



# Trajectories of Mental Health in Children Adopted From Foster Care

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## ABSTRACT

A wealth of research has established that adopted youth are at greater risk for impaired mental health than their non-adopted peers, given the host of early life stressors that many experience. However, the specific trajectories of risk and resilience into adulthood remain unclear. The present study examines longitudinal trajectories of mental health in 52 adolescents and young adults adopted from foster care. We investigated the contribution of two major pre-adoptive risk factors, abuse/neglect and age of placement, to childhood trajectories of behavior problems. We also utilized these risk factors and behavioral trajectories to predict current outcomes of mental health. Children exposed to abuse/neglect exhibited higher levels of internalizing problems, but not externalizing problems, into adolescence/young adulthood (YA). In addition, childhood internalizing problems mediated between abuse/neglect and frequency of later marijuana use. Irrespective of risk factors, higher average levels of internalizing and externalizing problems in childhood predicted a number of later mental health outcomes. The effects of age of placement were no longer significant in adolescence/YA, demonstrating the positive impact of stable, nurturing adoptive homes.

## INTRODUCTION

- In 2014, 50,000+ youth adopted from foster care<sup>1</sup>
- Adopted children show better outcomes than youth who remain in foster care<sup>2</sup>
- However, as a group, adoptees show higher rates of psychopathology than non-adopted peers<sup>3,4</sup>
- Early maltreatment common cause of removal from home → later psychopathology<sup>5,6,7</sup>
- Older age at adoption → mental health difficulties, especially if adopted after age 4<sup>8</sup>
- Trajectories of mental health into adolescence/young adulthood remain unclear**
  - Abuse/neglect:** some studies show stable effects into adulthood, others unstable<sup>9,10,11</sup>
  - Age of placement:** study on present cohort in childhood<sup>12</sup> revealed:
    - Internalizing problems consistently higher in children adopted after 4
    - Externalizing problems increased in younger-placed children, decreased in older-placed
- Goals of study:**
  - Clarify trajectories of effects of maltreatment
  - Extend trajectories of effects of age of placement revealed in childhood<sup>12</sup> into adolescence/YA

## METHODS AND MATERIALS

- Participants:**
  - 52 youth (29 males,  $M$  age=19.2); 43% history of abuse/neglect, 44% adopted after age 4
  - 45 primary parents (73% female, 75% heterosexual, 68% married/cohabitating)
- Procedure:**
  - Families recruited through DCFS seminars for prospective adoptive parents
  - Original study: 82 children, 6 yearly visits beginning 2 months post-placement ( $M$  age = 3.9)
  - Follow-up study: online survey sent to parents and children when youth reached adolescence/YA
- Measures:**
  - Pre-placement variables:
    - Abuse/neglect, age of placement (from court reports and DCFS records)
    - Child Behavior Checklist<sup>13</sup>: parent-report T1-6 of **internalizing** and **externalizing** behaviors
  - Follow-up variables:
    - BASE 7: mental health symptomology (3 items: anxiety, anger, depression; child report)
    - Psychiatric diagnoses, medications, hospitalization; suicide & runaway attempts (parent report)
    - Substance use (parent/child report)

