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# The Association of Psychiatric Disorders with Suicide Attempts in a Juvenile Delinquent Sample

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Abstract

The goal of this study was to examine the degree to which psychiatric disorders (current and lifetime) are associated with a history of suicide attempt in a sample of juvenile delinquents. Sixty adolescents in a secured detention facility participated in diagnostic interviews assessing most psychiatric disorders according to DSM-III-R criteria. Although this population appears to have numerous psychiatric problems, suicide attempts were primarily associated with the internalizing problems of depression (major depression and dysthymia) and anxiety disorders. Suicide attempt rates were approximately twice as high for adolescents with these disorders compared to adolescents who had not experienced the disorder. Cannabis use disorders were associated with a trend ($p = .051$) for lower lifetime suicidal behaviour. Conduct and oppositional defiant disorders were associated with higher rates of suicide attempts in boys but lower rates of attempts in girls. The co-occurrence of psychiatric disorders did not significantly increase the likelihood of suicide attempt, although the pattern of results was in the predicted direction. Understanding the determinants of suicidal behaviour in detained adolescents has important clinical and theoretical implications. Efforts are clearly needed to actively treat depression in this population.

# The Association of Psychiatric Disorders with Suicide Attempts in a Juvenile Delinquent Sample

As the number of completed suicides in teenagers has become an increasing public health problem, it is important that we have a better understanding of the factors relating to nonlethal suicidal behaviours. Recent epidemiologic studies suggest that the lifetime prevalence of suicide attempts in high school adolescents ranges from 3.5% to 11% (Velez & Cohen, 1988; Andrews & Lewinsohn, 1992). Rates of suicidal behaviour among juvenile delinquents appear to be even higher (e.g., Bailey, 1993; Battle, Battle, & Tolley, 1993; Hendren & Blumenthal, 1989; Lewis et al., 1991; Miller, Chiles, & Barnes, 1982). In a previous study we found that 14.2% of juvenile delinquents reported suicidal thoughts in the preceding several days, 33.7% reported ideation at sometime in their lives, and 19.4% had made a past suicide attempt (Rohde, Mace, & Seeley, in press). The rate of death due to suicide for adolescents in juvenile detention centers has been estimated to be 4.6 times higher than the general population rate (Memory, 1989).

The high rate of suicidal behaviour in this population, which makes it a particularly relevant group for study, is not completely surprising. Juvenile delinquents tend to have a life history of factors that predispose them to suicide, including high rates of life stress, limited social support, and history of physical, sexual, and emotional abuse (Dembo, LaVoie, Schmeidler, & Washburn, 1987;

Battle et al., 1993). In addition, delinquent adolescents have elevated rates of psychiatric disorder, especially conduct disorder, substance abuse/dependence, and depression (e.g., Chiles, Miller, & Cox, 1980; Alessi, McManus, Grapentine, & Brickman, 1984; McManus, Alessi, Grapentine, & Brickman, 1984; Joffe, Dobson, Fine, Marriage, & Haley, 1990; Milin, Halikas, Meller, Morse, 1991).

While the strongest known predictor of future suicide attempts and actual suicide completion is the history of a past suicide attempt (e.g., Farberow, 1989; Lewinsohn, Rohde, & Seeley, 1994), the presence of a psychiatric disorder also appears to be a critical risk factor for suicidal behaviour. Approximately 75% to 100% of adolescent suicide attempters and completers have a psychiatric disorder (e.g., Rich, Young, & Fowler, 1986; Brent et al., 1988; Andrews & Lewinsohn, 1992; Garrison, Addy, Jackson, McKeown, & Waller, 1992; Kovacs, Goldston, & Gatsonis, 1993), specifically, major depression (Lewinsohn et al., 1994), substance abuse/dependence disorders (e.g., Fowler et al, 1986), disruptive behaviour disorders (e.g, Cairns, Peterson, & Neckerman, 1988), and anxiety disorders, especially panic disorder (e.g., Johnson, Weissman, & Klerman, 1990). The presence of comorbid psychiatric disorders appears to be an especially salient risk factor (e.g., Marttunen, Aro, Henriksson, & Lonnqvist, 1991; Lewinsohn, Rohde, & Seeley, 1995).

