

## Factors Associated with Both Mental Health and Juvenile Justice Involvement Among Children with Severe Emotional Disturbance

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## Background

- Over-representation of children with mental health problems in the juvenile justice system
  - 40% to 50% of children compared to 18% - 22% of the general child population (Kazdin, 2000).
- Limited research
- Gender differences in predictors of risk (Gorman-Smith & Loeber, 2005)
  - Ecological systems might have unique, gender-based influences on development.
  - Behavior can be multiply determined.
- We do know some things...



## Past Research



- Demographic Factors
  - Boys more likely to be dually-involved
  - Significant controversy regarding disproportionate minority contact with the juvenile justice system
    - Visher's (1983) study: older, European American girls were less likely to be arrested than were younger, African American girls.
  - African American children and adolescents reported to engage in more violent behaviors compared to European American or Hispanic children and adolescents

(Blum et al., 2003; Kashani et al., 1999)

- Person-Level Factors
  - Antisocial behavior associated with:
    - Internalizing symptoms such as *depression and anxiety* (Crick et al., 2003).
    - AD/HD and more general *attention problems* (e.g., Graves, 2005; Loeber et al., 1995; Zoccolillo, 1993).
    - *Social problems* (Lipsey & Derzon, 1998).
      - This might be particularly problematic among girls who tend to put more emphasis on social relationships (Maccoby, 1990).

- Family-Level Factors
  - Antisocial behavior more likely when:
    - Families are overextended in terms of resources
      - *Caregiver strain* linked with co-morbid diagnostic profiles and greater psychological distress (Brannan et al., 2002; Garland et al., 2003).
        - Different patterns based on gender have not been investigated.
    - As the *number of living transitions* increases, child functioning decreases (particularly in the school environment) (Simmons et al., 1988).

● **School-Level Factors**

- *School failures* characterized by high absenteeism and poor academic performance have been identified as risk factors (Loeber & Farrington, 2000).
  - Some research indicates that this relationship might be stronger for females compared to males (e.g., Thornton et al., 2002).

## Hypotheses

- ➊ A larger proportion of boys will be dually-involved than girls;
- ➋ Each of the proposed factors (i.e., anxious/depressed, depressed/withdrawn, social problems, AD/HD-type symptoms, caregiver strain, high number of living transitions, and low school functioning) will be positively associated with dual-involvement;
- ➌ The family-level factors (caregiver strain and number of living transitions) will be equally important among boys and for girls;
- ➍ The person-level factors of anxious/depressed, depressed/withdrawn, and social problems will be stronger predictors of dual-involvement for girls than for boys;
- ➎ Although previous findings have been somewhat inconsistent (Gorman-Smith & Loeber, 2005), it is hypothesized that school functioning will be a stronger predictor of dual-involvement for girls than for boys.

## Method

**Participants:**

- African-American and White adolescents (11- to 17-years)
- Children and primary caregivers
  - (N = 1,168; 63% boys; 37% girls)
- Average age: 13.86 years (SD = 1.78)
- Ethnicity (22% African-American, 78% White)
- Family income: 46% (< \$15,000); 54% (> \$15,000)
- All children identified as highly “at-risk”
  - (Average CAFAS 8-Scale Score: 109.22)

**Procedures**

- Interviewed on a variety of instruments at baseline and at six-month intervals thereafter over a three-year period.
- 2-hour in-home interviews were conducted with the caregiver; 1-hour in-home interviews were conducted with the adolescent.
- Monetary incentives are provided to the respondents (\$25.00 for baseline interviews; \$30.00 for follow-up interviews).
- Where siblings were enrolled for system of care services, only one of the siblings was included in the longitudinal evaluation.

## Measures

**Demographic Information**

- Demographic Information Questionnaire (DIQ; Center for Mental Health Services, 1997) – 37 items
  - Completed as part of the baseline evaluation interview

**Person-Level Factors**

- CBCL (Achenbach, 1991) and YSR (Achenbach, 1991):
  - Utilized T-scores from the Attention Problems, Social Problems, Anxiety/Depression Subscales, and Depressed/Withdrawn separately by reporter.
  - Caregiver and child reports correlated at least  $r = .20, p < .001$ .
  - Averaged the T-scores across caregiver and child reports for each construct separately.