## RESULTS

### Childhood Trajectories of Mental Health

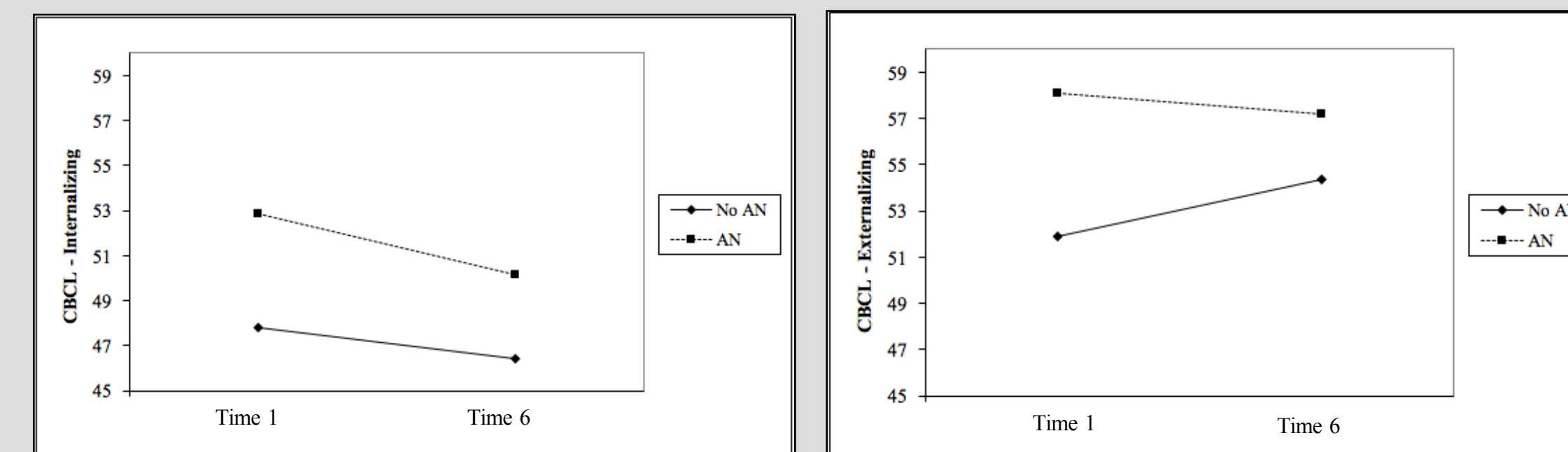


Figure 1. Effects of abuse/neglect on internalizing problems throughout childhood. Figure 2. Effects of abuse/neglect on externalizing problems throughout childhood.

- Estimated missing data using MMI\_IMPUTE<sup>13</sup>
- Mixed linear model used to examine interactions between risk factors & time
- Abuse/neglect did not predict change in internalizing symptoms over time (Beta= -.41,  $t(820.5) = -.71$ , ns) but did significantly predict change in externalizing symptoms over time (Beta= -1.01,  $t(628.5) = -2.02$ ,  $p < .05$ )

### Predictors of Mental Health in Adolescence/YA

#### Preadoptive risk factors:

	Abuse/Neglect		<i>t</i>
	Yes	No	
Anxiety Symptoms	4.79	3.45	-3.0**
Anger Symptoms	4.71	3.05	-2.46*

\* $p < .05$ , \*\* $p < .01$ , \*\*\* $p < .001$

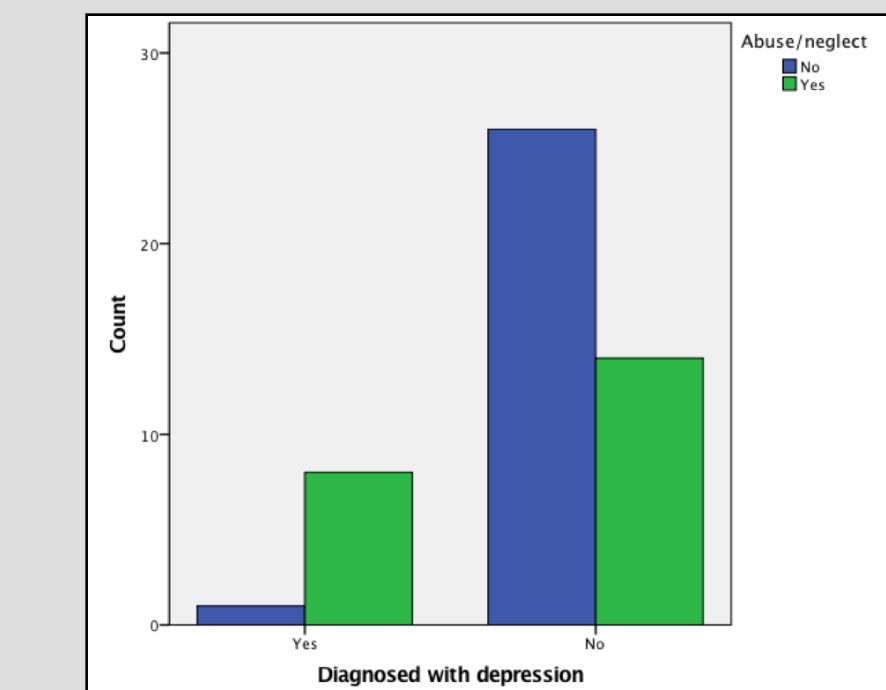


Figure 3. Effects of abuse/neglect on depression diagnosis.

	Abuse/Neglect	
	Yes	No
Never	14%	63%
Infrequent	50%	16%
Frequent	36%	21%

	Abuse/Neglect	
	Yes	No
Depression**	36%	4%
PTSD*	18%	0%
Tried marijuana**	74%	37%

#### Child behavior problems:

	Internalizing		Externalizing	
	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>
Tobacco Use (Past Month)	3.72*		4.00	
Never	48.0	56.0		
Infrequent	54.9	56.6		
Frequent	57.3	65.9		
Marijuana Use (Past Month)	7.55**	4.38*		
Never	47.6	54.8		
Infrequent	51.1	54.7		
Frequent	60.1	66.3		
Marijuana Use (During Life)	3.84*	2.34		
Never	47.1	53.6		
Infrequent	49.3	57.1		
Frequent	56.3	62.3		

For all statistically significant variables, mean CBCL scores of nonusers were significantly different from those of frequent users but not those of infrequent users.