The goal of the present study is to examine the degree to which psychiatric disorders, lifetime and current, are associated with suicide attempt in a

juvenile delinquent sample. We are especially interested in potential gender differences and whether psychiatric comorbidity is associated with increased risk for suicide attempts. Given the strong associations known to exist in other populations between depression and suicidal behaviour, we also look at differences between delinquent adolescents who have been depressed but not attempted suicide, those who have attempted suicide but not been depressed, and those who have both experienced clinical depression and attempted suicide.

## Method

### Subjects and Procedures

Data collection took place at a 36-bed secured detention facility that provides residential services to several hundred youth in the county per year. Youth who are held in the facility have been accused of crimes against persons and felony crimes against property, or if adjudicated, violations of the conditions of probation. The detention center is neither an evaluation nor punishment center. Youth are held pending trial or awaiting placement in a treatment center. Factors that influence the length of stay include court docket time, attorney preparation time, availability of witnesses, and availability of bed space in treatment facilities. All youth are held by court order. An adolescent can not be detained for mental health reasons although staff deal with mental health issues, including suicide risk, for youth who are detained.

Between 1992 and 1995, 1,035 questionnaires were completed by 555

adolescents within the first few days of entry into the facility. The questionnaires contained 188 items assessing current and past suicidal ideation, past suicide attempts, and a variety of psychosocial measures thought to be related to suicidal behaviour. Due to repeated placements in detention, 240 of the participants completed the questionnaire at least twice. Adolescents who were detained for three days or less seldom completed the questionnaire (25.6% participation rate), whereas participation for adolescents detained for four or more days was very good (81.0%). Questionnaire participants did not differ from nonparticipants in terms of gender; $\chi^2(1, \underline{N} = 694) = 0.24$, ns; or race; $\chi^2(1, \underline{N} = 692) = 1.41$, ns, but were significantly younger than nonparticipants (mean age = 15.3 years vs. 16.1); $\underline{t}(714) = 6.42$, $\underline{p} < .001$. This difference may have been due to older adolescents tending to be detained for shorter periods; the correlation between age and number of detention days was $\underline{r} = -.20$, $\underline{p} < .001$. For each subject who completed a questionnaire, $2 were placed in the Judge's Fund, a pool of unrestricted moneys used by staff to either purchase recreational supplies for youth in the facility or provide services for indigent adolescents.

Sixty adolescents who had completed the questionnaire also participated in a diagnostic interview. Interview participation was based on several factors. First, parental consent was required for participation in the diagnostic interviews. Obtaining consent proved to be difficult as parental visitations were allowed only two days per week. Therefore, interviewed subjects were representative of

adolescents who had been detained for longer periods than average. Second, to compare suicide attempters versus nonattempters and to examine gender differences, adolescents who reported a past suicide attempt on the questionnaire and females were oversampled. Although the interviewed sample was not randomly selected and therefore not representative of the entire detention population, it is seen as adequate for identifying the patterns of psychopathology associated with suicidal behaviour in this population.

Demographic Characteristics

The majority of interviewed adolescents were male ($n$ = 44, 73.3%); the remaining 26.7% ($n$ = 16) were female. The average age was 14.9 years (SD = 1.56). A total of 83.1% of the interviewed adolescents self-identified as Caucasian, 6.8% as Hispanic, 5.1% as Native American, 1.7% as African American, 1.7% as Asian or Pacific Islander, and 1.7% as other. Prior to detention, 31.7% had dropped out of school. Approximately one fourth (25.9%) had been living in households with their mother as the sole parent; 17.2% lived with a mother and stepfather, 13.8% lived with their biological mother and father. The remainder (29.3%) had been living with others before detention.

Compared with other adolescents completing the questionnaire, interviewed participants were slightly younger (mean age = 14.9 years vs. 15.3 in non-interviewed subjects); $t(553) = 1.98$, $p < .05$ and were more likely to be female (26.7% vs. 16.4% in the remaining questionnaire sample); $\chi^2(1, n = 555)$

= 3.94, $p < .05$. The two groups did not differ on the other demographic characteristics.

