The Effect of Child Maltreatment History and Emotional/Behavior Problems on Substance Use Trajectories among Child Welfare Involved Youth

Svetlana Yampolskaya, Ph.D.
Connie Walker, Ph.D.

March 7, 2018
Tampa, FL
Introduction

Fiscal year 2015 (USDHHD, 2016):

3.4 Million
Estimated amount of children who came to the attention of the US child welfare system

269,000
Children who were removed from home and entered foster care

Research has shown that maltreated children experience a wide variety of adverse outcomes ranging from physical and mental health problems to risky sexual behaviors and substance abuse.
Introduction

Research has shown:

- The association between child maltreatment and substance use
- The association between specific types of maltreatment and substance use

**Emotional** abuse was the only form of maltreatment that was not associated with substance use
Introduction

Studies also indicated:

- Behavioral/emotional problems also predict substance use and dependence among child welfare involved youth:
  - Externalizing behavioral problems
  - Conduct problems
  - Anxiety
  - Depression
  - Posttraumatic stress disorder (PTSD)
STUDY GOAL

• Only a few longitudinal studies
• Studies have examined all child welfare-involved youth as if they were a single homogeneous group

Goals of this study:
• Explore substance use trajectories among child welfare-involved youth
• Identify characteristics that distinguish subgroups at increased risk for the escalation of substance use
National Survey of Child and Adolescent Well-Being (NSCAW II)

- National longitudinal probability study of families involved in child welfare services.
- Used a representative sample of youth, aged birth to 17.5, referred to the child welfare system for maltreatment investigation between February 2008 and April 2009 in 81 counties nationwide.
- Two cohorts of children enrolled in the survey.
Sample

- 625 youths
- 11 years or older at baseline ($M = 14.32$)
- 59% female
- Race/ethnicity
  - 39% Caucasian
  - 24% African American
  - 25% Hispanic
  - 12% Other race/ethnicity
- About 35% placed in out-of-home care at baseline
- Substantiated reports – substantiated or not
Measure of Substance Use

- **Substance use**
  - Included 3 items based on a Youth Risk Behavior Survey frequency scale (CDC, 2015)
  - Self-reported use during the previous 30 days in Waves 1, 2, & 3
    - Alcohol
    - Marijuana
    - Cocaine

- **Frequency of drugs and alcohol use**
  - Scale ranged from 0 (I have not done this in the past 30 days) to 6 (all 30 days) or 5 (40 or more times)
  - When a range was selected (e.g., 3 to 5 days), maximum number of days was chosen for analyses (Gruenewald et al., 2003)
  - Sum of scores to indicate the overall substance use
Predictor Variables

• Child demographic characteristics
  • Gender
  • Age at Wave 1
  • Race/ethnicity (Caucasian, African American, Hispanic, and Other)

• Child maltreatment based on Modified Maltreatment Classification System (Manly, Cicchetti, & Barnett, 1994):
  • Sexual abuse
  • Physical abuse
  • Neglect
  • Threatened harm
  • Abandonment
Predictor Variables

- Placement in out-of-home care
Analytical Approach

- NSCAW is based on a stratified two-stage cluster sampling strategy.
- To adjust the standard errors, account for the clustering and stratification in the sampling design multilevel modeling is required.
- Multilevel Latent Growth Mixture Modeling (MLGMM) was used to examine both longitudinal trends and various substance use trajectories.
## Model Selection and Model Fit

<table>
<thead>
<tr>
<th>Model</th>
<th>Number of free parameters</th>
<th>AIC</th>
<th>BIC</th>
<th>Log Likelihood</th>
<th>Entropy</th>
</tr>
</thead>
<tbody>
<tr>
<td>One-class solution</td>
<td>11</td>
<td>9,319.36</td>
<td>9,367.82</td>
<td>-4648.68</td>
<td></td>
</tr>
<tr>
<td>Two-class solution</td>
<td>14</td>
<td>8,961.45</td>
<td>9,023.12</td>
<td>-4466.73</td>
<td>0.94</td>
</tr>
<tr>
<td>Three-class solution</td>
<td>17</td>
<td>8,725.55</td>
<td>8,800.44</td>
<td>-4345.77</td>
<td>0.94</td>
</tr>
</tbody>
</table>
On the basis of the fit statistics only, the three-class linear model was preferred, as it had the lowest BIC, the lowest AIC, and the same high entropy value (.94) as the two-class solution.

Inspection of the class membership assignments, however, indicated that two of the three classes were very similar, and the third class was relatively uninformative.
Findings

Two-class solutions identified

- The first trajectory class, *High Stable Substance Use*, included 91% of the sample
  - Characterized by high initial substance use followed by leveling throughout the study period

- The second trajectory class, *Rapid Progression Use*, included 9% of the sample
  - Marked by high initial use followed by increasing growth over time
Findings

• Relative to *Rapid Progression Use* trajectory class, children who follow *High Stable Substance Use* trajectory were more likely to be White (OR = 3.34, $p < 0.05$).

• Children who comprise *Rapid Progression Use* trajectory class were almost 4 times more likely to have a history of physical abuse (OR = 3.91, $p < 0.05$).
Findings

Contributions of each within-class covariates

Threatened harm and internalizing problems seem to be linked with increase in substance use for the Rapid Progression Use trajectory class.

Neglect appears to be related to increase in substance use for the High Stable Substance Use trajectory class.
Implications

- **Trajectory analysis** provides unique information about the level and changes in substance use over time.

- Information can be used for:
  - Interventions of different intensity might be indicative
  - Different types of interventions
Using What We Learned

*Rapid Progression Use trajectory class*

- Increase in substance use is associated with the experience of threatened harm
- Intensified anxiety due to the family context
- Substance use as a coping mechanism
- Interventions that aim to develop positive coping behaviors
Using What We Learned

**High Stable Substance Use trajectory class**

- Increase in substance use is associated with neglect
- Lack of attention and communication from parents
- Substance-seeking behaviors as a way to being accepted, of becoming popular, and of enhancing social and other activities
- Interventions that focus on developing social skills and peer relations
Svetlana Yampolskaya  yampol@usf.edu

Connie Walker - cwalkere@usf.edu