Crossover Youth:
Child Welfare Trajectories of Youth Who Move from the Child Welfare to the Juvenile Justice System

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University of Connecticut

Center for Applied Research in Human Development

Kellie G. Randall

Ronald M. Sabatelli

Anne F. Farrell

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Crossover Youth: Technical Report

Executive Summary

"Crossover youth" is a term to describe youth who, at any point in childhood, are involved with both the child welfare and juvenile justice systems[1]. That is, there is a group of youth who experience childhood maltreatment who are also charged with crimes (as minors). To better understand this population, The Connecticut Department of Children and Families (DCF), the Child Protection (CP) division of the Superior Court for Juvenile Matters, and the Court Support Services Division (CSSD) of the Juvenile Branch shared data on youth born between 1996-2002 who were served in their respective systems. Data were matched to identify youth served across systems. This dataset was drawn in late 2012 and provided to the University of Connecticut Center for Applied Research in Human Development (CARHD) for analysis.

The first phase of this project aimed to describe the crossover youth (COY) population in CT in terms of their demographics, child welfare involvement, and juvenile justice involvement. Our aim was to identify factors among child welfare-involved youth that predict later involvement in the juvenile justice system. The sample included youth born in 1996, enabling us to examine the outcomes for a birth cohort who turned 16 in the year the dataset was drawn. This resulted in a sample of 7,268 youth who had at least one substantiated allegation of maltreatment; 1,207 (16.6%) went on to have contact with the juvenile justice system.[2]

We were interested in identifying factors that increased the odds of a youth with prior child welfare involvement having subsequent contact with the juvenile justice system. We found:

- Crossover rates were higher among:
  - → Males (19.8%) than females (13.5%);
  - → African American (21.2%) and Hispanic (19.5%) youth than White youth (13.5%);
  - → Youth who experienced out-of-home placement/foster care (23.8%) compared with youth who were never removed from the home (14.5%).
- Youth with repeated involvement in DCF were more likely to cross over (24.1%) than youth whose involvement was limited to a single instance (12.8%); and
- Youth who were older at the time of their first DCF contact were more likely to cross over.

Most research to date focuses on the age at first maltreatment (timing) as predictive of crossover and has found later maltreatment incidents to be associated with increased

[1] Herz, D., & Ryan, J.P. (2008). *Building multisystem approaches in child welfare and juvenile justice.* Washington, DC: Center for Juvenile Justice Reform.

[2] There were 105 youth in the dataset who were involved with both systems but whose juvenile justice system contact preceded or coincided with their first child welfare contact; these youth were excluded because the current analyses focused solely on the child welfare to juvenile justice pathway.

likelihood.[3,4,5] We sought to capture in a more nuanced way the timing and frequency of maltreatment experiences, and examined both the timing and frequency of maltreatment, looking to identify patterns of child welfare involvement that influence crossover. We used a trajectory-based modeling procedure to analyze the data and identify a number of subgroups or patterns that characterize pathways of maltreatment of COY. Through these analyses, we identified five distinct maltreatment trajectories.

The composition of the five maltreatment trajectories varies by the onset and chronicity of involvement in the child welfare system. Approximately 21% of child welfare-involved youth were in the **Infancy, Decreasing** trajectory, characterized by involvement throughout the first year of life and typically having no further contact. An **Early Childhood Peak** trajectory was followed by 25% of the sample; these youth typically became involved with child welfare services around three years old, but then had no further contact. A similar trajectory was followed by 23% of youth, but with a peak of involvement around eight years old; this is the **Middle Childhood Peak** trajectory.

These first three trajectories (**Infancy**, **Early Childhood**, and **Middle Childhood**) had similar rates of crossing over into the juvenile justice system (12.0%, 13.7%, and 14.4%, respectively). Differences in crossover rates among these three groups were statistically indistinguishable. A fourth group, accounting for 25% of the sample, was the **Late Childhood Onset**, which had steadily increasing likelihood of child welfare involvement starting around age eight. This **Late Childhood** group crossed over at a rate of 22%, significantly higher than the previous three groups. However, the highest rate of crossing over was in the fifth trajectory group, those characterized by **Persistent Involvement Throughout Childhood**. This group was the smallest in number, accounting for only 5.5% of the sample, however, their crossover rate was 30.8%, significantly higher than the other four groups. This suggests that, although timing of maltreatment is of consequence, it does not have a uniform effect.