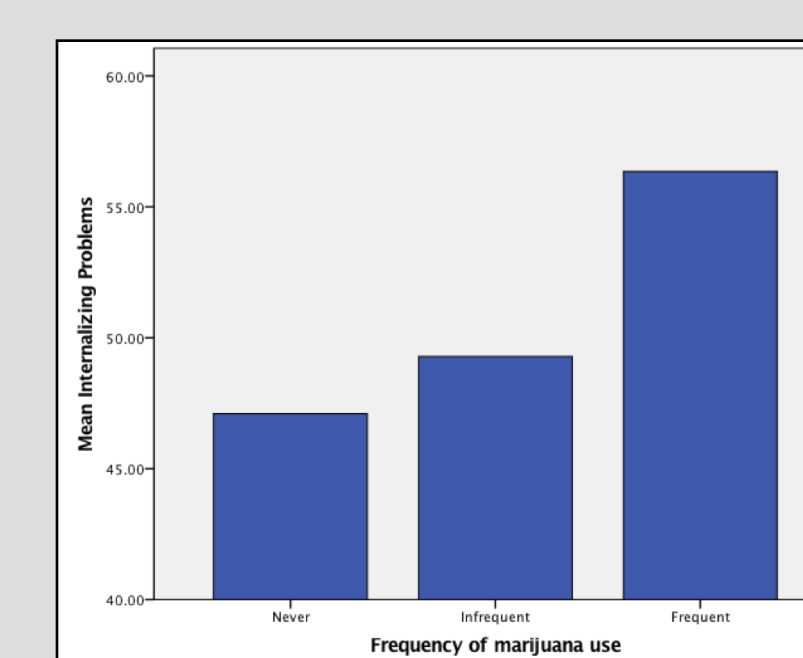


Figure 4. Mean childhood internalizing problems by frequency of marijuana use.

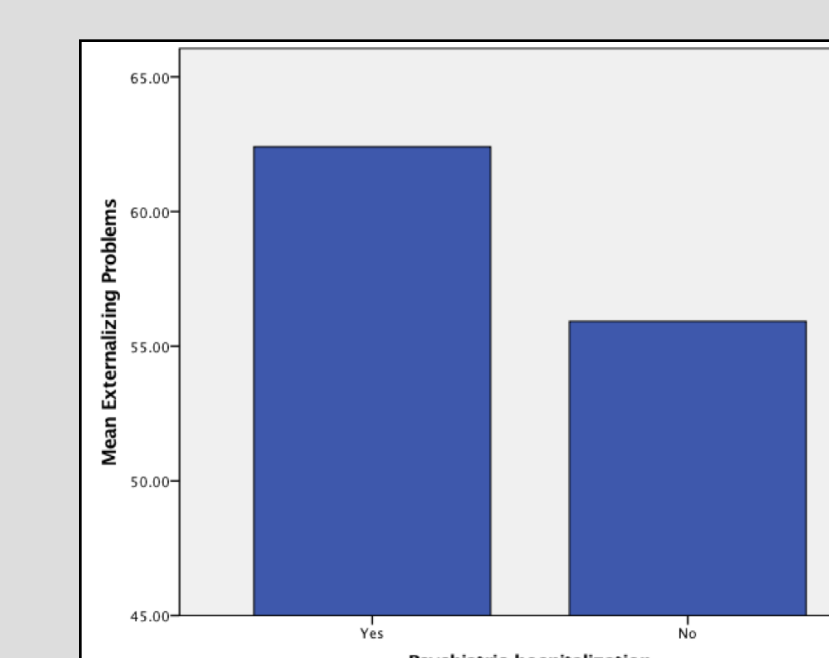


Figure 5. Mean childhood externalizing problems and psychiatric hospitalization.

