

# Relational and overt aggression: Behavior correlates and school level predictors

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# Contributors

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# Peer aggression

- Peer verbal and physical aggression (overt aggression) occurs frequently in early adolescence.
  - 10% reported being victims of frequent bullying (Nansel et al., 2001)
- Victims of overt aggression are likely to affiliate with deviant peers and to experience social adjustment difficulties.
  - Victims of repeated verbal aggression → antisocial behavior, alcohol use, and deviant peer association in high school.
  - Victims of repeated physical aggression → antisocial behavior, aggression, deviant peer association, and multiple problem behavior. (Rusby, Forrester, Biglan, & Metzler, 2005)

# Relational Aggression

- Relational aggression involves:
  - Harming a peer's social standing by gossiping
  - Threatening to withdraw friendship
  - Excluding peers from activities (Crick & Grotpeter, 1995)
- Although both boys and girls experience relational aggression, greater negative effects of relational aggression are reported by girls and by youth who are in middle school (Merrell, Buchannan, & Tran, 2006)

# Gender differences

- There is some evidence that relationships between different types of peer aggression and social adjustment problems differ by gender.
  - Perpetration of relational aggression was associated with externalizing behavior problems for girls, but not for boys (Prinstein, Boergers, & Vernberg, 2001).
  - Experiencing relational aggression was associated with depression symptoms for both boys and girls, but experiencing overt aggression was only associated with depression for boys.
  - Girls who exhibited antisocial behavior and were victims of high levels of physical aggression in middle school demonstrated the highest levels of antisocial behavior in high school (Rusby et al., 2005).

# Aims

- Examine gender differences in the associations between overt and relational aggression and victimization.
- Examine the associations of these types of peer aggression and victimization with depressive symptoms, substance use, liking school, and feelings of safety in school and the extent to which these relationships differ by gender.
- Examine school level factors related to overt and relational aggression and victimization.

# Sample from PBS study

- Middle school youth
  - 1178 in 6<sup>th</sup> grade and 1650 in 7<sup>th</sup> grade
  - 1444 females, 1399 males
  - 74% Caucasian, 13% Hispanic, 7% American Indian, 4% Asian/Pacific Islander, 2% African American
- From the first cohort of 18 schools in Oregon
- Baseline data

# Measures

- Student Questionnaire (overt aggression, relational aggression, deviant peer affiliation, alcohol use, depressive symptoms [PHQ-8], enjoyment of school, feelings of safety at school)
- Observed rates of problem behavior (verbal aggression, physical aggression, potentially dangerous behavior) in common areas of the school during entry, passing times, breaks, lunch, & exit. (82% inter-rater reliability)
- Oregon Department of Education data on % free and reduced lunch.

# Overt Aggression & Victimization

8-point scale (never in the past month to > 10 times per day)

- How many times did you call a student names, swear at a student or say mean things to a student at school?
- How many times did you hit, push, or physically fight a student at school?

Correlation = .58\*\*\*

- How many times did a student call you names, swear at you or say mean things to you at school?
- How many times did a student hit, push, or physically fight you at school?

Correlation = .55\*\*\*

# Relational Aggression

How often did you

- Try to exclude another student from group activities?
- Refuse to talk to another student?
- Gossip or spread rumors about another student?
- Tell lies about another student?
- Encourage others not to talk to another student?

Alpha = .82

# Victim of Relational Aggression

How often did other students

- Threaten to not do things with you or not be your friend?
- Exclude you from doing activities with a group of students?
- Refuse to talk to you?
- Gossip or spread rumors about you?
- Tell lies about you?
- Encourage others not to talk to you?

Alpha = .88

# Deviant Peers

In the last month how often have you hung out with friends who

- Get in trouble a lot?
- Fight a lot?
- Take things that don't belong to them?
- Smoke cigarettes or chew tobacco?
- Tried beer, wine, or liquor (for example, vodka, whiskey, or gin)?
- Used marijuana?
- Used LSD, cocaine, amphetamines, or other illegal drugs?
- Carried a handgun?
- Dropped out of school?
- Have been arrested?

Alpha = .84

# Feelings of Safety at School

At school, how safe do you feel:

- In the hallways?
- In the cafeteria?
- In the classroom?
- Outside the school on school grounds?
- In the restroom?
- In the locker rooms?

