Contents lists available at ScienceDirect

Aggression and Violent Behavior

Mental disorders in juveniles who sexually offended: A meta-analysis

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ARTICLE INFO

ABSTRACT

The purpose of this study was to establish the prevalence of mental disorders in juveniles who sexually offended (JSOs). A meta-analysis was performed based on studies reporting on the prevalence rates of mental disorders in JSOs. Furthermore, differences in mental disorders between JSOs and juveniles who offended non-sexually (non-JSOs) were assessed. In total, 21 studies reporting on mental disorders in 2951 JSOs and 18,688 non-JSOs were included. In the total group of JSOs, 69% met the criteria for at least one mental disorder; comorbidity was present in 44%. The most common externalizing and internalizing disorders were respectively conduct disorder (CD; 51%) and anxiety disorder (18%). Compared to non-JSOs, JSOs were less often diagnosed with a Disruptive Behavior Disorder (DBD, i.e., CD and/or Oppositional Deviant Disorder [ODD]), an Attention-Deficit/Hyperactivity Disorder (ADHD) and a Substance Use Disorder (SUD). No significant differences were found for internalizing disorders. In conclusion, although the prevalence of externalizing disorders is higher in non-JSOs, mental disorders are highly prevalent in JSOs. Even though results of the current meta-analysis may overestimate prevalence rates (e.g., due to publication bias), screening of JSOs should focus on mental disorders.

1. Introduction

In recent years, several studies have shown that the prevalence of mental disorders among juvenile offenders is high and that comorbidity is the rule rather than the exception (Colins, Vermeiren, Schuyten, & Broekaert, 2009; Fazel, Doll, & Långström, 2008; Vermeiren, Jespers, & Moffitt, 2006). The most prevalent mental disorders found among juvenile offenders are Disruptive Behavior Disorders (DBD; i.e., Conduct Disorder [CD] and/or Oppositional Deviant Disorder [ODD]), Attention-Deficit/Hyperactivity Disorder (ADHD), and Substance Use Disorder (SUD), and to a lesser extent internalizing disorders, such as anxiety disorders (e.g., Colins et al., 2010; Fazel et al., 2008).

Juvenile delinquents, however, constitute a heterogeneous group, with differences in mental health problems between various types of offenders, such as property and violent offenders (e.g., Colins et al., 2009). It has been demonstrated that juveniles who sexually offended (JSOs) have more internalizing problems and show less antisocial behavior problems, including substance abuse problems, than juvenile who offended non-sexually (non-JSOs) (Seto & Lalumière, 2010; Van Wijk et al., 2006). Studies reporting on actual diagnoses of mental disorders in JSOs, which are defined differently than mental health problems, however, are scarce and showed considerable variety among studies (e.g., Galli et al., 1999; Kavoussi, Kaplan, & Becker, 1988). It is, therefore, important to systematically examine the prevalence of mental disorders in this specific group of offenders.

Gaining insight in mental disorders of JSOs is important for at least four reasons. First, mental disorders are highly prevalent in juvenile offenders (e.g., Colins et al., 2010; Fazel et al., 2008), and a mental health assessment at the time of entry into a juvenile justice facility has gradually become common practice. However, it is as yet unknown whether the assessment of mental disorders in JSOs should be similar to the assessment of juvenile offenders in general or whether they should be tailored to the specific needs of JSOs. Second, knowledge about the type and seriousness of the mental disorder(s) could guide future treatment decisions. Taking the 'what works' principles of justice interventions as an example, treatment should target specific problems, including mental health (Andrews & Bonta, 2010). Correctional facilities now have the obligation to provide treatment for mental health problems (Grisso, 2004), which might improve the mental health of JSOs in adolescence as well as in emerging adulthood. Third, specific knowledge of mental health in JSOs can be used for further development of sex offender treatment programs. This may not only safeguard the positive development of the offender (in accordance with the Good Lives Model (Ward, 2002)), but may also prevent future offending (Cuellar, McReynolds, & Wasserman, 2006). Fourth, as mental disorders are assumed to increase

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the risk for reoffending in juvenile offenders (Colins et al., 2011), it is of societal relevance to focus on mental disorders in JSOs.

The main purpose of the current study was to estimate the prevalence of mental disorders in JSOs by means of meta-analytical techniques. Results might inform us about the specific characteristics of JSOs, allowing the scientific and clinical field to improve assessment, including treatment decisions, and sex offender prevention and treatment programs. To examine the prevalence and variability of mental disorders, we collected empirical research on mental disorders in JSOs based on the Diagnostic and Statistical Manual of mental disorders (DSM) and the Internal Classification of Diseases (ICD). In addition, in order to specify mental disorders in relation to sexual offending behavior versus offending behavior in general, JSOs were compared to non-JSOs. Based on previous studies on mental health problems (Seto & Lalumière, 2010; Van Wijk et al., 2006) it was hypothesized that JSOs show more internalizing disorders and fewer externalizing disorders, including SUD, than non-JSOs.

2. Method

2.1. Sample of studies

To be included in this meta-analysis, each study had to report on mental disorders based on DSM or ICD classifications, assessed by use of a structured or semi-structured clinical instrument, or retrieved from file reports. In line with previous studies in juvenile (general) offenders (e.g., Colins et al., 2011; Fazel et al., 2008) Axis-I disorders were included. Juveniles who sexually offended (JSOs) included in the current meta-analysis had been suspected of, or convicted for, a sex offense (e.g., child molestation, rape). Due to differences resulting from the various countries and types of institution, the age of the juveniles ranged between 10 and 22. As not all studies reported on type of sex offense, the current meta-analysis was not able to correct for type of offense.