The implications of these findings are several. **First**, existing interventions can capitalize on the identification of enhanced risk of crossover among particular subgroups of youth; for example, youth with persistent child welfare involvement would likely benefit from relatively intensive, evidence based interventions that promote social skills, effective impulse control, decision-making, and vocational skills. **Second**, additional exploration of these trajectories across cohorts, jurisdictions, and in consideration of policy shifts is necessary if we are to understand if

[3] Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review, 27,* 227–249.
[4] Smith, C. A., & Thornberry, T. P. (1995). The relationship between childhood maltreatment and adolescent involvement in delinquency. *Criminology, 33,* 451-481.
[5] Stewart, A., Livingston, M., & Dennison, S. (2008). Transitions and turning points: Examining the links between child maltreatment and juvenile offending. *Child Abuse & Neglect, 32,* 51–66.

trends are universal. Third, these data need to be integrated with information from other systems (e.g., child welfare, education, health, housing) to enable an examination of the relation between various child and family interventions and youth outcomes. Fourth, this study confirms ample prior research documenting racial and ethnic disparities in the child welfare and juvenile justice systems, with continuing implications around the need to implement bias-reduced decision making and to engage in targeted, culturally competent prevention efforts. Finally, future research should examine characteristics of youth who do not cross over, e.g., apply strength or resilience focused approaches.

Preface and Scope of the Project

"Crossover youth" are defined as minors who have been served by both the child welfare and juvenile justice systems, either simultaneously, or via "crossing over" from one system to the other at any given point in time. To date, interventions have been hampered by a lack of precise estimates of the number of COY, their characteristics, and how their involvement changes over time. In part, this is due to the fact that there are few public systems that routinely share information about involvement and timing. Three Connecticut entities formed a partnership to better understand the state's COY population. The Department of Children and Families (DCF), the Child Protection (CP) division of the Superior Court for Juvenile Matters, and the Court Support Services Division (CSSD) of the Juvenile Branch shared data on youth served in their respective agencies. This data were then shared with researchers at the Center for Applied Research and Human Development (CARHD) in 2012.

The Data Set

The full data set provided to CARHD consists of records on all youth, born 1996-2002, who at any point received services from at least one of the three systems. The complete DCF and Juvenile Justice data sets included 42,175 and 14,026 unique youth respectively. A report on the characteristics of those youth identified as being in both systems was completed in June 2014. The current report moves beyond simply describing those identified as COY and instead looks at those with child welfare only involvement to identify factors that distinguish them from those who go on to have juvenile justice contact.

Analyses contained in this report were conducted on data from all youth born in 1996, which turned 16 in the year data was drawn. This resulted in a sample of 7,268 DCF-involved youth. DCF involvement was defined here as being the victim of at least one substantiated allegation of maltreatment. Of these youth, 1,207 (16.6%) had subsequent contact with the juvenile justice system. The research questions, presented below, aimed to identify factors that were predictive of youth crossing over.

Research Questions

I. Among the sample of child welfare-involved youth, are gender and race/ethnicity associated with an increased likelihood of crossing over?

2. Are certain types of maltreatment allegations predictive of crossing over?

3. Does the level of involvement within the child welfare system impact the likelihood of crossing over?

4. Are there family risk factors identified by child welfare workers early in their involvement with cases that are predictive of youth crossing over?

5. Among the sub-sample of youth who experienced an out-of-home placement, is age at placement, type of placement, and number of placements predictive of crossing over?

6. Among the population of child welfare-involved youth, are there distinct trajectories based on the onset, frequency, and duration of maltreatment? If so, are these trajectories predictive of crossing over?