**Family-Level Factors**

- Caregiver Strain Questionnaire (Brannan & Heflinger, 1997):
  - 21-items (e.g., “interruption of personal time,” “financial strain,” and “feeling socially isolated”)
  - Utilized global strain scores
  - Scores range from 1 to 4, with higher scores indicating more strain).
- Descriptive Information Questionnaire:
  - “How many times has the child changed living residences in the past six months?”

**School-Level Factors**

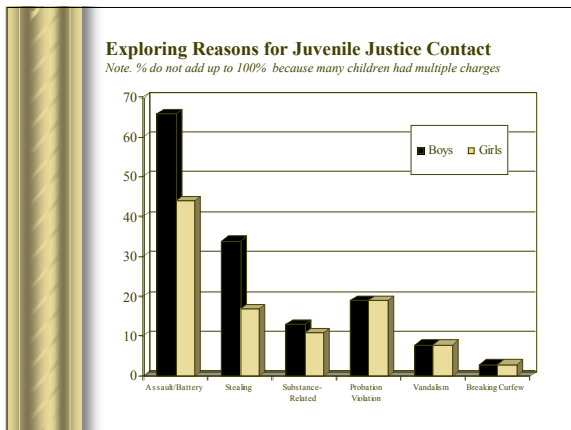
- Child/Adolescent Functional Assessment Scale (CAFAS; Hodges, 1994):
  - School Role Scale (caregiver reported); (e.g., “non-compliant behavior which results in persistent or repeated disruption,” and “frequently truant”)
  - 30-point scale (0 = no impairment to 30 = severe impairment)

**Dual Involvement**

- Delinquency Survey (DS; CMHS, 1994):
  - "Have you ever been told to appear in court for something you were suspected of doing?"
  - Children responded 1 = No and 2 = Yes

**Control Variables**

- Level of Delinquency:
  - Reported on the CBCL and YSR
  - Utilized the combined composite T-score
    - (caregiver and adolescent reports correlated .38,  $p < .001$ )

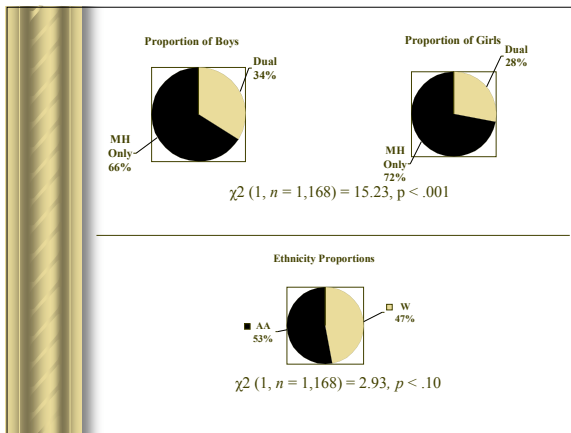


**Hypothesis One:  
Who was "dually-involved?"**

*Hypothesis One was Confirmed:*

- 545 (46.7%) were dually-involved

Category	Percentage
Mental Health Only	54%
Dual Involvement	46%



**Follow-Up Analyses**

- Girls had significantly higher levels of impairment ( $M = 122.08$ ) compared to boys that were dually-involved ( $M = 113.08$ ),  $t(499) = -2.00, p < .05$ , and also compared to girls who were *not* dually-involved ( $M = 105.43$ ),  $t(384) = -3.43, p < .001$ .
- Among those children who were not dually-involved, there were no significant gender differences in terms of levels of impairment,  $t(631) = -1.03, ns$ .

Group	CAFAS Total Scale (M)
Boys (Dually-Involved)	113.08
Girls (Dually-Involved)	122.08
Boys (MH Only)	101.7
Girls (MH Only)	105.43

**Hypotheses Two - Five:  
What predicts dual involvement?**

- Two cross-sectional logistic regressions were conducted, one regression for each gender.
  - Step 1 (Demographic Factors and Controls):**
    - Age, Ethnicity, Delinquency
  - Step 2 (Person-Level Factors):**
    - Inattention, Social Problems, Anxious/Depressed, Depressed/Withdrawn
  - Step 3 (Family-Level Factors):**
    - Number of Living Transitions, Caregiver Strain
  - Step 4 (School-Level Factors):**
    - School Functioning