Diagnostic Interview

Interviews were conducted by two interviewers, each of whom had an advanced degree in psychology and had completed extensive training for diagnostic interviewing in related projects. The interview consisted of a version of the Schedule for Affective Disorders and Schizophrenia for School-Age Children (K-SADS; Orvaschel et al., 1982) that included additional items to derive diagnoses of most disorders according to DSM-III-R criteria (American Psychiatric Association, 1987). A 17-item version of the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) for current depression symptomatology was completed based on the participant's responses to the depression items of the K-SADS. Global functioning was assessed according to DSM-III-R Axis V criteria. Ratings, which ranged from 0 to 90, were made for global functioning at the time of the interview and for highest level of functioning in the year preceding the interview. In addition to Axis I psychopathology, subjects 15 years of age or older ($n = 33$) were assessed for the 8 symptoms of borderline personality disorder using 14 items from the Personality Disorder Examination (PDE, Loranger, 1988). The borderline personality disorder item assessing recurrent suicidal behaviour, gestures, or threats, or self-mutilating behaviour was deselected from the present analyses. The PDE is a rigorous interview which

probes for specific examples or descriptions of each symptom to verify that the behaviours had a significant impact on the participant's life.

All interviews were audiotaped. Reliability ratings were obtained on a randomly selected 15% by a second experienced interviewer. The degree of agreement (kappa) between the symptom ratings of the original interviewer and reliability interviewer was .80 (range = .73 - .84), which indicated very good inter-rater agreement.

Suicidal ideation. As part of the assessment of depression, which was completed with each subject, information was obtained regarding current and past suicidal ideation (thoughts of death, wishes to be dead, suicidal ideation). Two variables were created: current suicidal ideation (presence of one or more of the three K-SADS items within two weeks of the interview) and lifetime suicidal ideation (the current or past presence of at least one item).

Suicide attempts. Suicide attempts were assessed by a positive response to the interview probe, "Have you ever tried to kill yourself or done anything that could have killed you?" If in doubt, the interviewer asked further questions to rule out purely thrill-seeking behaviours. For subjects reporting a past suicide attempt (n = 22, 36.7%), interviewers rated (a) suicidal intent at the time of the attempt, using the 12-point Intent Scale (IS; Pierce, 1977), and (b) lethality, using the 11-point Lethality of Suicide Attempts Rating Scale (Smith, Conroy, & Ehler, 1984). Suicidal intent was low (IS scores = 0-3) for 11% of the attempters, medium (IS

scores = 4-10) for 48% of the attempters, and high (IS scores = 11+) for 42% of the attempters. Death was improbable for 75% of the cases and was rated as a 50-50 probability or greater in 25% of the cases. Rates of suicide attempts among males and females did not significantly differ (34.1% vs. 43.8%); $\chi^2(1, \underline{n} = 60) = 0.47$, ns.

The interviewed subjects were categorized on the basis of their lifetime record of criminal charges (percentages add up to more than 100 because most subject had multiple offenses): (1) crimes against persons (31.7%) included assault and sexual offenses; (2) crimes against property (91.7%) included shoplifting and arson; (3) other crimes (36.7%) included disorderly conduct and drug possession; (4) status offenses (40.0%) included runaway and curfew violations; and (5) miscellaneous (31.7%) included parole violations and major traffic offenses. Gender differences in the proportion of subjects within each offense category were nonsignificant. The average number of times in detention was 3.6 (SD = 2.8).

## Results

### Rates of Psychopathology

The rates of various psychiatric disorders in the sample, both current and lifetime (i.e., past or current) are shown in Table 1. All disorders with a lifetime prevalence of at least 5% are included. Almost all subjects (90%) received at least one diagnosis of major psychopathology. Approximately three fourths of the

subjects met criteria for conduct disorder (the remaining subjects had engaged in a more limited range of criminal behaviours, such as sexual offenses). Substance use disorders were the second most prevalent category of disorder. Subjects with drug and alcohol problems almost always met the more severe criteria for psychoactive substance dependence rather than abuse.

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Insert Table 1 about here

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Gender differences in the rates of current and lifetime disorders were examined by two-way contingency tables. The one significant gender difference was that girls were more likely than boys to have a lifetime occurrence of major depression (62.5% vs. 31.8%); $\chi^2(1, \underline{n} = 60) = 4.60, \underline{p} < .05$.

