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## ***DSM-IV-TR Diagnoses and Risk Levels of Sexually Abusive Youth***

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Little research has examined the association of DSM-IV-TR (4<sup>th</sup> ed., text revision, 2000) diagnoses and risk level for sexually abusive behavior in children and adolescents. Many such youth are admitted to treatment facilities for sexually abusive behavior with one or more psychiatric diagnoses. Understanding the association between DSM-IV-TR diagnoses and risk level can allow for improved preventative measures and more effective treatment for sexually abusive youth.

Two standardized risk assessment tools, *Multiplex Empirically Guided Inventory of Ecological Aggregates for Assessing Sexually Abusive Adolescents and Children Ages 4-19 (MEGA<sup>1</sup>)* (Miccio-Fonseca, 2012) and *Juvenile Sexual Offender Recidivism Risk Assessment Tool-II (JSORRAT-II)* (Epperson et al., 2006) were used to assess 98 adjudicated adolescent males with varying DSM-IV-TR diagnoses. All were residents in a residential facility specifically for sexually abusive youth. Reported are *preliminary findings* related to the association of risk level and various DSM-IV-TR diagnoses.

Historically, reports of the association between psychiatric diagnoses and risk level of sexually abusive youth have differed, but many have suggested that conduct disorder is significantly associated. For example, Kavoussi, et al. (1988) found that in a sample of 58 male juvenile sex offenders, 48% had a diagnosis of conduct disorder, which was less than had been suggested in previous studies. Van Wijk, et al. (2007) examined an all-male sample (ages 12-20) of five groups of offenders: 308 violent sex offenders, 134 non-violent sex offenders, 270 child molesters, 3148 violent non-sex offenders, and 1620 non-violent, non-sex offenders. These groups were examined for relationship between the type of offense and their psychiatric diagnosis. The percentage of participants with psychiatric diagnoses was as follows: 55% of violent sex offenders, 59% of child molesters, 65% violent non-sex offenders, 68% of non-violent sex offenders and 72% of non-violent, non-sex offenders. Across all groups conduct disorder was the most prevalent diagnosis. The study ascertained that developmental delays were associated with non-violent sex offenses and child molestation, while violent offenders were more

likely to have conduct disorder. Van Wijk et al.'s study included a larger sample size; however, it is limited in that most of the offenders were not adjudicated and the definition between violent versus non-violent was not well-defined.

Sheerin (2004) reviewed eight such studies between the years of 1941 – 1997: Waggoner and Boyd (1941); Atcheson and Williams (1954); Lewis et al. (1979); Awad and Saunders (1989); Becker et al. (1991); Saunders and Awad (1991); Shaw et al. (1993); and Hastings et al. (1997). A ninth study, Kavoussi et al., 1988, already mentioned, was also reviewed by Sheerin (2004). Most of these studies suggest that delinquency and conduct disorder are more common among male juvenile sex offenders; however, many have a limited sample size and poorly defined constructs, indicating that their results may not be representative of juvenile sex offenders at large.

For example, Waggoner and Boyd (1941) studied 25 male juveniles with “some type of sexual perversion” (as cited in Sheerin, 2004, p. 143) and determined that their behavior was linked to a pattern of delinquency in most cases. Atcheson and Williams (1954) reviewed the records of male and female juvenile sex offenders ages 7 – 16 (sample size unknown) and compared their psychiatric symptomatology and previous inpatient or outpatient stay with those of a randomly selected non-specified “other” offender group. They found a sixfold increase in “serious personality maladjustment” in the male sexual offender group as compared to the control nonsexual offender group (as cited in Sheerin, 2004, p. 144).

In Shaw et al. (1993), 26 incarcerated male juvenile sex offenders were compared to a control group of incarcerated male juvenile offenders with diagnosis of conduct disorder. Of sex offenders, 81% met criteria for conduct disorder, 50% met criteria for diagnosis of generalized anxiety disorder, 35% met criteria for major depressive disorder, and 12 % met criteria for a diagnosis of PTSD. There was no difference between sex offenders and the control group.

Awad and Saunders (1989) assessed 29 adolescent child molesters who had either confessed or had been adjudicated by the court. Using an unspecified battery of tests and assessments, they determined according to the DSM-III that 48% of these adolescents had a diagnosed learning disability and one third had been diagnosed with “emotional problems” (as cited in Sheerin, 2004, p. 144) prior to committing a sexual offense. The study found 87% had a diagnosable psychiatric disorder; however, the types were not specified; 45% demonstrated “antisocial kinds of behavior” (as cited in Sheerin, 2004, p. 144) and about 50% had a delinquency record that existed prior to the sexual offense. In a later study, Saunders and Awad (1991) used a clinical interview to assess 19 adolescent males who had made obscene phone calls or engaged in exhibitionism (“hands off offenses”) (as cited in Sheerin, 2004, p. 145) and found that 79% had chronic learning difficulties, 58% had a history of antisocial behavior, and 79% were considered “moderately to severely maladjusted” (as cited in Sheerin, 2004, p. 145). However, the criteria used to arrive at these conclusions are unclear and 10 of the sample had also committed “hands on” offenses (as cited in Sheerin, 2004, p. 145).