Organization of the Report

Section I presents the demographics and characteristics of the sample. Section II presents results of analyses looking at a variety of factors and identifying which increased the odds of youth having contact with the child welfare system. Section III presents similar analyses on the subset of youth who experienced an out-of-home placement. Section IV describes the maltreatment trajectory-based approach that further explored the role of timing in the likelihood of crossing over. Section V provides a conclusion and recommendations.

I. Characteristics of the Sample

The sample for this study is all youth born in 1996 who had child welfare involvement. Child welfare involvement is defined as at least one substantiated allegation record in the DCF dataset. There were 7,268 youth born in 1996 who had at least one record of a substantiated allegation; Table 1 depicts descriptives of these youth. The sample is relatively evenly split between genders. The sample is 44% White, 25% Black/African American, and 20% Hispanic (According to the US Census Bureau, CT's 2013 population was approximately 70% White, 11% African American, and 15% Latino). Another 11% of the sample identified as multiracial, Asian, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, or as unknown. Because these individual categories were small they could not each be individually included in the analyses; however, instead of losing 11% of the sample, they were combined into a category titled "Other." While this is less than ideal for detecting the effects of race and

ethnicity for these groups, it is a strategy that allows these individuals to be retained in the sample and allows for contrasts between race/ethnic categories.

The most common type of substantiated allegation is physical neglect, with 69% of the sample experiencing this form of maltreatment (note that individuals can experience multiple forms of maltreatment so the percentages exceed 100). The average age at first allegation was 5.68 years (SD=4.57). Substantiated cases are those in which an allegation or report of maltreatment is supported or "founded" according to state law. Nearly 34% of the sample had at least two separate reports where maltreatment was substantiated (meaning not just multiple allegations at one point in time, but separate points in time with allegations that were investigated and substantiated); the exact number of separate reports ranged from 1 to 17 (M=1.54, SD=0.99). Over 22% of the sample experienced an out-of-home placement. Of those who experienced an out of home placement, they were on average 5.88 (SD=4.91) years old at first placement and they had an average of 1.26 (SD=0.571) placements.

Juvenile justice involvement is defined as having an open docket in the juvenile court. The docket could be for either a delinquency (illegal behavior by a minor) or status offense (acts that are deemed illegal only when performed by a minor, such as truancy, alcohol possession, or running away). For this study, we restricted juvenile justice involvement to include petitions that occurred at least six months after the first substantiated maltreatment allegation. This was done to limit the sample to those who had child welfare contact prior to their first juvenile justice contact. COY defined broadly can include youth who first encounter the DCF and CSSD systems simultaneously as well as youth who encounter the juvenile justice system first; however, because the present analyses are intended to use child welfare factors as predictors of crossing over, we wanted to ensure child welfare involvement preceded juvenile justice involvement. Of the sample, 1207 (16.6%) youth met this definition of crossing over.

We were interested in capturing other indicators of risk. The data set also includes risk assessments on families. Prior to 2007, all families underwent a DCF risk assessment that covered 24 categories; for each category a case worker scored the family on a risk scale from none to low to medium to high. An overall risk score using the same categories was also

produced. After 2007, social workers completed the Structured Decision Making (SDM) risk assessment (Children's Research Center, 2008) for abuse and neglect which has 10 items that gauge risk of neglect and 10 items that gauge risk of abuse; most items are yes/no questions. Comparing these two instruments, there were two items of interest that were assessed in both instruments: an indictor of substance abuse in the home and an indicator of domestic violence in the home. A substance abuse indicator was created for children in families that scored as a "yes" on that SDM item or were indicated to have substance abuse as a medium or high risk on the original DCF risk assessment. Similarly, a domestic violence indicator was created for children in families that scored as a "yes" on that SDM item or were indicated to have domestic violence as a medium or high risk on the original DCF risk assessment.