Association of Psychopathology with Suicide Attempt

Data regarding the frequency of past suicide attempt as a function of psychiatric disorders (current and lifetime) are presented in Table 2. Regarding current psychopathology, suicide attempts were significantly associated with only dysthymia; $\chi^2(1, \underline{n} = 60) = 4.41, \underline{p} < .05$. Attempts were significantly associated with lifetime occurrence of the three internalizing disorders: major depression; $\chi^2(1, \underline{n} = 60) = 5.28, \underline{p} < .05$; dysthymia; $\chi^2(1, \underline{n} = 60) = 4.41, \underline{p} < .05$; and anxiety disorders; $\chi^2(1, \underline{n} = 60) = 4.22, \underline{p} < .05$. Suicide attempt rates were approximately twice as high for adolescents with these disorders compared to adolescents who

had not experienced the disorder. There was also a trend for lower suicide attempt rates given a diagnosis of cannabis abuse/dependence compared to adolescents with no diagnosis of cannabis abuse/dependence; $\chi^2(1, n = 60) = 3.79$, $p = .051$.

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Gender moderated the association between suicide attempt and the lifetime occurrence of two disorders: conduct disorder (CD); $\chi^2(1, n = 60) = 4.31$, $p < .05$, and oppositional defiant disorder (ODD); $\chi^2(1, n = 60) = 5.81$, $p < .05$. In both instances, examining the associations of attempt and psychopathology separately by gender revealed that suicide attempts were associated with the absence of disruptive behaviour disorders in girls and the presence of disruptive behaviour disorders in boys. Rates of suicide attempt were 33.3% in CD girls versus 75.0% in non-CD girls, whereas attempt rates were 40.6% in CD boys versus 16.7% in non-CD boys. Regarding ODD, suicide attempt rates were 0.0% in ODD girls versus 53.8% in non-ODD girls, and 57.1% in ODD boys versus 29.7% in non-ODD boys.

Association of Additional Interview Variables with Suicide Attempt

Not surprisingly, a history of suicide attempt was significantly associated with both current and lifetime suicidal ideation. A total of 40.9% of the attempters had current ideation at the time of the interview compared with 5.3% of the non-

attempters; $\chi^2(1, \underline{n} = 60) = 11.92$, $\underline{p} < 001$. Over three quarters of subjects with suicide attempt (77.3%) had lifetime suicidal ideation compared with 10.5% of the non-attempters; $\chi^2(1, \underline{n} = 60) = 27.29$, $\underline{p} < .001$. The five subjects who reported past suicide attempt but no significant suicidal ideation reported either very impulsive behaviours or attention-seeking behaviours which they knew were not life-threatening.

Participants with a history of suicide attempt had significantly greater current depression severity (attempter mean HRSD score = 10.76 vs. non-attempter mean = 6.05), $\underline{t}(57) = 2.86$, $\underline{p} < .01$; significantly lower global role functioning in the past year (mean GAF score = 63.73 vs. 71.59), $\underline{t}(57) = 2.23$, $\underline{p} < .05$; and a greater number of borderline personality disorder symptoms (mean = 2.00 vs. 1.09), $\underline{t}(31) = 2.36$, $\underline{p} < .05$. Attempters did not differ from nonattempters on current role functioning. In addition, suicide attempts were not associated with criminal offense category or with the number of times the adolescent had been held in detention.

The Impact of Comorbidity

Lifetime rates of suicide attempt were next examined as a function of the number of psychiatric disorders. Diagnoses were divided into depression (major depression or dysthymia), anxiety, substance use, and disruptive behaviour disorder categories. Subjects were classified on the number of diagnostic categories they had experienced (10.0% had diagnoses in none of the categories,

15.0% had diagnoses in only one category, 38.3% had diagnoses in two categories, and 36.7% had diagnoses in three or four categories). Although the rate of suicide attempt increased as a function of number of disorders, group differences were not statistically significant; $\chi^2(1, \underline{n} = 60) = 6.03$, ns ($\underline{p} = .11$). Attempt rates were 0% given zero disorders, 22.2% given one disorder, 39.1% given two disorders, and 50.0% given three or four disorders. Increases in the rate of suicide attempt as a function of disorder number were not significant for either males or females when examined separately.

