


**Interrupting the trajectory for Girls At-Risk for Delinquency: SNAP® (Stop Now And Plan), a gender-specific evidence-based model for latency-aged girls**

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**Stockholm Criminology Symposium 2017**

**PANEL:**  
Key issues on the development of girls delinquency and the evaluation of an intervention for girls at risk for delinquency  
Drs. Rolf Loeber, Leena Augimeri & Kyle Treiber



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**The Issue**

**UP TO 20%**  
OF CHILDREN EXPERIENCE  
DISRUPTIVE BEHAVIOUR  
PROBLEMS, AMOUNTING TO  
MORE THAN  
**1.3M CHILDREN  
ACROSS CANADA**

(Canada Census 2011, children ages 0-17 with mental health problems)

**40%**  
OF 8 YEAR OLD CHILDREN  
WITH CONDUCT DISORDER  
ARE REPEATEDLY CONVICTED  
OF CRIMES SUCH AS THEFT,  
VANDALISM, AND ASSAULT IN  
ADOLESCENCE

(Scot et al., 2001)

**\$1.5 - \$6.5 MILLION**  
ESTIMATED FUTURE COSTS TO SOCIETY FOR A CAREER CRIMINAL IF EARLY  
INTERVENTION DOES NOT TAKE PLACE

(Public Safety Canada, 2011; Cohen & Piquero, 2009; Piquero, Wesley, Jennings & Farrington, 2011)



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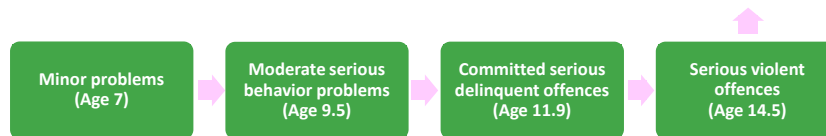


## A Fact We Cannot Ignore

Strong evidence indicates that there are *seven years of warning* before a juvenile becomes a serious, violent offender.

(Loeber, Farrington, & Petechuk, 2003)

### THOSE WHO ENDED UP IN COURT FOR SERIOUS OFFENCES AT AGE 14.5



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## Implications To Society

# “ENORMOUS”

(Loeber, Slot, van der Laan, & Machteld, 2008)

### Farrington (2008)

- Early onset of delinquency tends to predict a long and serious criminal career
- Most research on delinquency focuses on the teenage years when it is in full flow
- Most intervention resources are targeted on these years
- More research and interventions should be targeted on the pre-teenage years

### Tremblay, Grevais, & Petitclerc (2008)

- Evidence is growing clear - childhood aggression must be taken seriously
- Children who fail to learn lessons early in life (about 5-10% of Canadian children) are more likely to run into serious trouble later
  - Difficulty at school
  - Substance abuse
  - Risk-taking
  - Mental illness
  - Criminal activity



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**SOLUTION**

Prevention interventions that focus on **child delinquency**

↓

**Take the largest bite out of crime**

Where our efforts should be directed:


- Prevention of persistent disruptive behaviour in children
- Prevention of child delinquency (especially among disruptive children)
- Prevention of serious violent juvenile offending, particularly among child delinquents

**KEY**


↓

**EARLIER the BETTER**

(Loeber, Farrington, & Petechuk, 2003)




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**Interventions: What Works**

- When interventions include self-regulatory components, they have a greater chance to achieve impact (Blair & Raza, 2007)
- **Self-control programs are an effective intervention for reducing delinquency and problem behaviours (Piquero et al. 2010)**
- As self-control increases at a faster pace, delinquency decreases at a faster pace (Vazsonyi & Huang, 2010)



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## Self-Control & Self-Regulation

**Self-Regulation:** Successful self-regulation involves the ability to efficiently and effectively deal with a stressor and then recover...“Lays a foundation for a child’s long-term physical, psychological, behavioral, and educational well-being” (Shanker, 2013)

**Self- Control:** A core component of top-down behavioural self-regulation that “reflects adequate impulse control and attention” (Bridgett, Burt, Edwards, & Deater-Deckard, 2015, p.604)

Failure to develop self-regulation & self-control skills can have a long-lasting impact on a child’s life and adult outcomes



## A lack of self-control is the critical missing factor for high-risk children



I thought the snap program was very helpful. It taught me not to bully and how to say no.