Additionally, using the dates of all allegations, a dichotomous variable of children who had an unsubstantiated allegation at least one year prior to their first substantiated allegation was created. This is an indicator of known history of ongoing family safety concerns that did not initially rise to the level of intervention. This variable represents a level of DCF involvement and is included as a family risk factor.

Table 1. DCF-involved sample characteristics (N=7,268)

Variable	N	%
Gender		
Male	3655	50.3
Female	3576	49.2
Missing/Unknown	37	0.6
Race/Ethnicity		
White	3185	43.8
Black/African American	1820	25.0
Hispanic	1460	20.1
Multiracial	298	4.1
Asian	84	1.2
American Indian/Alaskan Native	18	0.2
Native Hawaiian/Pacific Islander	7	0.1
Unknown	396	5.4
Type of Substantiated Allegation		
Physical Neglect	5038	69.3

Variable	N	%
Emotional Neglect	3003	41.3
Physical Abuse	858	11.8
Educational Neglect	495	6.8
High Risk Newborn	229	3.2
Medical Neglect	395	5.4
Sexual Abuse	411	5.7
Maltreatment History		
Any repeated substantiated allegations	2461	33.9
2 substantiated allegations	1404	19.3
3 substantiated allegations	551	7.6
4 or more substantiated allegations	271	3.7
Family Risk		
Substance Abuse	3505	48.2
Domestic Violence	3213	44.2
History of unsubstantiated allegations	1274	17.5
Placement Information		
Ever in a CPS out-of-home placement	1628	22.4

II. Results: Factors that Increase the Likelihood of Crossing Over

The three sections of results all aim to answer one overarching question: are there factors among child welfare-involved youth that are associated with an increased likelihood of crossing over? One analytic technique used in answering this question is logistic regression. Logistic regression is a statistical technique that examines how multiple variables may or may not increase the odds of a particular outcome occurring. In this case, the outcome is having a record in the juvenile justice system. This outcome variable was categorical, each youth either did or did not crossover.

In the logistic regression model, variables are entered in as blocks. One set of variables is entered first, in this case it was demographic information, and the model results tell which of those factors statistically increased the likelihood of crossing over. Then, a second block of variables is entered. Now that there is more information to examine, the significance of previous variables might change as new variables might better account for the likelihood of crossing over. In our model, three blocks of variables were entered. Table 2 below displays each set of results, including the final model with all variables entered.

In the regression tables, the Exp(b) column reports the estimated odds ratio for each variable. This value estimates the degree to which each of the independent variables influences the likelihood of a youth crossing over. For race/ethnicity, White is the reference group. This means when another racial/ethnic group is added their likelihood of crossing over is only being compared to the likelihood of a White youth crossing over. Similarly, females are the reference group. This means when gender is added, it is looking at the unique contribution of being male to the likelihood of crossing over.

Males were significantly more likely to crossover than females; specifically, the odds of crossing over were 2.36 times greater for males compared to females. The odds of crossing over were 1.91 times greater for African American youth compared to White youth and 1.80 times greater for Hispanic youth compared to White youth. There was not a significant difference between those youth in other categories compared to White youth. There was no significant interaction between gender and race. The age of first substantiated maltreatment was a significant predictor of crossing over, with each additional year resulting in a 1.07 times greater odds of entering the juvenile justice system. On this variable, however, there was a significant interaction with gender. In this case, the effect of age at maltreatment was reduced for males. This suggests that the link between the later timing of maltreatment and crossing over is stronger for females.

Physical neglect was associated with a significant decrease in the likelihood of a youth crossing over. Repeated maltreatment was associated with a significant increase in the likelihood of crossing over. Youth who experienced a second report were 1.45 times more likely, youth who experienced three reports were 1.73 times more likely, and youth who experienced four or more reports were 3.51 times more likely to crossover compared with youth who experienced only one report of child maltreatment. Experiencing at least one out-of-home placement also increased the odds of crossing over by 1.49 times.