Given the well-established association between suicidal behaviour and depression, we examined whether the rate of suicide attempt would increase among depressed delinquent adolescents as a function of other psychopathology. Of the 28 subjects with a lifetime diagnosis of depression, 2 (7.1%) had no psychiatric comorbidity, 7 (25.0%) had one comorbid disorder, and 19 (67.8%) had two or three comorbid disorders. Suicide attempt rates among depressed adolescents did not significantly increase as a function of psychiatric comorbidity; $\chi^2(1, \underline{n} = 28) = 0.78$, ns. Suicide attempt rates in the depressed subjects were 50.0% given no comorbidity, 71.4% given one comorbid disorder, and 52.6% given two or three comorbid disorders. Patterns were similarly nonsignificant when examined separately by gender.

Differentiating Subjects With Depression and Suicide Attempts

The last set of analyses in the present study attempted to identify

differences between subjects as a function of depression and suicide attempt. Subjects with a diagnosis of depression and/or suicide attempt were categorized into (a) those with a history of suicide attempt but not depression ($n = 6$), (b) those with both suicide attempt and depression ($n = 16$), and (c) those with a history of depression but not suicide attempt ($n = 12$). The three groups did not differ on gender, race, or living situation prior to detention (i.e., living with a biological parent or not). Rates of psychiatric disorders and suicidal ideation for the three groups are shown in Table 3.

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The only statistically significant group difference was for lifetime suicidal ideation; $\chi^2(1, n = 34) = 11.94$, $p < .01$. Depressed subjects with no attempt had significantly less suicidal ideation than depressed subjects with a past suicide attempt; $\chi^2(1, n = 28) = 11.50$, $p < .001$; whereas nondepressed and depressed suicide attempters did not differ. A trend was also noted regarding oppositional defiant disorder; $\chi^2(1, n = 34) = 5.33$, $p = .070$. Nondepressed attempters had significantly higher rates of ODD compared to depressed attempters; $\chi^2(1, n = 22) = 5.61$, $p < .05$, whereas depressed nonattempters and depressed attempters did not differ. Group differences in depression severity as measured by the Hamilton score, current and highest level of global functioning during the last year, and

borderline personality disorder symptoms were nonsignificant. The three groups also did not differ on types of criminal offenses or number of times in detention.

## Discussion

Although this population appears to have numerous psychiatric difficulties, suicide attempts were primarily associated with the internalizing disorders of depression and anxiety. Suicide attempt rates were approximately twice as high in subjects with lifetime major depression, dysthymia, and anxiety disorders as in subjects without these respective disorders. This is consistent with the findings of Chiles et al. (1980), in which rates of suicide attempt in an adolescent correctional facility were 25.7% in the depressed participants compared with 10.0% in the non-depressed. Similarly, Kempton and Forehand (1992) found that depression was a significant predictor of suicide attempts in white incarcerated juvenile delinquents (but not for black delinquent youths). Suicide attempts in the present study were also associated with greater current and lifetime suicidal ideation, more severe current depression, poorer role functioning, and a greater number of borderline personality disorder symptoms. Although not statistically significant, suicide attempt rates appeared higher among delinquents with a lifetime history of ADHD and among those with a current diagnosis of hard drug abuse/dependence. These differences may have become significant with a larger sample.

The trend for cannabis abuse/dependence in the present study to be

associated with lower rates of suicide attempts needs to be replicated but suggests that problematic cannabis use may function as a form of escapist coping behaviour related to less suicidal behaviour in delinquents girls and boys. Previous research has found higher rates of alcohol and drug addictions associated with suicide behavior in adult prisoners (Liebling, 1995) and delinquent adolescent males (Young et al., 1995), although others have found no significant association between substance abuse and suicide attempts in incarcerated juvenile delinquents (Harris & Lennings, 1993). The pattern of results in the present study suggests that problematic substance use among juvenile delinquents has a complex relation with suicidal behavior, varying as a function of the substance. Consistant with this hypothesis, active alcoholism and cocaine use among community adults have previously been found to be associated with increased risk of future suicide attempt while marijuana use was not (Petronis, Samuels, Moscicki, & Anthony, 1990).

Two interactions with gender were noted in the associations between psychopathology and suicide attempt: conduct disorder (CD) and oppositional defiant disorder (ODD) were associated with higher rates of suicidal behaviour in boys but with lower rates of suicidal behaviour in girls. Thus, while, as with community adolescents in general, CD and ODD act as suicidal risk factors for delinquent boys, these disorders may represent protective factors for delinquent girls. This pattern is consistent with a previously-reported gender interaction in

which delinquent females with low acting out scores (e.g., items assessing school suspension, arson, vandalism) and delinquent males with high acting out scores had the greatest suicide attempt risk (Miller et al., 1982). Miller and colleagues suggested that acting out represents a principal mode of expressing emotions and resolving conflict for delinquent adolescents and its absence left these girls vulnerable to suicidal behaviour. In general, more needs to be known about the coping methods employed by juvenile delinquents. Liebling (1993) emphasized the inability to cope as an important distinguishing factor for suicide attempts compared to the general young prisoner population.

