstandardized beta coefficients controlling for age, ethnicity, residence with close relative, age at first referral, and number of prior referrals.

FIGURE 1—Interaction between gender and violent offense in predicting DISC diagnostic cluster[a] for (a) anxiety disorder, (b) disruptive behavior disorder, and (c) substance use disorder.

to also endorse internalizing disorders. Demographic and offense characteristics explained small but interpretable and specific variance in diagnostic profile. Girls charged with violent offenses, compared with other groups, were 3 to 5 times as likely to report anxiety disorders. Among youths already demonstrating conduct problems by virtue of their probation processing, findings demonstrated an elevated risk for internalizing disorders in girls. Regarding co-occurring disorders, then, we find support for the operation of a gender paradox for antisocial girls whereby they are more impaired across co-occurring dimensions than are their male counterparts.

Gender Differences in Co-occurring Internalizing Disorders

Affective disorders. Although not all of the present sample acknowledged CD, rates for its co-occurrence with both sets of internalizing disorders are comparable to those found in community samples (i.e., approximately 15%), with slightly greater proportions of conduct-disordered community youths also reporting anxiety disorders.[25]

Higher rates of internalizing disorders are consistently found in girls with CD compared with boys.[6,7] Although rates of most disorders, including internalizing disorders, are higher overall in the present justice sample than in community samples,[25] the relatively higher prevalence for internalizing disorders in girls persists.

Longitudinal comparisons demonstrate[9] that from age 13 across adolescence, the severity of depressive symptoms worsens substantially more for conduct-disordered girls than for other groups of girls or boys. Over time, having CD predicted subsequent affective disorder substantially more strongly for girls. Our cross-sectional data, at a mean age of 15 years, are consistent in demonstrating girls' higher rates of co-occurring affective disorder in those with demonstrated conduct problems. What remains unclear is the process by which girls' conduct problems elevate risk for subsequent affective disorder.

Anxiety disorders. Girls' rates were elevated, although not significantly so, for PTSD, Separation Anxiety Disorder, and Agoraphobia. Although the present sample size is quite large, the power to detect gender differences in low-prevalence disorders is limited (e.g., the power to detect the significance of the nearly doubled rate of girls' PTSD was only 42.4%). With a smaller sample, Abram et al.[26] reported no gender differences in rates of PTSD in a Chicago detention center and higher rates for both sexes than in the current sample (overall, 12% vs 4%), highlighting again the setting-specific nature of prevalence rates. Because only 32% of the TJPC's intakes statewide are detained for more than 24 hours,[27]

the present sample likely includes fewer youths with more serious criminal activity and correspondingly fewer with traumatic exposures. Although we did not find PTSD rates to be significantly different between boys and girls, we found gender differences in the reported PTSD-triggering events: girls were more likely to report forced sexual activity (25.9% of girls vs 5.7% of boys; $\chi^2_1=72.0$, $P=.000$), with boys more likely to report being threatened by a weapon (21.8% of girls vs 43.3 % of boys; $\chi^2_1=30.1$, $P=.000$).

Characterizing Juvenile Justice Samples

In the present probation intake sample, substantially fewer youths met criteria for some diagnostic clusters than previously reported for incarcerated youths, based on similar or identical assessments; for example, current rates for DBD and SUD are only 50% to 60% of those found earlier.[12,13] Although it is possible that differences in rates reflect geographic factors (Texas vs Illinois or New Jersey), they most likely reflect present inclusion criteria. Relatively few of the youths referred to the TJPC would actually be detained, and probably even fewer go on to a secure facility after adjudication. Given differences in the seriousness of both criminal activity and likely future sanctions, rates of anxiety disorder are quite comparable to those reported earlier for both sexes for incarcerated samples,[12,13] especially considering cross-study variation in assessment of anxiety disorders. It is likely that justice processing itself heightens anxiety.