Alpha = .89

# Mean Scores by Gender

	MALE Mean	sd	FEMALE Mean	sd	Gender Diffs
Overt Aggression	3.86	2.76	3.06	2.03	M>F***
Victim of Overt Agg	5.57	3.51	4.34	2.89	M>F***
Relational Aggression	6.97	3.64	7.05	3.85	n.s.
Victim of Relational Agg	10.57	6.61	10.77	6.76	n.s.
Deviant Peers	14.64	7.27	13.88	7.44	M>F*
Alcohol Use	1.11	.45	1.09	.39	n.s.
Depressive Symptoms	13.39	4.04	13.33	4.45	n.s.
Enjoyment of School	3.24	1.01	3.78	1.01	F>M***
Feelings of Safety at School	23.61	4.95	24.54	4.65	F>M***

*Note.* \*  $p < .05$ , \*\*\*  $p < .001$ .

# Correlations Victimization and Aggression by Gender

	Victim Relational Agg			Victim Overt Agg		
	Male	Female	P-value	Male	Female	P-value
Victim Relational Agg	---	---	---	.62	.59	n.s.
Relational Aggression	.49	.52	n.s.	.39	.43	n.s.
Overt Aggression	.38	.47	<b>.009</b>	.56	.62	<b>.016</b>

*Note.* \*Level of significance is for the **difference** in the correlations between boys and girls.

# Multiple Regression Clustered by School: Depressive Symptoms

Variable	z-score	p-value
Gender	-1.74	n.s.
Overt Aggression	<b>2.95</b>	<b>.003</b>
Victim of Overt Aggression	<b>6.60</b>	<b>&lt;.001</b>
Relational Aggression	0.77	n.s.
Victim of Relation Aggression	<b>11.31</b>	<b>&lt;.001</b>
	$R^2 = .20$	8.86
		<b>&lt;.001</b>

# Multiple Regression Clustered by School: Alcohol Use

Variable	z-score	p-value
Gender	-1.01	n.s.
Overt Aggression	<b>9.21</b>	<b>&lt;.001</b>
Victim of Overt Aggression	-0.13	n.s.
Relational Aggression	<b>4.56</b>	<b>&lt;.001</b>
Victim of Relational Aggression	-1.76	n.s.
	$R^2 = .15$	4.91
		<b>&lt;.001</b>

# Multiple Regression Clustered by School: Enjoys School

Variable	MALE z-score	P-value	FEMALE z-score	P-value
Overt Aggression	<b>-5.12</b>	<b>&lt;.001</b>	<b>-2.21</b>	<b>.031</b>
Victim of Overt Agg	.12	n.s.	<b>-2.15</b>	<b>.027</b>
Relational Aggression	-.64	n.s.	-1.59	n.s.
Victim of Relational Aggression	-1.02	n.s.	-0.57	n.s.
<i>Male: R<sup>2</sup> = .04</i> <i>Female: R<sup>2</sup> = .05</i>	2.93	.003	3.20	.001

# Multiple Regression Clustered by School: Feelings of Safety at School

Variable	z-score	p-value
Gender	-1.81	n.s.
Overt Aggression	-0.28	n.s.
Victim of Overt Aggression	<b>-7.99</b>	<b>&lt;.001</b>
Relational Aggression	-1.38	n.s.
Victim of Relational Aggression	<b>-5.14</b>	<b>&lt;.001</b>
	$R^2 = .15$	7.37
		<b>&lt;.001</b>

# Multi-level models

- Within level predictors: gender, grade, deviant peer affiliation
- Between level predictors: % free and reduced lunch, extent of overall problem behavior observed in school common areas.
- Predicting overt and relational aggression and victimization

$$Y_{ij} = \beta_{0j} + \beta_{1j}(\text{male}) + \beta_{2j}(\text{grade}) + \beta_{3j}(\text{deviant peers}) + r_{ij}$$