Hastings et al. (1997) used a sample of 28 male juvenile sex offenders, 33 male adolescents with a diagnosis of conduct disorder, and 34 male adolescents as a control group. The *Revised Behaviour Problem Checklist (RBPC)* was used with scales that measure ADHD, anxiety/withdrawal, conduct disorder, socialized aggression, psychotic behavior, and motor excess. Findings showed that socialized aggression was more prevalent in the conduct disorder group than in the juvenile sex offender group, but there were no other differences between these groups. Overall, the conduct disorder group and the juvenile sex offender group scored higher than the control group on all other scales.

The remaining studies Sheerin (2004) reviewed suggest that depressive symptoms may be associated with male juvenile sex offenders. Lewis et al. (1979) compared 17 juvenile males incarcerated for violent sexual assaults to 61 juvenile males incarcerated for violent non-sexual crimes. Of the violent sexual offenders, 75% exhibited symptoms of depression, 46% displayed auditory hallucinations, 73% had symptoms of paranoia, and 70% had loose, illogical thought processes. Becker et al. (1991) used the *Beck Depression Inventory (BDI)* to assess for depressive symptomatology in 246 male juvenile sex offenders and found that 42% obtained scores in the moderate to severe range for depression. Alternately, in a sample of 40 juvenile male sex offenders, McMackin, et al. (2002) discovered that 65% met criteria for a diagnosis of PTSD.

### **The Study**

In this study, the risk level for sexually abusive behaviors in sexually abusive youth was measured using the *MEGA<sup>f</sup>* (Miccio-Fonseca, 2012) and the *JSORRAT-II* (Epperson et al., 2006).

#### ***MEGA<sup>f</sup>***

The *MEGA<sup>f</sup>* is an ecologically based risk assessment tool that assesses risk for coarse sexual improprieties and/or sexually abusive behaviors in youth 4 - 19 years of age; this includes males and females, adjudicated and non-adjudicated youth, and youth with low intellectual functioning. Coarse sexual improprieties are defined as “sexually vulgar comments, expressions, and behaviors evidencing an unsophisticated awareness of psychosexual conditions, or environments, or social situations whereby the youth engages in sexual behaviors that are crude, indecent, and outside the societal norms of propriety (e.g., crude sexual gestures, sexually suggestive and/or vulgar sexual comments, mooning, looking up skirts, a young child rubbing his or her genitals in public or trying to grab another’s genitals, a child looking over a stall in a public restroom)” (Miccio-Fonseca, 2013, p. 623).

The *MEGA<sup>f</sup>* is comprised of seven aggregates and four distinct scales, containing a total of 75 static and dynamic items. On the *Risk Scale*, levels of risk are measured in terms of Low,

Moderate, High, and Very High. The *MEGA<sup>f</sup>* evaluates progress every 6 months in terms of increased or decreased risk, thus making it an outcome measure (Miccio-Fonseca, 2009).

In the *MEGA<sup>f</sup>* cross-validation study of  $N=969$  youth ages 4 -19 (869 males, 99 females, and 1 transgender, including 222 youth with low intellectual functioning), 28 (8.4%) identified with sexually-related probation or parole violation events between baseline and follow-up (Miccio-Fonseca, 2013). Predictive validity findings for the *Risk Scale* (for ages 13 to 19) demonstrated ROC results of  $AUC = .71$  (95% CI of .62-.80) ( $p < .001$ ).

With regard to prognostic utility for children, 48 participants between the ages of 4-12 were given a *MEGA<sup>f</sup>* to establish a baseline. A follow-up measured new reports of sexually abusive behaviors in 3 or more different locations or sexual behaviors that included oral, anal, vaginal, direct skin to skin contact, and/or penetration. Among the 48 subjects, 12-years-old and younger, 9 were excluded that already had these events reported at baseline. Of the remaining 39 subjects, 8 (21%) had reports of new events in these categories at follow-up.  $AUC$  was 0.77 (95% C.I. of 0.60-0.96,  $p = 0.016$ ), indicating prognostic utility (see Table 1 on Page 9).

### ***JSORRAT-II***

The *JSORRAT-II* (Epperson et al., 2006) was designed to assess risk for recidivism in adjudicated male juvenile sex offenders ages 12-17 at the time of their most recent offense. The tool contains 12 static items, with a score range from 0–21: 0-3 Low; 4-7 Moderate; 8+ Moderate – High (California SARATSO Review and Training Committees, 2010). The *JSORRAT-II* was validated on 656 males ages 11-18 and significantly exceeded chance-level prediction for sexual recidivism prior to age 18 ( $AUC = .89$ ,  $d = 1.74$ ) (Epperson et al, 2006).