*Cross-Sectional Logistic Regression Model to Predict Dual Involvement Among Boys (n = 740)*

Predictor	B(S.E.)	eB	p
<b>Demographic Factors</b>			
Age	.31(.06)	1.37	.000
Ethnicity	-.14(.11)	.87	.21
Delinquency	.06(.02)	1.07	.000
<b>Person-Level Factors</b>			
Inattention	-.01(.02)	.99	.49
Social Problems	-.02(.02)	.98	.10
Anxious/Depressed	-.02(.02)	.98	.20
Depressed/Withdrawn	-.01(.02)	.99	.40
<b>Family-Level Factors</b>			
Living Transitions	.20(.08)	1.22	.02
Caregiver Strain	.14(.12)	1.15	.26
<b>School-Level Factors</b>			
School Functioning	-.01(.01)	1.00	.78
Constant	-4.01(1.36)		
Omnibus Model $\chi^2$	116.46		
df	10		
Significance			.000
-2LL	707.78		
Cox & Snell R <sup>2</sup>	.18		
Nagelkerke R <sup>2</sup>	.24		

Note. eB = exponentiated B.  
a = The statistics reported are for the full model (i.e., block four).

*Cross-Sectional Logistic Regression Model to Predict Dual Involvement Among Girls (n = 433)*

Predictor	B(S.E.)	eB	p
<b>Demographic Factors</b>			
Age	.42(.09)	1.52	.000
Ethnicity	-.29(.16)	.75	.05
Delinquency	.08(.02)	1.08	.001
<b>Person-Level Factors</b>			
Inattention	.03(.03)	1.07	.30
Social Problems	-.06(.02)	.95	.01
Anxious/Depressed	-.06(.02)	.94	.01
Depressed/Withdrawn	.02(.02)	1.02	.42
<b>Family-Level Factors</b>			
Living Transitions	.28(.09)	1.31	.01
Caregiver Strain	-.01(.17)	.99	.97
<b>School-Level Factors</b>			
School Functioning	.01(.01)	1.00	.82
Constant	-6.44(1.90)		
Omnibus Model $\chi^2$	111.01		
df	10		
Significance			.000
-2LL	367.62		
Cox & Snell R <sup>2</sup>	.27		
Nagelkerke R <sup>2</sup>	.36		

Note. eB = exponentiated B.  
a = The statistics reported are for the full model (i.e., block four).

## Discussion

- Boys more likely to be dually-involved than girls
  - Girls more severe -- raising the question of whether we are waiting too long to intervene for this population.
    - Consistent with other research - girls who are involved in the juvenile justice system have higher rates of mental health problems compared to boys (NMHA, 2004).
    - Are we missing the early warning signs among girls that might lead to involvement in the juvenile justice system?
    - Silverthorn and Frick (1999) - when a girl engages in a predominantly "male" event (i.e., delinquency), she tends to be more severely impaired.

- Dual-involvement more likely for both boys and girls when:
  - children who were older
  - children who had more transitions in their living situations
    - Do multiple placements result when there is caregiver burnout?
      - (caregiver strain and number of living transitions correlated  $r = .21, p < .001$  in the present sample)

- Internalizing symptoms and social problems stronger predictors for girls than for boys
- Social problems decreased the likelihood of dual-involvement
  - Peer rejection/isolation versus deviant peer association
  - Is it less likely that these girls engage in antisocial behaviors as part of a group of peers due to the decrease in frequency that they are within a peer group?
    - Need longitudinal study to examine whether these girls eventually gravitate toward deviant peer groups for acceptance and belongingness

- School functioning was not related to dual-involvement among either boys or girls.
  - Follow-up logistic regression analyses:
    - School functioning does predict dual involvement ( $p < .001$ ), but only when delinquency is not included as a control variable.
    - Overlapping variance: delinquency & school functioning ( $p < .001$  level)
      - Consistent with previous research (e.g., Loeber & Farrington, 2000) -- if levels of school functioning are low, delinquency behaviors are more likely.