- **Low self-control** in kids leads to problems later in life, and is predictive of physical health, substance dependence, personal finance and criminal offending issues  
(Toronto Star, January 25, 2011; Moffit et al., 2010)
- **Lack of social-emotional regulation** is associated with aggression, lack of social skills, emotional outbursts and inattention  
(Saarni, 1999)
- **Early self-regulation** has a stronger association with school readiness more so than IQ or entry-level reading or math skills  
(Blair, 2002, 2003; Normandeau & Guay, 1998)
- ✓ **Latency-aged or middle years children** (especially before age 10) tend to be good candidates for learning self-control  
(Piquero, Jennings, & Farrington, 2002)



## WHO ARE THE FORGOTTEN GROUP?

middle years children especially

**Girls Demonstrating Aggressive Behaviours**



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## A Scientist-Practitioner Crime Prevention Approach: Responding to Children/Youth with Disruptive Behaviour Problems

*"30+ years in the making"*  
Dr. Leena K. Augimeri



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## SNAP (Stop Now And Plan)



- **SNAP strategy:**
  - Emotion regulation, self-control and problem-solving technique
  - Weekly SNAP groups for children and parents plus other SNAP components provided based on level of risk and need
  - Teaching children and their family how to make better choices “in the moment”
- **Target:**
  - Children ages 6-11 with disruptive behaviour problems – top 2% severity (aggression, bullying and rule-breaking) and their families; middle years significant phase
- **Goals:**
  - **Child:** decrease disruptive behaviours and increase social competencies (e.g., social skills, positive peer/family/community relations)
  - **Parent:** increase effective parent management and competency skills

**SNAP’s Proven Impact:**  
Sustainable Change • Reduces Crime • Cost Effective • Building Healthy Communities


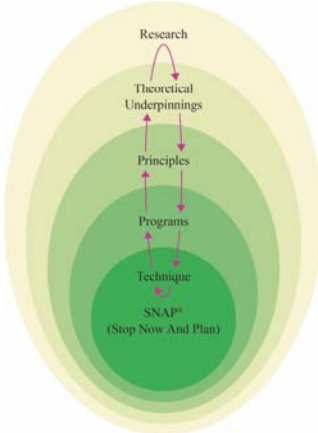


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**SNAP® an evidence-based, gender specific program that teaches children with serious disruptive behaviour problems, and their parents, how to stop and think before they act and make better choices “in the moment.”**

- Holistic treatment approach: the SNAP® Model is a framework for effectively teaching children and their parents: **emotion regulation, self-control, & problem-solving skills**
- SNAP technique is embedded within an ecosystemic framework, informed by five core theories, and delivered through a developmental lens



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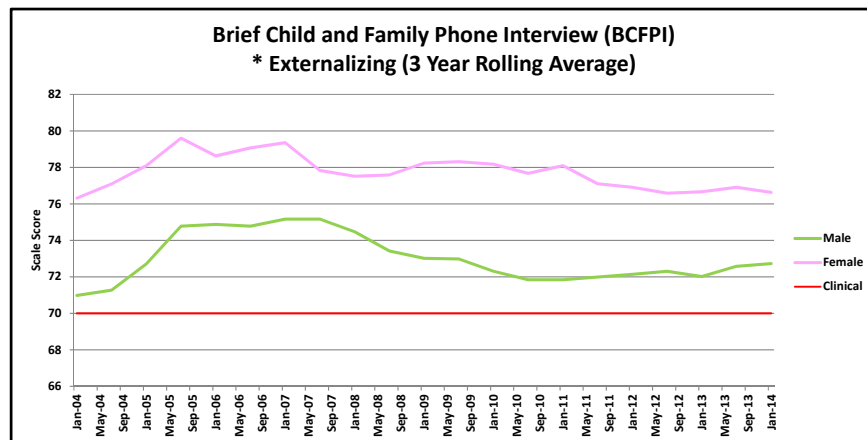
## SNAP® Girls

- Introduced in 1996 as SNAP Girls Connection now known as SNAP Girls (evolved from SNAP Under 12 Outreach Program; ORP – est. 1985 for both boys & girls – in 1996 became gender specific)
- Admits girls who show evidence of Externalizing Behaviour Problems (Conduct, Oppositional and ADHD) and also includes girls with co-morbidity issues (e.g., Internalizing - depression, anxiety)
- 6-11 years of age
- Provides continuing care through age 18
- To date SNAP Girls has served over 1000 girls and their families
- Noted as the first gender specific intervention for young girls in conflict with the law and/or with serious disruptive behaviour problems
- Replicated in Canada, United States and Europe