Further validation was performed in Utah and Iowa. The Utah validation study used a sample of  $N= 494$  male juvenile sex offenders age 11 - 16.99 who had been adjudicated for a sexual offense in 1996 or 1997. Of the 494, 406 juvenile sex offenders had complete data for all 12 *JSORRAT-II* items. The juvenile sexual recidivism base rate was 12.3% for the complete data sample ( $N=406$ ) (Epperson, 2009). With regard to the predictive validity, ROC results for the complete data sample were  $AUC = .66$  (95% CI of .58-.74) (Epperson, 2009). The Iowa validation study used a sample of  $N=318$  male juvenile sex offenders age 11 to 16.99 who had been adjudicated for a sexual offense in Iowa on or after January 1, 2000 and who had turned 18 by March 2008. The base rate for juvenile sexual recidivism was 7.2%. With regard to the predictive validity, ROC results showed ROC-AUC = .65 (95% CI of .54 - .75) (Epperson, 2009) (see Figure 1 on Page 10).

## Methods

For this study, longitudinal data were collected over a period of 4 years (2006-2010). The sample was comprised of  $N=130$  multi-ethnic, male juveniles, ages 12-18 who had been adjudicated for a sex crime and were receiving specialized residential treatment for sexually abusive youth in Stockton, CA. Their risk levels were assessed with the *JSORRAT-II* and/or the *MEGA<sup>f</sup>*. Of these 130, 98 youth were administered the *MEGA<sup>f</sup>* and the *JSORRAT-II* and had one or more DSM-IV-TR diagnoses. Diagnoses were given by a pediatric psychiatrist using DSM-IV-TR diagnostic codes. Data were obtained in a chart review from intake assessments, probation reports, psychological evaluations and academic records. Diagnoses were grouped and coded by DSM-IV-TR category: (1) ADHD; (2) Conduct Disorder; (3) Mood Disorders; (4) PTSD and Anxiety Disorders; and (5) Other. The *MEGA<sup>f</sup>* risk levels were converted to interval data as follows: (1) Low; (2) Moderate; (3) High; and (4) Very High. *JSORRAT-II* scores are interval data and therefore were not coded. Participants were compared with regard to their *JSORRAT-II* score, their *MEGA<sup>f</sup>* risk level, and their diagnostic category. The study also compared the correlation between the *JSORRAT-II* and *MEGA<sup>f</sup>*. Non-parametric measures were used. A Pearson Product-Moment Correlation was used to examine the construct validity of the *MEGA<sup>f</sup>* and *JSORRAT-II* and a Kruskal-Wallis One-Way ANOVA on ranks was performed for the diagnostic categories.

## Findings

A Pearson Product-Moment Correlation with the *MEGA<sup>f</sup>* and *JSORRAT-II* showed Pearson  $r=0.48$ , indicating a significant correlation between the two tools' ability to measure some of the same aspects of risk. No significant difference between the groups (*JSORRAT-II* score and diagnosis, *MEGA<sup>f</sup>* risk level and diagnosis) was found. In general within this sample there was a lack of (non-sexual) anti-social indicators (i.e., none of the youth had impulse control disorder diagnoses). Most youth had a mood disorder diagnosis (32.7%), followed by diagnoses of ADHD (24.5%), anxiety/PTSD (20.4%), other (adjustment disorder and/or v codes) (18.4%), and conduct disorder (5%). There were no youth with substance abuse as primary diagnosis, nor with diagnosis of psychosis.

## Discussion

While small, the sample size of this study is still considerably larger than many of the studies reviewed by Sheerin (2004). In contrast to studies like Shaw et al. (1993), which asserted a strong association between conduct disorder and juvenile sex offenders, conduct disorder was the *least* common diagnosis in this study. It may be that a larger sample size changes the frequency and propensity of diagnostic categories; therefore, the greater the sample, the less conduct disorder is found among juvenile sex offenders.

The generalizability of this study is limited by its small sample size and its homogeneity with regard to gender, adjudication status, residence, and geographical location. Also, these are *preliminary findings* and caution should be used with regard to their interpretation. However, this study offers some notable contributions to the literature. It is the first independent study examining the *MEGA<sup>2</sup>* risk assessment tool and one of few independent studies examining the *JSORRAT-II*. It is also a longitudinal study and one of very few recent studies of DSM-IV-TR diagnoses in sexually abusive youth. In addition, it is the first study exploring the association between risk assessment tools and DSM-IV-TR diagnoses and the first study examining the association between risk levels and DSM-IV-TR diagnoses with sexually abusive youth in a residential treatment facility. Finally, it is useful in that the study informs practitioners about risk levels and sexually abusive youth in residential treatment.

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**Table 1**

Indicator of Recidivism		Risk	Group		
Probation Violation Sex Related	Low	Moderate	High	Very High	Total
No	97.6% (n=81)	93.7% (n=118)	87.8% (n=79)	80.0% (n=28)	91.6% (n=306)
Yes	2.4% (n=2)	6.3% (n=8)	12.2% (n=11)	20% (n=7)	8.4% (n=28)

Figure 1