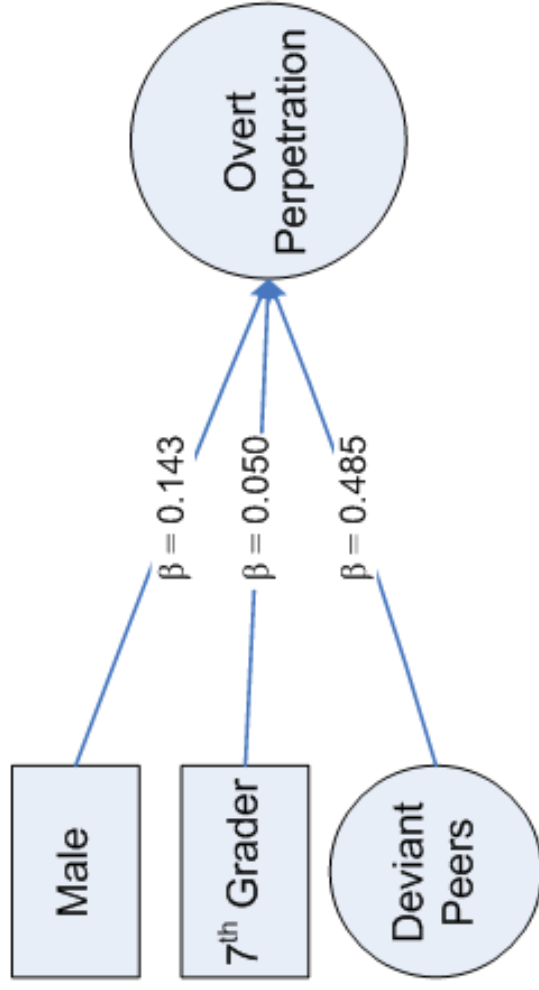
$$B_{0j} = Y_{000} + Y_{01j}(\text{Problem Behavior}) + Y_{02j}(\text{free lunch}) + \mu_{0j}$$

$$B_{1j} = Y_{100} + Y_{11j}(\text{Problem Behavior}) + Y_{12j}(\text{free lunch}) + \mu_{1j}$$

$$B_{2j} = Y_{200} + Y_{21j}(\text{Problem Behavior}) + Y_{22j}(\text{free lunch}) + \mu_{2j}$$

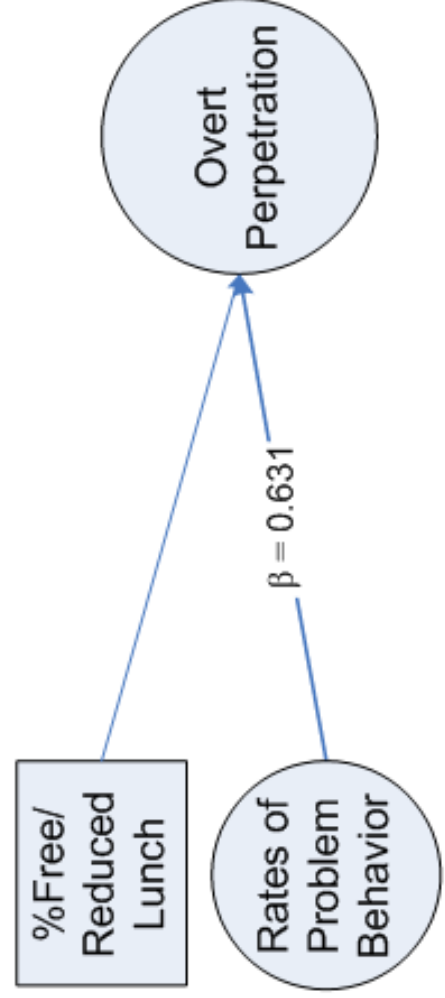
$$B_{3j} = Y_{300} + Y_{31j}(\text{Problem Behavior}) + Y_{32j}(\text{free lunch}) + \mu_{3j}$$