## Characteristics of SNAP Children at Intake: Sample

Girls are consistently coming in higher than boys at intake



## SNAP® Program Components

- Weekly SNAP gender- specific groups for children and parents
- In addition to SNAP groups, adjunct and follow-up components are provided based on level of risk and need and willingness to continue engagement in services:
  - SNAP Individual Counselling (individual goals)
  - Community Connections (community supports & recreation)
  - SNAP Family Counselling
  - SNAP School Support / Advocacy
  - Girls Growing Up Healthy Group (relationship development)
  - SNAP Parent Problem-Solving Group (continued care)
  - SNAP Youth Leadership (aka Leader-in-Training; continued skill development and job skills for children/youth)
  - TAPP-C (The Arson Prevention Program for Children)
  - Homework Club / Academic Tutoring



## Girls Growing Up Healthy (GGUH): Unique SNAP Girls Component

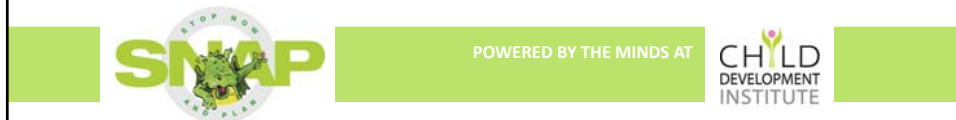
- **Focus:** Promoting healthy mother-daughter relationships
- A look at the mother-daughter relationship and impact on aggressive and antisocial behaviour in girls
- Enhance relationship capacity
- Enhancing knowledge and comfort level in discussing physical/sexual health issues





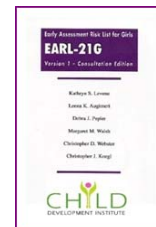
## What Makes Us Gender Specific?

- Gender-specific adjunct programming
- Identification of unique risk factors
  - EARL-21G (e.g., caregiver-daughter interaction, sexual development)
- Recognizing there may be unique contexts for aggression
  - Relationship capacity
- Focus on understanding the different trajectories for boys and girls with early antisocial behaviour
  - Early dating, sexual activity, and teen pregnancy
  - Depression
  - Unemployment




## Early Assessment Risk List for Girls (EARL-21G)

Structured Professional Judgment Guide used to assess level of risk for future violence and needs in latency-aged girls




### Items in the Early Assessment Risk List for Boys and Girls


Family (F) Items	Child (C) Items	Responsivity (R)
Household Circumstances	Developmental Problems	Family Responsivity
Caregiver Continuity	Onset of Behavioural Difficulties	Child Responsivity
Supports	Abuse/Neglect/Trauma	
Stressors	Hyperactivity/Impulsivity/Attention Deficits (HIA)	
Parenting Style	Likeability	
Antisocial Values and Conduct	Peer Socialization	
Caregiver-Daughter Interaction (*)	Academic Performance	
	Neighbourhood	
	Authority Contact (+)	
	Antisocial Attitudes	
	Antisocial Behaviour	
	Coping Ability	
	Sexual Development (*)	