In order to avoid biased retrieval of studies, multiple search methods were used (Rosenthal, 1995). First, we conducted a computerized search of several relevant databases: Web of Science, PsycInfo, PubMed, ERIC, Dissertation Abstracts and Scholar Google. The following key words were used in varying combinations: you*, juvenile, adolescen*, sex*, off*, psychopathology and psychiatr*. Subsequently, we examined the combination offen*, and several instruments reported in the papers of Fazel et al. (2008) (i.e., Adolescent Psychopathology Scale [APS], Diagnostic Interview for Children and Adolescents [DICA], Diagnostic Interview Schedule for Children [DISC], Juvenile Detention Interview [JDI], Practical Adolescent Dual Diagnostic Interview [PADDI], Kiddie-Schedule for Affective Disorders and Schizophrenia [K-SADS], Schedules for Clinical Assessment in Neuropsychiatry [SCAN], Structured Clinical Interview for DSM Diagnoses [SCID] and Salford Needs Assessment Schedule for Adolescents [SNASA]), Esmeijer, Veerman, and van Leeuwen (1999) (i.e., Anxiety Disorder Interview Schedule for Children [ADIS], Child and Adolescent Psychiatric Assessment [CAPA], Child Assessment Schedule [CAS], DICA, DISC, Interview Schedule for Children [ISC], K-SADS and Structured Interview for Diagnostic Assessment of Children [SIDAC]), and one additional instrument (i.e., Composite International Diagnostic Interview [CIDI]). Second, reference lists from relevant studies on mental disorders in JSOs (e.g., Seto & Lalumière, 2010; Van Wijk et al., 2006) or juveniles who offended non-sexually (non-JSOs) (e.g., Fazel et al., 2008) were examined for studies that might be included in the current meta-analysis. Third, we contacted researchers who published on the prevalence of mental disorders in juvenile offenders in general, including JSOs, but who did not (yet) report separately on the prevalence of mental disorders in JSOs. These researchers were asked to provide the prevalence rates of mental disorders both in the JSO sample and non-JSO sample.

Fourth, we contacted researchers who collected data on mental disorders in JSOs (if available compared to general offenders), but did not (yet) publish about these outcomes in national or international journals, or reports. Last, all authors who were contacted were asked about possible recent studies, unpublished studies, doctoral dissertations and theses.

2.2. Coding of the studies

First, the prevalence rates for each mental disorder in JSOs were extracted from the studies and converted into proportions. Subsequently, we coded moderators (i.e., type of assessment, gender, age, and ethnicity/race) that were assumed to affect the prevalence of disorders in JSOs. With regard to the type of assessment used to establish the prevalence rates of mental disorders in JSOs, we distinguished between clinical instruments and file information (categorical moderator). Gender was based on the proportion of males, and ethnicity/race on the proportion of Caucasians or non-immigrants in each study (both continuous moderators). Age reflects the mean age in years (continuous moderator).

Second, we compared the prevalence of mental disorders among JSOs and non-JSOs, and calculated the standardized mean differences (d) for each mental disorder (e.g., ADHD), or mental disorder category (e.g., DBD). Using Lipsey and Wilson's (2001) formula, both the proportions and the standardized mean difference were weighted in the analyses by the inverse variance. For the interpretation of the magnitude of the effect sizes, the classification provided by Cohen (1988) was used, distinguishing between a small effect ($d = .20$), a medium effect ($d = .50$) and a large effect ($d = .80$).

2.3. Analytic strategy

SPSS macros (Lipsey & Wilson, 2000; see for SPPS macros: http://mason.gmu.edu/~dwilsonb/ma.html) were used to compute effect sizes based on random effect models for all mental disorders separately. Significance testing in random effect models is based on the total number of studies included in a meta-analysis, resulting in lower statistical power, but greater generalizability (Rosenthal, 1995). In random effect models, the mean of the distribution of the effects is calculated, which is thought to be a more conservative method producing larger variances, standard errors, and confidence intervals. The weights assigned under random effects are more balanced in that large studies will not dominate the analysis, whereas small studies will not be trivialized (Borenstein, Hedges, & Rothstein, 2007). For all calculations the level of statistical significance was set at .05.

The categorical variable (type of assessment) was analyzed using an analysis of variance like procedure, using a SPSS macro from Lipsey and Wilson (2001). The total variability is divided in a portion that can be explained by the moderator and a residual portion (as expressed as $Q_{BETWEEN}$ and Q_{WITHIN} values). A significant $Q_{BETWEEN}$ value indicates that the differences between the categories are larger than what can be expected by sampling error (Lipsey & Wilson, 2001). For the continuous variables (gender, age, and ethnicity/race), a regression-like procedure was used, again using SPSS macros devised by Lipsey and Wilson (2001), providing homogeneity statistics for the regression model ($Q_{REGRESSION}$) and for the sum of squares residual (Q_{ERROR}). Moderator analysis was only performed if the selected moderator had at least three studies in each category.

2.4. File-drawer-analysis

Studies that report significant results are more often accepted for publication than studies that do not report significant results. Although we took the effort to also include unpublished data, this so-called publication bias could result in a file-drawer problem, which suggests the sample of studies found for the researched area to be incomplete and not representative of the total sample of studies. In order to examine whether such publication bias or file-drawer problem exists,