Finally, other indicators of family risk were examined. When parental substance abuse was indicated, the odds of crossing over were 1.93 times greater. However, there was a significant interaction with gender, which suggests that household substance use affects females more strongly than males. Having a history of DCF involvement that resulted in

unsubstantiated allegations at least a year prior to the first substantiated allegation was found to increase the likelihood of crossing over. Again, there was an interaction with gender. However, in this case, the effect was more pronounced for males than females. The presence of domestic violence did not increase the likelihood of youth crossing over.

Table 2. Logistic regression: Predicting crossing-over for full sample (N=7,268)

Varaible	Model 1			Model 2			Model 3		
	b	S.E.	Exp(*b*)	*b*	S.E.	Exp(*b*)	*b*	S.E.	Exp(*b*)
Child demographics									
Male	.497***	.111	1.644	.594***	.173	1.810	.860***	.198	2.363
Age at maltreatment	.032**	.010	1.032	.062***	.011	1.064	.068***	.012	1.070
African American	.621***	.123	1.861	.590***	.126	1.810	.647***	.128	1.910
Hispanic	.543***	.130	1.720	.487***	.133	1.627	.589***	.135	1.802
Race other	.110	.178	1.117	.158	.181	1.171	.218	.183	1.243
Age at maltreatment * Male	-.011	.015	.989	-.012	.015	.989	-.041**	.016	.960
Maltreatment history									
Physical abuse				.184	.122	1.202	.211	.124	1.235
Physical neglect				-.115	.117	.891	-.234*	.119	.791
Two substantiated reports				.515***	.130	1.673	.372**	.132	1.451
Three substantiated reports				.763***	.177	2.144	.573**	.181	1.773
Four or more substantiated reports				1.454***	.209	4.281	1.255***	.212	3.507
Child placed out-of-home				.492***	.117	1.635	.395***	.118	1.485
Family Risk									
Substance Abuse							.660***	.114	1.934
Domestic Violence							.175	.108	1.191
History of unsubstantiated allegations							.290*	.128	1.337
SA * Male							-.518***	.148	.595
Unsub. history * Male							.513**	.166	.053
Model Chi-square (df)	134.639 (9)***			323.560 (21)***			439.126 (27)***		

* indicates significance at the p<.05 level, ** indicates significance at the p<.01 level, ***indicates significance at the p<.001 level

III. Results: Predicting Crossover for Youth with Out-of-home Placement

The next set of analyses focused on the 1,628 youth who experienced at least one out-of-home placement. These analyses allow for exploring whether factors related to the out-of-home placement are related to an increased likelihood of crossing over. Results are reported in Table 3. Again, gender interactions were tested at each level and only significant interactions are displayed. With this subgroup, the overall effect of gender remained significant with odds of crossing over being 3.19 times higher for males than for females. Instead of age at maltreatment, the age at first out-of-home placement was used; each additional year old at placement results in a 1.12 times greater odds of entering the juvenile justice system. The odds of crossing over are 2.50 times greater for African American youth compared to White youth.

We examined a variety of variables related to maltreatment and child welfare service history. Of these, three were significantly predicted crossover. History of physical abuse increased the odds of crossing over by 1.72 times. Multiple reports to DCF increased the odds of crossing over when there are four or more reports, representing those who experienced the highest rate of recidivism in child welfare. Experiencing more than one episode of an out-of-home placement increased the odds of crossing over, and there was a significant gender interaction showing this effect is lower for males than females. Finally, in examining other indicators of family risk, only substance abuse was found significant. Odds of crossing over increased by 2.20 times when parental substance abuse was indicated.