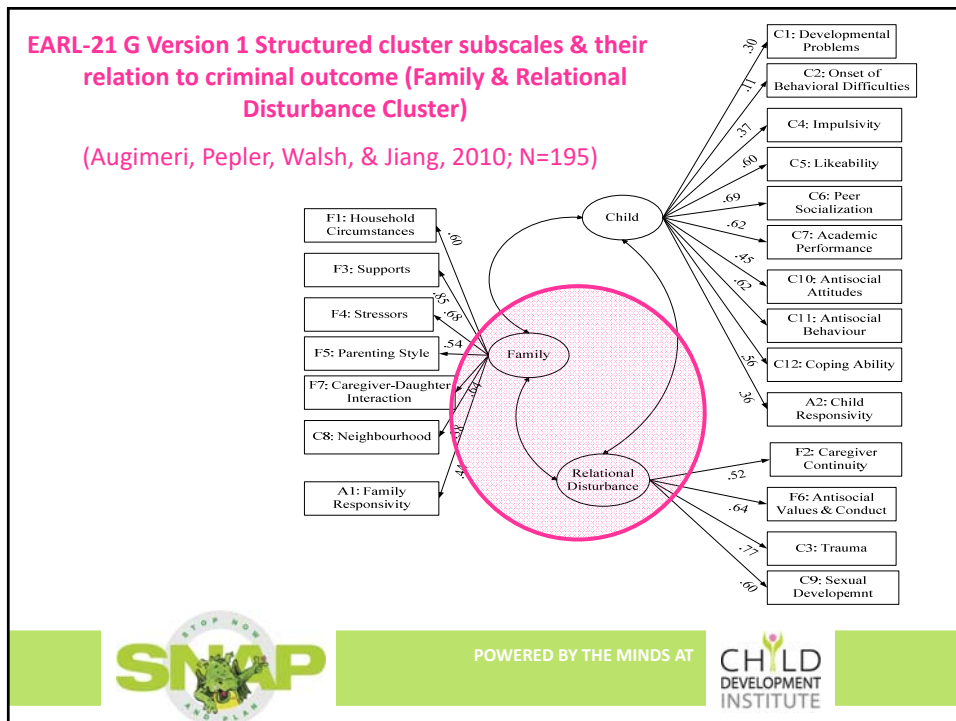


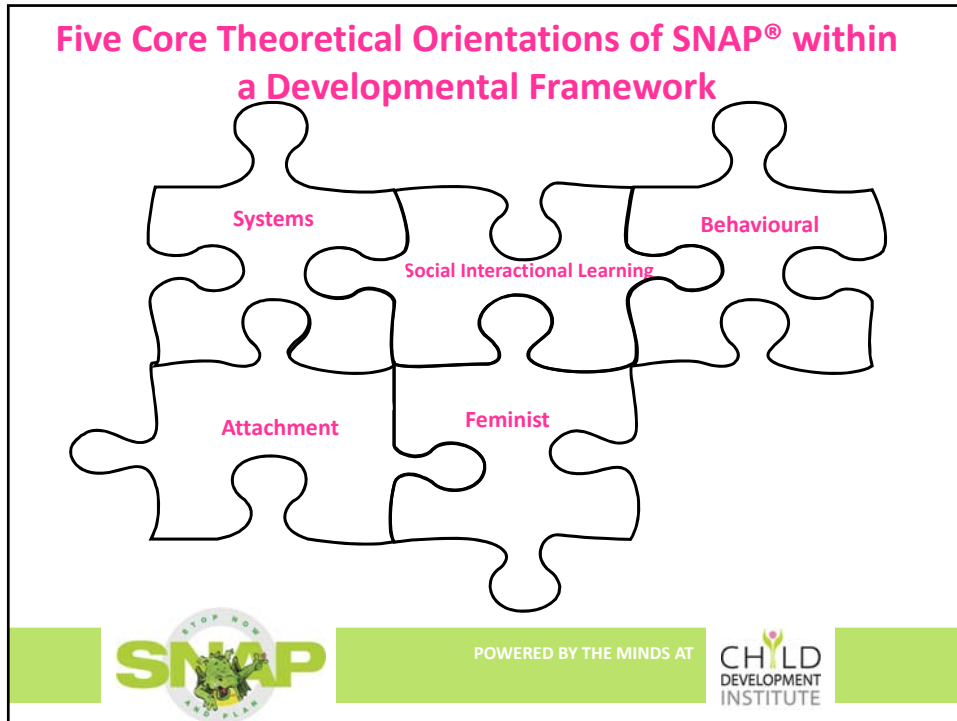
(+) Item specific to the EARL-20B; (\*) Item specific to the EARL-21G.



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### Examples: How the Theoretical Orientation Links to SNAP

<p><b>Social-Interactional Learning (SIL)</b></p> <p>Focus on skillful parenting meant to disrupt the family “coercive cycle” (Patterson, 1982) Structured around the establishment of reinforcement contingencies designed to increase pro-social behaviour</p> <p><b>SNAP Girls:</b> Strong focus on same-sex modelling and its importance in building capacity for healthy relationships</p>	<p><b>Cognitive Behaviour Therapy</b></p> <p>Cognitive deficiencies are addressed through practice and mastery activities including but not limited to appraisal of emotional and physiological arousal, social cue recognition, problem solving, and interpersonal communication skills.</p> <p><b>SNAP Girls:</b> Make accommodations for girls’ need for greater support, safety and intimacy; Increase opportunities for conversation, feelings exploration and support</p>
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At the bottom of the slide, there is a green banner with the following logos and text:

- STOP NOW AND PLAN (SNAP) logo
- POWERED BY THE MINDS AT
- CHILD DEVELOPMENT INSTITUTE logo

## Examples: How the Theoretical Orientation Links to SNAP

### Feminist Theory

Enhance clients' knowledge (e.g., patriarchy), and develop self-advocacy skills including assertive communication and boundary setting; Deconstruct gender inequality and challenge socially constructed limits of gender

**SNAP Girls:** All female staff; Same- sex modelling (e.g. peers, mentors); Identification and management of unique gender risk factors, EARL 21-G and outcomes

### Systems Theory

Identify strengths, needs, connections, and problems located across broad ecosystemic context in which they interact

**SNAP Girls:** Building awareness of gender & related stereotypes & how they inform responses across systems; Advocating against inequitable actions across and within systems (e.g., stigma of girls behaviour, disclosure of sexual assaults)

### Attachment Theory

Identify issues that undermine a secure attachment with the aim of enhancing relationship capacity by promoting the practice and mastery of relationship building skills

**SNAP Girls:** Address unique risk factors that compound aggression and insecure attachment in girls as well as the intergenerational cycle



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## SNAP Girls Outcome Evaluation

SNAP and future criminal outcome:  
A case for intervention during the middle years



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## Extensive Studies Show Effectiveness of SNAP® Girls

The SNAP Girls program has undergone a variety of evaluations to determine efficacy and long-term outcomes including: Pre/post/follow-up, Long-term follow-up, Randomized Controlled Trial, Qualitative, Cluster Analysis of the EARL-21G, Immediate Treatment vs. Waitlist Control, Pilot replication study, Neuroscience (EEG), and Dynamic Systems Analysis.

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## Longitudinal Criminal Outcome Data

Wave 1: Late 80's, early 90's (N=447)

- Time-limited model
- SNAP Toronto (CDI)
- Benefit Cost Analysis

Wave 2: 2001-2008 (N=953)

- Continued Care model
- SNAP Toronto & SNAP Hamilton
- Predictive Validity of EARLs
- Trajectory of SNAP Children
- Individual Counselling Checklist