Although not statistically significant, the pattern of results suggested that the co-occurrence of multiple mental disorders increased the likelihood of suicide attempt in this sample. The rate of suicide attempt more than doubled from delinquents with one lifetime disorder to those with three or more psychiatric diagnoses. Presumably, the pattern of results would have reached significance given a larger sample size. More clearly nonsignificant were the negative findings regarding increased suicidal behaviour given comorbidity with depression. A robust association between suicide attempts and depression was present, which was unaffected by the presence or absence of other psychiatric disorders. Thus, the assumption that suicidality would be higher given psychiatric comorbidity may not be as straightforward in a delinquent sample as in a community-based population. Consistent with this negative finding, a chart review of psychiatrically

hospitalized children and adolescents found that the presence of conduct symptoms among depressed patients did not increase the risk of suicidal ideation or attempt (Hollis, 1996).

We had relatively little success distinguishing depressed attempters, depressed nonattempters, and nondepressed attempters. The only significant difference between depressed attempters versus depressed nonattempters was that depressed attempters reported greater levels of suicidal ideation. A trend suggested higher rates of ODD among nondepressed attempters compared to depressed attempters. Although these results need to be interpreted cautiously given the small number of subjects in each group, the findings suggest that factors other than psychopathology differentiate these groups. Consistent with the finding that depression was not associated with criminality types in serious juvenile offenders (Alessi et al., 1984), suicidal attempts in the present study were not associated with any particular category of criminal offense or with the chronicity of criminal activity, as indicated by the number of times the subject had been held in detention prior to the interview.

While the present study evaluated the association of major psychiatric disorders with suicidal behaviour in a reasonably large sample of detained adolescents using rigorous diagnostic procedures, certain disorders were not assessed. Most importantly given the frequency of physical, sexual, and emotional abuse in this population (e.g., Dembo et al., 1991), rates of post-traumatic stress

disorder are assumed to be elevated. PTSD has been shown to have important associations with suicide attempt (e.g., Biere & Runtz, 1987). Another limitation is that the data were obtained from a single juvenile detention facility. Although the center that participated in the present study had the same gender composition as other detention centers across the country, the generalizability of the current findings to other juvenile justice settings, particularly those with a higher ratio of non-white delinquent adolescents, is unknown. The study needs to be replicated with larger samples in different institutions and in different countries. It should also be remembered that the interviewed participants were representative of only those adolescents with longer detention stays. However, this is a particularly important group of detainees because they may place the most demands on juvenile justice and mental health systems. As they grow up, detained adolescents are likely to continue to use a high number of services. It would therefore seem prudent to try and intervene with these adolescents as soon as possible.

Regarding research implications, several obstacles confront efforts to better understand the problems presented by depression and suicidal behavior within closed custody. Research methodology generally requires more control than the practical and often political atmosphere of a juvenile detention facility provides. The use of a control group that would receive less than adequate care is not possible. Methods of stabilization and coping skills development need to vary and be flexible based on the needs of each individual child within the resources of

each center. Procedures and programs between both detention facilities and staff vary even within common geographical locations, and legislative changes can have a dramatic impact on the provision and design of services. Researchers wishing to conduct valuable projects in a juvenile delinquent setting need to work closely with program staff at the onset of the study. Staff need to clearly see the benefit of this research and have their concerns acknowledged and hopefully incorporated in the research protocol.

Understanding the determinants of suicidal behaviour in detained adolescents has important clinical and theoretical implications. Given that past suicide attempts are the strongest predictor of future attempts (e.g., Lewinsohn et al., 1994), this populations with its high level of previous suicide attempts is at high risk. Efforts are needed to prevent and actively treat depression and anxiety problems in juvenile delinquents. In addition, if conduct disorder (for girls) and cannabis use disorders are truly associated with lower risk of suicidal behaviour in this population, treating these symptoms without focusing on comorbid depression may leave delinquent adolescents at greater risk for future suicidal ideation and attempts. Although dysfunctional in the long run, these strategies may be nonetheless effective for many youths in reducing the stressors that can lead to suicide. The implication is that in designing programs specifically treating misconduct or substance abuse, including a component promoting prosocial coping strategies appears imperative.