## Strengths and Limitations

### Strengths

- First known study that explores clinical factors across a variety of domains that might predict dual-involvement in SED sample
- Multi-ecological approach
- Use of multiple reporters

### Limitations

- Dual-involvement assessed with a single, child-reported question
- Generalize only to those children who have SED *and* are at risk of being removed from their homes
- Cross-sectional data might be problematic if reciprocal causation is a possibility

## Implications

- Several gender-specific factors related to dual-involvement
- Supports previous research (e.g., Foster, Qaseem, & Connor, 2004) highlighting the need for greater system-wide collaboration for children and adolescents with SED
  - E.g.: strategic planning, cost sharing, comprehensive screening and assessment, integrated management information systems, and cross-training of staff
- Mental health and juvenile justice must work together in multidisciplinary teams using clinical variables to help guide placement decisions
- A stronger understanding of the mental health needs of children and adolescents involved in the juvenile justice system could help in coordination and comprehensive treatment planning for our youth



Thank You For Your Attention!!!

Questions?

## References

- Achenbach, T.M. (1991). *Manual for the Child Behavior Checklist for Ages 4-18 and 1991 profile*. Burlington: Department of Psychiatry, University of Vermont.
- Achenbach, T.M. (1991). *Manual for the Youth Self-Report 11-18 and 1991 Profile*. Burlington, VT: University Associates in Psychiatry.
- Blum, J., Ireland, M., & Blum, R.W. (2003). Gender differences in juvenile violence: A report from Add Health. *Journal of Adolescent Health, 32*, 234-240.
- Branman, A.M., & Heflinger, C.A. (1997). The Caregiver Strain Questionnaire: Measuring the impact on the family of living with a child with serious emotional disturbance. *Journal of Emotional and Behavioral Disorders, 5*, 212-220. Center for Mental Health Services.
- (1994). The Delinquency Survey. Unpublished measure.
- Center for Mental Health Services. (1997). *The Demographic Information Questionnaire*. Unpublished measure.
- Graves, K.N., & Shelton, T.E. (2006). *Predicting Physical Aggression Among Female Adolescents Risk-Protection Interaction Framework*. Manuscript submitted for publication.
- Hodges, K. (1994). *Child and Adolescent Functional Assessment Scale*. Ann Arbor, MI: Functional Assessment Systems, L. L. C.
- Kashani, J.H., Jones, M.R., Bumby, K.M., & Thomas, L.A. (1999). Youth violence: Psychosocial risk factors, treatment, prevention, and recommendations. *Journal of Emotional and Behavioral Disorders, 7*, 200-210.
- Kazdin, A.E. (2000). *Psychotherapy for children and adolescents: Directions for research and practice*. London: Oxford University Press.
- Garland, A.F., Aarons, G.A., Brown, S., Wood, P.A., & Hough, R.L. (2003). Diagnostic profiles associated with use of mental health and substance abuse services among high-risk youths. *Psychiatric Services, 54*, 562-564.
- Gorman-Smith, D., & Loeber, R. (2005). Are developmental pathways in disruptive behaviors the same for girls and boys? *Journal of Child and Family Studies, 14*, 15-27.

- Lipsley, M.W., & Derzon, J.H. (1998). Predictors of violent or serious delinquency in adolescence and early adulthood. In R. Loeber and D. P. Farrington (Eds.), *Serious and violent juvenile offenders: Risk factors and successful interventions* (pp. 86-105). Thousand Oaks, CA: Sage.
- Loeber, R., & Farrington, D.P. (2000). Young children who commit crime: Epidemiology, developmental origins, risk factors, early interventions, and policy implications. *Development and Psychopathology, 12*, 737-762.
- Loeber, R., Green, S.M., Keenan, K., & Lahey, B.B. (1995). Which males will fare worse? Early predictors of the onset of conduct disorder in a six-year longitudinal study. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*, 499-509.
- National Mental Health Association. (2004). *Mental Health and Adolescent Girls in the Juvenile Justice System*. Available at [http://www.nmha.org/children\\_justice/girls/cfm](http://www.nmha.org/children_justice/girls/cfm)
- Silverthorn, P., & Frick, P.J. (1999). Developmental pathways to antisocial behavior: The delayed-onset pathway in females. *Development and Psychopathology, 11*, 101-126.
- Simmons, R., Burgess, R., Carlton-Ford, S., & Blyth, D.A. (1988). The impact of cumulative change in early adolescence. *Child Development, 58*, 1220-1234.
- Visher, C.A. (1983). Gender, police arrest decisions, and notions of chivalry. *Criminology: An Interdisciplinary Journal, 21*, 5-28.