The presence of an association between justice processing and anxiety disorder also underscores the importance of clear sample definitions in such studies. The juvenile justice system is anything but monolithic: differences occur across jurisdictions in characteristics of youths who enter, and across settings (secure or community) and processing (intake, postadjudication). Unfortunately, prior investigations have not always been clear about the point in processing when youths in the justice system are assessed or have combined youths assessed at multiple points. For example, 1 recent study of juveniles with justice system contact included youths regardless of their current placement (secure or community) and without consideration of when in processing they were assessed.[22,28] In another recent investigation, based on checklist data with detained youths,[29] only 30% were assessed within a day after intake (compared with 70% of the present sample): declining rates of depressive symptoms across days detained[29] perhaps eliminated a gender difference that might have been detected at intake.[30]

Researchers and policymakers alike must strive for clarity in defining the juvenile justice samples on which prevalence estimates are based. Because setting and processing variations impact importantly on reported mental health concerns, a recent report by the National Council on Disability[31] called for research assessing the prevalence of disabilities (including psychiatric) that moves beyond incarcerated samples to examine all stages of juvenile justice system processing. The present findings suggest that if we assess youths at system entry, rates of disorder may well be lower than those generated from systematic studies of incarcerated youths.[12,13] Importantly, anxiety disorders appear to be comparably high at various transitions in justice processing (the current probation intake, entry into detention,[13] or entry to lengthier incarceration),[12] perhaps reflecting youths' concerns about future sanctions. As the implications for case identification and intervention are substantial, researchers need to provide juvenile justice agencies with accurate prevalence estimates so that they can anticipate such differences in rates of disorder across processing.

Programming Implications

Recognizing the trend toward increasing numbers of girls having contact with the juvenile justice system, Section 223(a)(8) of the Juvenile Justice and Delinquency Prevention Act was modified in 1992 to require that states address gender bias in the juvenile justice system. Although justice agencies have recently expressed interest in gender-specific programming to meet girls' unique needs, there is little systematic evidence to date documenting gender-unique mental health factors that might be addressed by such programming. Programs highlight increased risk for mood disorder and victimization in adolescent girls in general (e.g., Oregon Criminal Justice Commission).[32] The current investigation clarifies the unique needs of girls in a number of related areas. Beyond the predictably high rates of girls' PTSD and affective disorder, we found elevated rates of other anxiety disorders as well. Importantly, we found that girls charged with more violent and confrontational crimes are at particular risk for anxiety disorders; boys engaging in similar criminal activities do not show higher rates of anxiety disorders. If the secondary consequences of these confrontational activities are dealt with very differently by boys and girls, clinicians working with girls in the justice system might want to consider this connection between anxiety and violence a focus of therapy.

Limitations

Our findings, drawn from 1 state's most urban counties, may only apply to youths at probation intake with similar characteristics. Although we found that confrontational criminal activities may elevate risk for anxiety disorders in girls, we were unable to examine the direction of causality (i.e., does a preexisting anxiety disorder elevate risk for girls' confrontational activity?). Clarification of this process, as well as the ways in which delinquent activity may heighten girls' risk for affective disorders, requires longitudinal studies of girls at high risk for criminal activity.

Finally, as noted, despite large sample size, power was limited to detect gender differences for low-prevalence disorders; systematic study with larger samples across multiple processing points would allow researchers and policymakers alike to better characterize the scope of mental health needs in this very vulnerable population. ■

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Contributors

G.A. Wasserman originated the study and supervised all aspects of its implementation. L.S. McReynolds coor-

dinated data collection and completed the analyses. G.A. Wasserman, S.J. Ko, and L.S. McReynolds contributed to the writing of all sections. L.M. Katz was responsible for data linkage, conducted initial analyses, and contributed to the Methods and Results sections. J.R. Carpenter assisted with data collection and the abstraction of automated justice records.

Human Participant Protection

The institutional review board of Columbia University/New York State Psychiatric Institute reviewed and approved the study protocol.

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