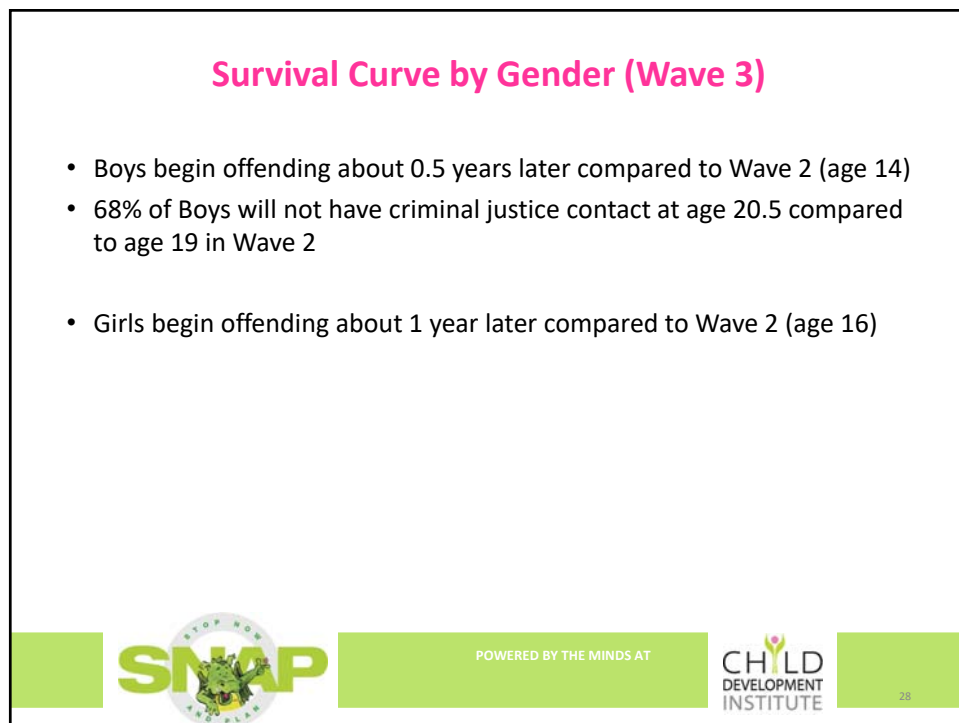
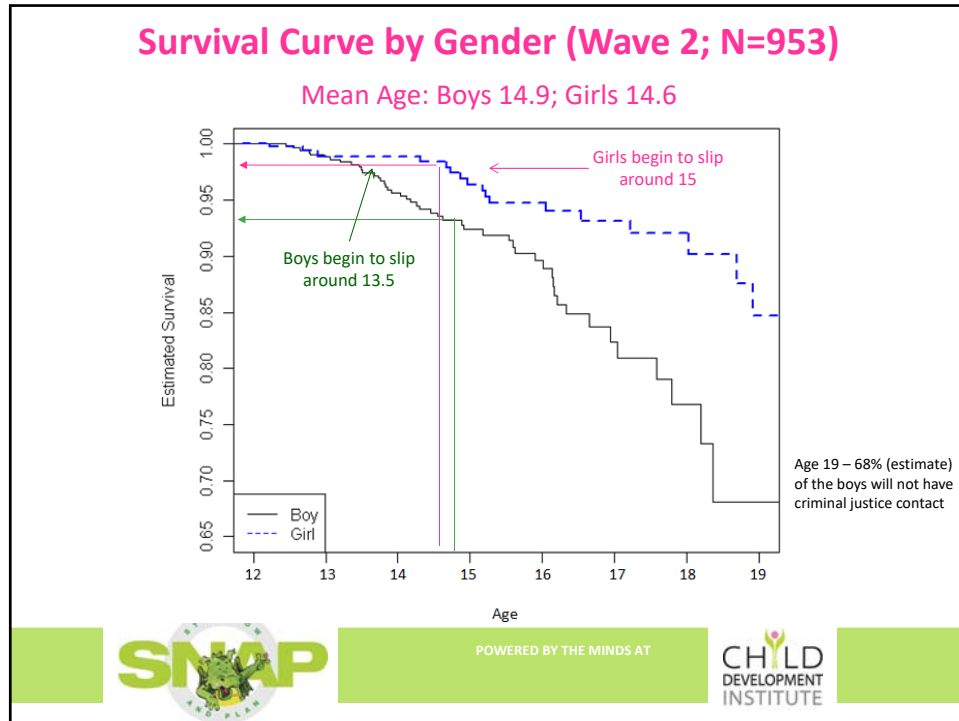
Wave 3: 2001-2009 (N=447 & N=1076)

- Time Limited (447) & Continued Care (1076)
- Wave 1
- Wave 2 (SNAP Toronto)
- Referred to SNAP Toronto



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## Characteristics of Sample Wave 3 (N = 559)

Characteristics	Boys (N=279)	Girls (N=280)
Mean (median, min-max) age at referral <sup>a</sup>	8.8(9, 6-12)	8.8(9, 6-12)
Age group at referral – n(%) <sup>a</sup>		
Younger	51(22.5%)	34(23.0%)
Middle	93(41.0%)	68(45.9%)
Old	83(36.5%)	46(31.1%)
Mean (median, min-max) age by Dec of 2014	18.7(18.6, 13.5-24.7)	21.1(20.4, 13.7-30.0)
Mean (median, min-max) EARL at Pre <sup>a</sup>	16.4(17, 0-34)	17.0(17, 2-30)
Overall clinical judgment at Pre– n(%) <sup>a</sup>		
Low risk	21(12.1%)	36(22.5%)
Medium risk	85(49.1%)	57(43.5%)
High risk	67(38.7%)	38(29.0%)
With Offense records - n (%)		
Yes	60(21.5%)	25(8.9%)
No	219(78.5%)	255(91.1%)
Mean (median, min-max) age at first offense among those with offense records	16.3(16.3, 12.8-20.7)	17.7(16.7, 12.2-24.0)
Mean (median, min-max) days between two consecutive offenses if with more than one	79.2(67.8, 0-281)	112.4(84.5, 0-398.5)



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## Preliminary Findings (Wave 3 – Girls Only)

- Of the sample of girls that underwent initial assessment using the EARL-21G, offenders were significantly higher risk than non-offenders at intake/baseline on the following risk factors:
  - Caregiver Continuity ( $p = 0.025$ )
  - Academic Performance ( $p = 0.038$ )\*
  - Neighbourhood ( $p = 0.012$ )
  - Antisocial Behaviour ( $p = 0.021$ )\*
  - Total EARL Score ( $p = 0.022$ )