Table 3. Logistic regression: Predicting crossing-over for youth with out-of-home placement (n= 1,628)

Independent Variable	Model 1			Model 2			Model 3		
	b	S.E.	Exp(*b*)	*b*	S.E.	Exp(*b*)	*b*	S.E.	Exp(*b*)
Child demographics									
Gender	.673**	.229	1.960	.664	.426	1.942	1.159*	.485	3.188
Age at first placement	.115***	.017	1.122	.122***	.018	1.130	.117***	.019	1.124
African American	.768***	.226	2.156	.818***	.236	2.266	.914***	.241	2.495
Hispanic	.212	.258	1.236	.155	.267	1.168	.250	.273	1.283
Race other	.083	.355	1.087	.065	.367	1.067	.055	.371	1.056
Maltreatment and CW service history									
Physical abuse				.532*	.216	1.702	.542*	.218	1.719
Physical neglect				-.209	.284	.811	-.331	.287	.718
Two substantiated reports				.049	.231	1.051	.026	.233	1.026
Three substantiated reports				.130	.301	1.139	.104	.308	1.109
Four or more substantiated reports				.987***	.302	2.684	.903**	.307	2.466
Relative Care				.308	.220	1.361	.229	.224	1.258
Group Home				-.267	.354	.766	-.258	.357	.772
More than one episode in OOH care				1.028***	.227	2.796	1.080***	.230	2.944
More than one OOH ep * Gender				-.598*	.305	.550	-.698*	.309	.498
Family risk									
Substance Abuse							.789***	.235	2.201
Domestic Violence							.158	.204	1.171
History of Unsubstantiated Allegations							.026	.234	1.027
SA * Gender							-.715	.305	.489
Model Chi-square (df)	128.735(9)***			184.048(25)***			202.938(31)***		

IV. Results: Trajectory-based Analyses

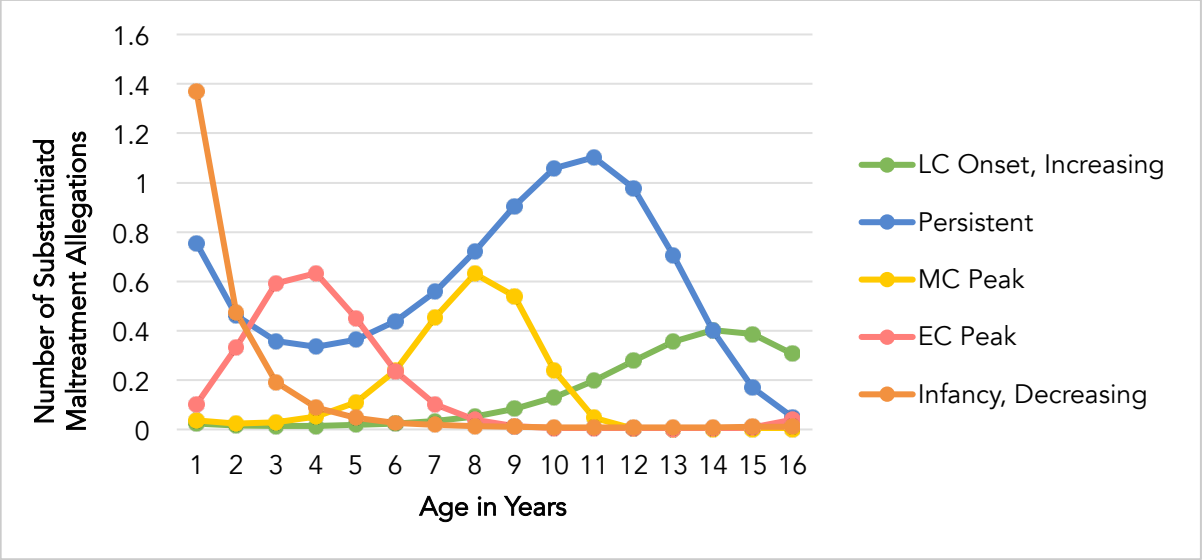
Regression analyses examined the average effect of variables on the likelihood of crossing over. This assumes that all youth are from one population, and that on average, individuals experience the same variables in the same way. In the regression framework it is possible to look at observable subgroups to see if effects are experienced differentially. For example, the analyses above tested for gender interactions and some variables were more significant predictors for one gender over another.