## RESULTS (CONTINUED)

	Internalizing		Externalizing	
	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>
Tobacco	52.0	-1.6*	59.5	-2.09*
Cocaine	48.5	-4.83**	63.0	-2.5*
Amphetamines	49.4	-1.61	56.6	-5.04***
Ecstasy	49.7	-2.77*	55.7	-1.30
Heroin	49.5	-1.73	56.6	-7.63***
Drug treatment	50.3	1.27	56.8	3.05**

	Internalizing		Externalizing	
	<i>M</i>	<i>t</i>	<i>M</i>	<i>t</i>
Bipolar Dis.	58.3	1.60	71.0	6.67***
Other Dis.	49.4	3.80**	65.5	1.88
ADHD med.	53.5	1.86	61.6	2.71*
Antidepressant	48.4	2.09*	54.1	.952
Hospitalization	53.4	1.20	62.4	2.24*
Has run away	49.8	2.82**	55.9	3.61**

### Exploratory Analysis:

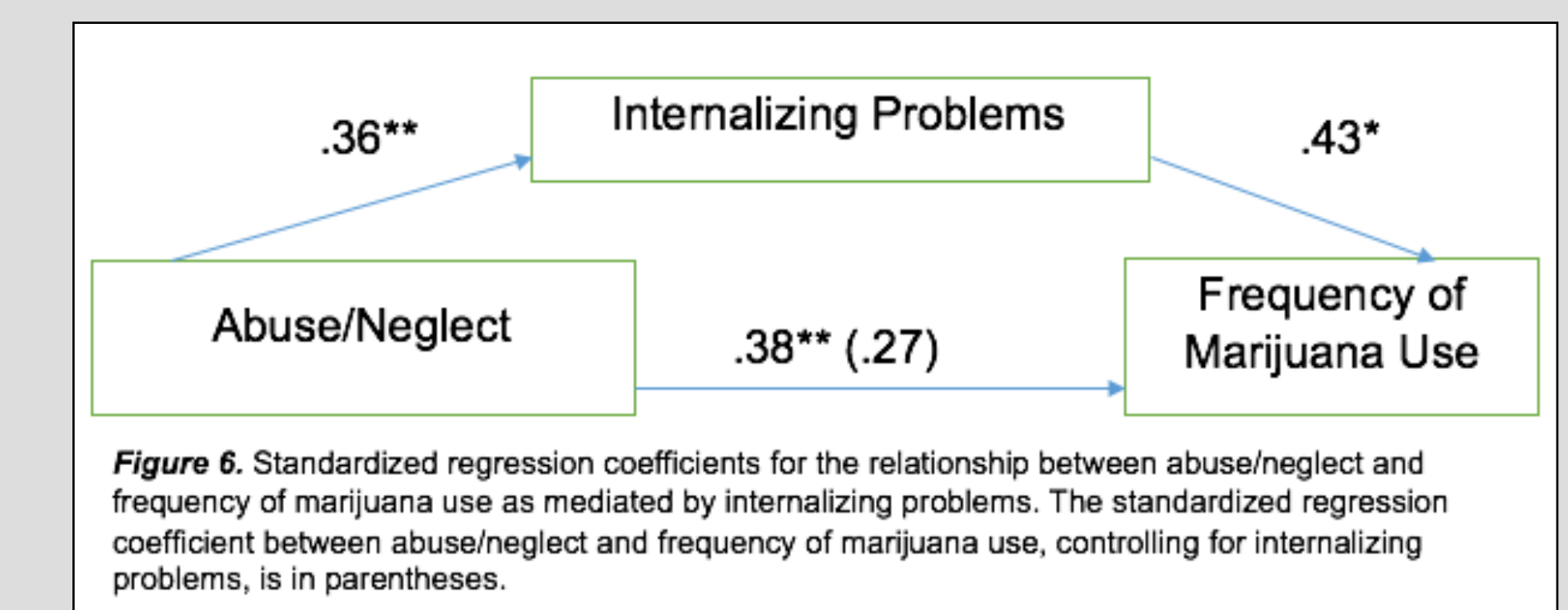


Figure 6. Standardized regression coefficients for the relationship between abuse/neglect and frequency of marijuana use as mediated by internalizing problems. The standardized regression coefficient between abuse/neglect and frequency of marijuana use, controlling for internalizing problems, is in parentheses.

## DISCUSSION/CONCLUSIONS

- Abused/neglected youth show no heightened externalizing problems by adolescence/YA
- Abused/neglected youth have consistently higher internalizing symptoms (anxiety, PTSD, depression) in childhood & in adolescence/YA
- Both internalizing & externalizing behavior problems in childhood predict substance use in adolescence/YA
- Childhood internalizing problems partially explain link between abuse/neglect & later high marijuana use
  - Targeting internalizing problems in childhood may prevent later problematic marijuana use
- Childhood internalizing/externalizing problems predict other mental health outcomes not related to abuse/neglect or age of placement. Possible other risk factors include genetic susceptibility, prenatal substance exposure, other pre-placement risk factors
- In adolescence/YA, non-abused children do not show psychiatric or substance abuse problems
- Effects of later age of placement largely disappear by adolescence/YA for children in adoptive homes