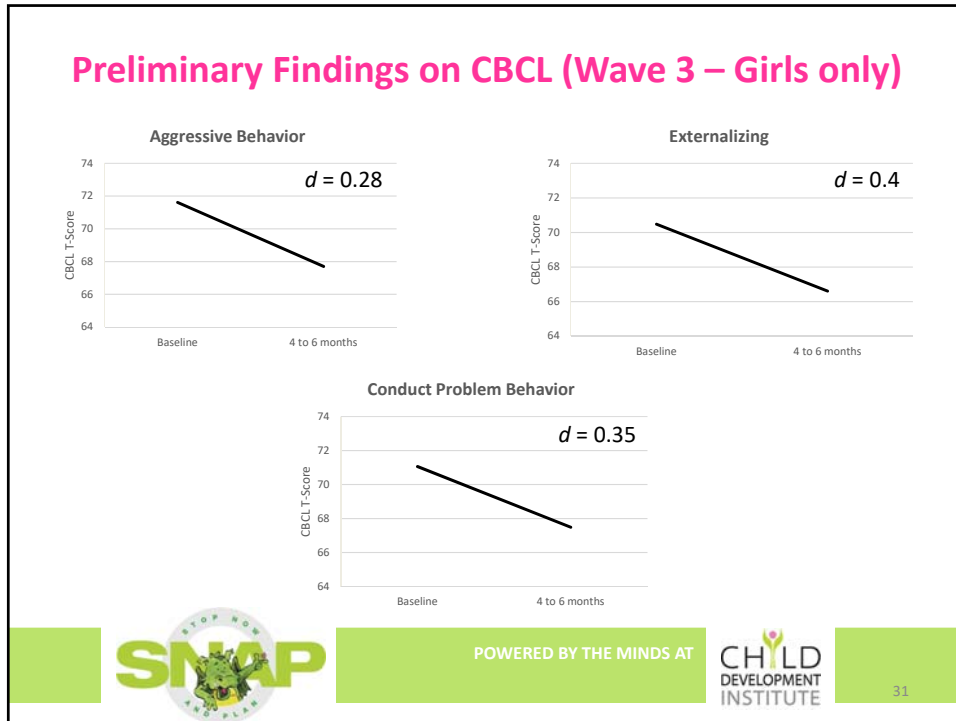
\*The difference between offenders and non-offenders on Antisocial Behavior and Academic Performance is unique to the girls



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### Self-Control and Criminal Offending

(Augimeri, Walsh, Donato, Blackman, & Piquero, under review)

*Self-control has been identified as "one of the strongest known correlates of crime"*  
(Moffitt et al., 2011; Pratt & Cullen, 2000; de Ridder et al., 2012)

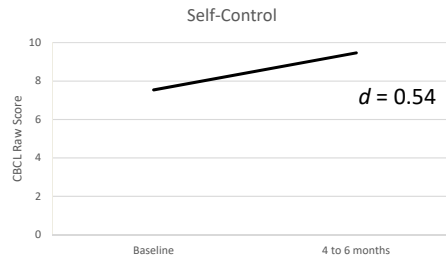
- Nine items from Child Behavior Checklist (CBCL; Achenbach, Dumenci, & Rescorla, 2001) have been identified by Meldrum and colleagues (2017) that best represent indicators of low self-control
- Improvements on this 9-item self-control scale significantly predicted nearly 70% of improvement on the 35-item Externalizing Behavior composite scale in the most recent sample of SNAP children (N=349)

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## Preliminary Findings (Wave 3 – Girls only)

- Using the 9-Item Self-Control scale (Augimeri, Walsh, Donato, Blackman, & Piquero, under review)



- When targeting children and adolescents specifically, such programs have been shown to produce reductions in delinquency moderated by improvements in self-control

(Piquero, Farrington, Welsh, Tremblay, & Jennings, 2009; Piquero et al., 2016)



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## SNAP Video Links & Website

- [www.youtube.com/user/StopNowAndPlan/videos](http://www.youtube.com/user/StopNowAndPlan/videos)
- [www.stopnowandplan.com](http://www.stopnowandplan.com)



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# THANK YOU!

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