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Table 1

Rates of Psychiatric Disorder in the Sample

| | Current | | Lifetime | |
|---|---|---|---|---|
| Type | n | % | n | % |
| major depression | 14 | 23.3 | 24 | 40.0 |
| dysthymia | 5 | 8.3 | 5 | 8.3 |
| anxiety disorders | 6 | 10.0 | 11 | 18.3 |
| conduct disorder | 44 | 73.3 | 44 | 73.3 |
| ADHD | 8 | 13.3 | 10 | 16.7 |
| oppositional defiant | 1 | 1.7 | 10 | 16.7 |
| alcohol abuse | 1 | 1.7 | 4 | 6.7 |
| alcohol dependence | 11 | 18.3 | 25 | 41.7 |
| cannabis abuse | 2 | 3.3 | 4 | 5.0 |
| cannabis dependence | 14 | 23.3 | 26 | 43.3 |
| hard drug abuse | 1 | 1.7 | 4 | 6.7 |
| hard drug dependence | 10 | 16.7 | 20 | 33.3 |
| any disorder | 53 | 88.3 | 54 | 90.0 |

Note. ADHD = attention-deficit-hyperactivity disorder.

Table 2

Frequency of Suicide Attempt as a Function of Current and Lifetime Disorders

| | Frequency of Suicide Attempt | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Current diagnosis | | | | Lifetime diagnosis | | | |
| Disorder | Yes | | No | | Yes | | No | |
| | n | % | n | % | n | % | n | % |
| major depression | 7 | 50.0 | 15 | 32.6 | 13 | 54.2 | 9 | 25.0* |
| dysthymia | 4 | 80.0 | 18 | 32.7* | 4 | 80.0 | 18 | 32.7* |
| anxiety disorders | 4 | 66.7 | 18 | 33.3 | 4 | 63.6 | 18 | 30.6* |
| conduct disorder | 17 | 38.6 | 5 | 31.3 | 17 | 38.6 | 5 | 31.3 |
| ADHD | 5 | 62.5 | 17 | 32.7 | 6 | 60.0 | 16 | 32.0 |
| oppositional | 1 | 100.0 | 21 | 35.6 | 4 | 40.0 | 18 | 36.0 |
| alcohol abuse/dep | 6 | 50.0 | 16 | 33.3 | 10 | 34.5 | 12 | 38.7 |
| cannabis abuse/dep | 5 | 31.1 | 17 | 38.6 | 7 | 24.1 | 15 | 48.4[a] |
| hard drug abuse/dep | 6 | 60.0 | 16 | 32.0 | 8 | 36.4 | 14 | 36.8 |

Note. *$p < .05$, [a]$p = .051$. ADHD = attention-deficit-hyperactivity disorder. Oppositional = oppositional defiant disorder. Abuse/dep = abuse and dependence disorders.

Table 3

Frequency of Psychopathology and Suicidal Ideation as a Function of Depression and Suicide Attempt Status

| Disorder | Attempt Only (n = 6) | Attempt + Dep (n = 16) | Dep Only (n = 12) |
|---|---|---|---|
| anxiety disorders | 50.0 | 25.0 | 8.3 |
| conduct disorder | 83.3 | 75.0 | 91.7 |
| ADHD | 33.3 | 25.0 | 16.7 |
| oppositional | 50.0 | 6.3 | 25.0[a] |
| alcohol abuse/dep | 50.0 | 43.8 | 66.7 |
| cannabis abuse/dep | 16.7 | 37.5 | 58.3 |
| hard drug abuse/dep | 16.7 | 43.8 | 66.7 |
| current suicidal ideation | 33.3 | 43.8 | 8.3 |
| lifetime suicidal ideation | 66.7 | 81.3 | 16.7** |

Note. **$p < .01$, [a]$p = .070$. Dep = depression. ADHD = attention-deficit-hyperactivity disorder. Oppositional = oppositional defiant disorder. Abuse/dep = abuse and dependence disorders.