Within



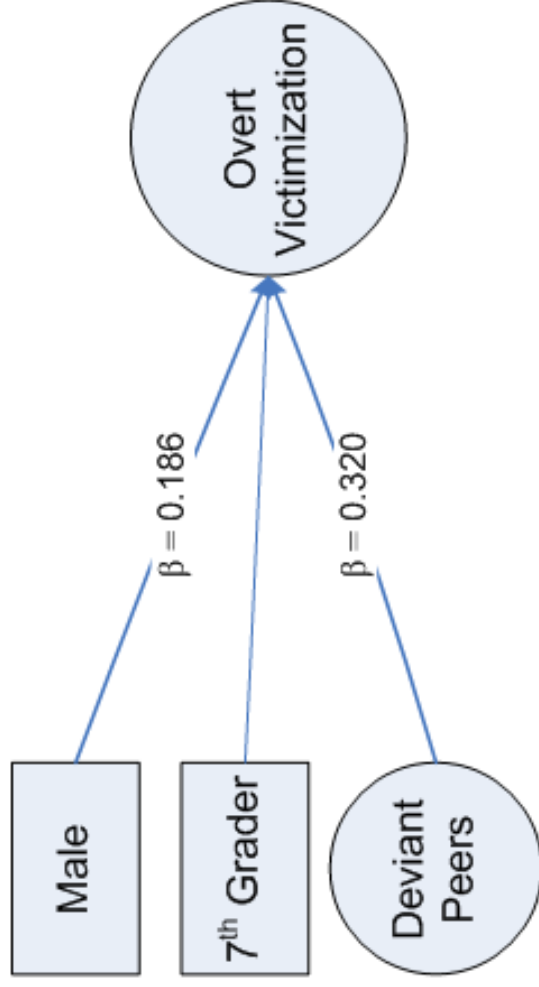
R Squared = 0.27

Between



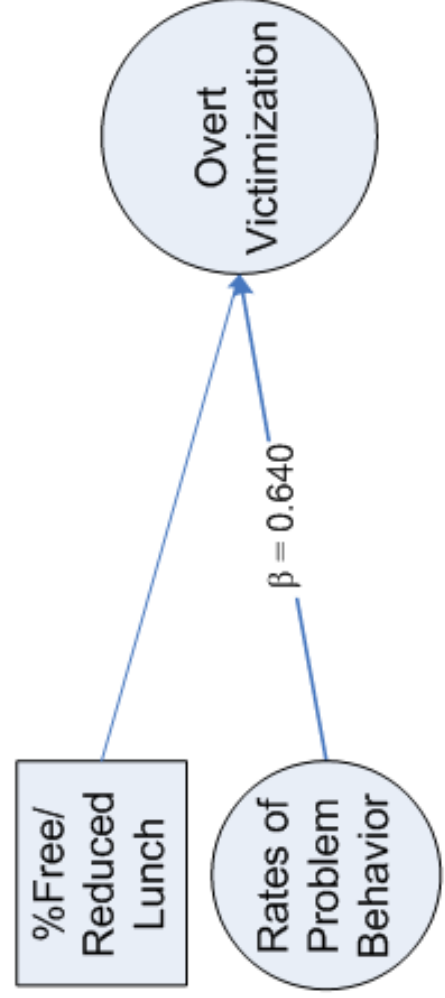
ICC = .014 R Squared = 0.72

Within



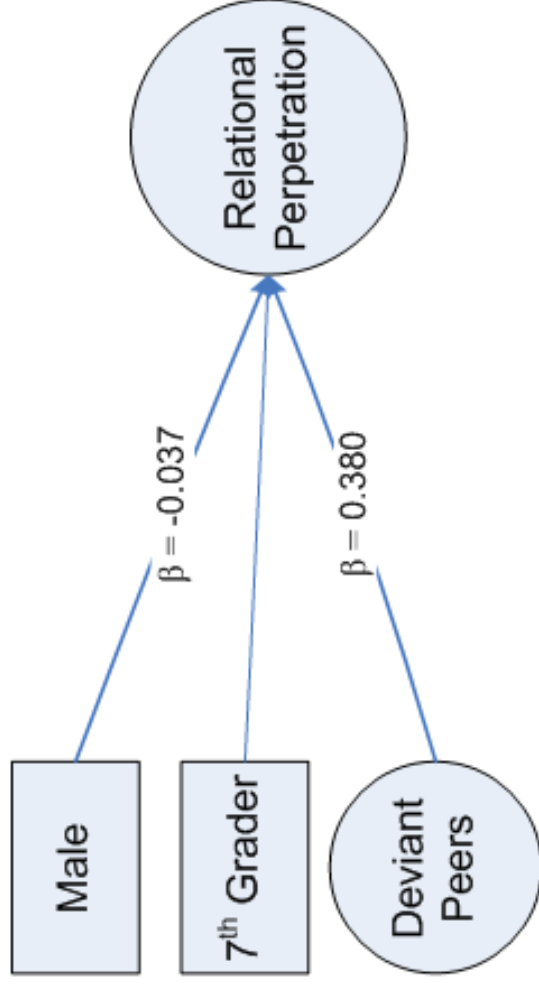
R Squared = 0.15

Between



ICC = .023 R Squared = 0.70

Within



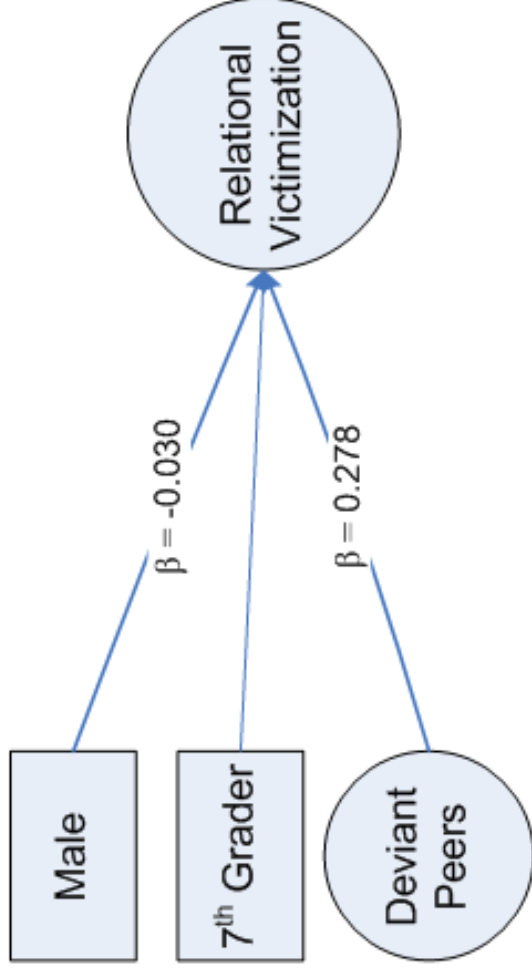
R Squared = 0.15

Between



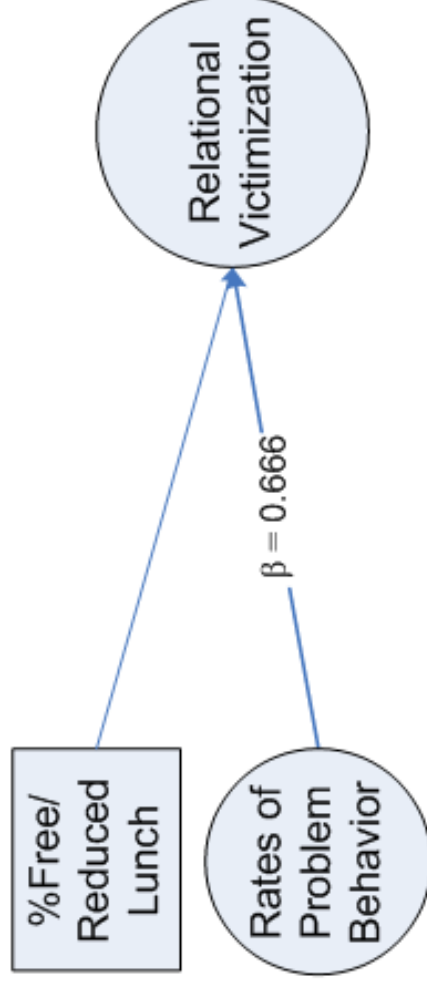
ICC = .011 R Squared = 0.68

Within



R Squared = 0.08

Between



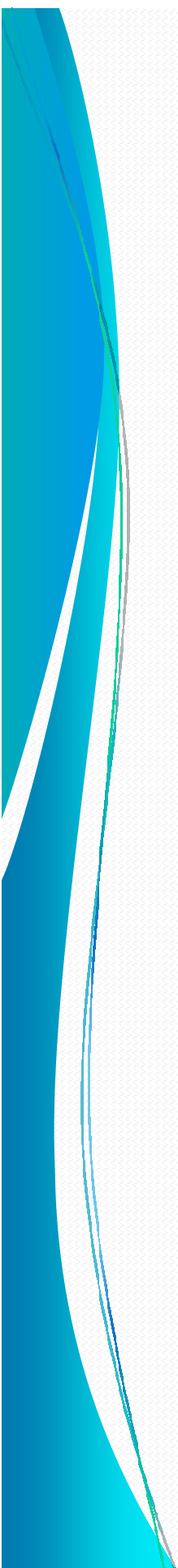
ICC = .018 R Squared = 0.66

# Summary Conclusions

- Overt aggression was more highly associated with victimization of overt and relational aggression for girls than for boys.
- Overt aggression and victimization of overt and relational aggression was associated with depressive symptoms.
- Overt and relational aggression was associated with alcohol use.
- Victimization of overt and relation aggression was associated with lower feelings of school safety.
- For boys overt aggression was associated with lower enjoyment of school, for girls both overt aggression and victimization of overt aggression was associated with lower enjoyment of school.

# Summary Conclusions

- Very little between school differences found in multi-level models predicting aggression & victimization (although similar to other studies, e.g. Birnbaum et al, 2003).
- Deviant peer affiliation was associated with both forms of aggression and victimization.
- Observed problem behavior in school hallways, lunchroom, entryway, and outdoor school areas predicted most of the school-level variance for both forms of aggression and victimization, not % free and reduced lunches.
- Implications for school-wide approaches (e.g. PBS) to reduce problem behavior in school settings.





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