A limitation of regression approaches is that they do not enable examination of differences in subgroups that are not directly observable, including patterns across time. Given the important role of onset and chronicity of maltreatment, timing is an important factor to examine more closely. In regression analyses we were limited to looking at two indicators: age at first maltreatment allegation and a categorical indicator of whether it recurred. While important, these two indicators do not reveal much about individual experiences. We do not get a full sense of the "shape" of their trajectory because it does not include considerations of when involvement is escalating, peaking, and declining. The regression approach also does not provide a sense of how episodes might be clustered in time. A youth with many episodes limited to a two-year period would look similar to a youth with episodes spread out across time because of the limited way in which recidivism is captured in the model.

To address these shortcomings and focus on timing in a more nuanced way, we used a trajectory-based modeling technique. For each individual, we created a frequency count of the number of substantiated allegations in each year of life, resulting in sixteen data points for each individual. Essentially what happens next is these data points are plotted on a graph, where the x-axis represents time, so each individual has a line representing their involvement. All 7,268 of these lines are analyzed and clustered into a smaller number of groups. The model is run with different numbers of groups until the optimal number is found. The optimal number balances the need to have a small number of interpretable and meaningful patterns with the need to accurately capture the variety of individual experiences. The modeling approach is perhaps best understood by examining Figure 1, which shows the results for this sample. Five trajectory

groups provided the best fit for the data: Late Childhood Onset, Persistent, Middle Childhood Peak, Early Childhood Peak, and Infancy Decreasing groups.

Figure 1. Maltreatment Trajectory Groups



These five groups vary in the onset and duration of child welfare involvement as graphically depicted in the figure above. These groups also vary in size and in crossover rate, which are illustrated in Table 4 below.

Table 4. Child Welfare Trajectory Group, Size and Crossover Rate

Trajectory Group	% of Sample	Crossover Rate
Late Childhood Onset	25.0	22.3
Persistent	5.5	30.8
Middle Childhood Peak	23.1	14.4
Early Childhood Peak	25.2	13.7
Infancy, Decreasing	21.2	12.0

Trajectory 1: Late Childhood Onset, Increasing

The Late Childhood Onset, Increasing trajectory group was the second largest group, accounting for 25.0% of the sample. This group generally did not have substantiated allegations occur until the transition to adolescence (mean age at first allegation is 11.64 years). From there, likelihood of involvement steadily increased. However, nearly 30% of this group

was likely to have had prior contact with the child welfare system that did not result in a substantiation of neglect. This class is more likely to crossover than all of the other trajectory groups, except for the Persistent Involvement group.

Trajectory 2: Persistent Involvement

The persistent involvement group accounts for only 5.5% of the sample, but it is marked by ongoing involvement in child welfare throughout childhood and into adolescence. After early contact with the child welfare system, involvement persisted but decreased somewhat until rising and peaking around early adolescence. This trajectory group had the longest average number of days with an open case in the child welfare system (M= 1,866.29) and the highest number of substantiated allegations. The youth in this group also had the highest rate of repeated maltreatment, with 93% having two separate cases opened at different points in time. Compared to the others, this group experienced more types of maltreatment; nearly all (96.8) experienced physical neglect, 77.4% experienced emotional neglect, 21.6% experienced physical abuse, and 19.4% experienced educational neglect. Further illustrating the more significant child welfare history of this group, over half (51.2%) experienced at least one out-of-home placement. This group also had the highest rate of identification of substance abuse and domestic violence risks in the family. Overall, the Persistent Involvement group appears to experience more risk and more acute involvement with child welfare than the others on a number of variables.

The Persistent Involvement group was also the most likely to crossover. This is a meaningful result when contrasted with the regression analyses; while the regression results suggest later involvement is more predictive of crossing over, this approach suggests that the group most likely to crossover has early and ongoing involvement. Because the Persistent Involvement group is relatively small in size, the regression framework masks this trend. The larger Late Childhood Onset group becomes more influential when looking at age at first contact. While this is just one trend among several, the trajectory-based analysis enables identification of a small, but relatively high-risk group of youth. The remaining three trajectory groups are less likely to crossover than the Late Childhood Onset and Persistent Involvement groups and are not statistically significantly different from each other.

Trajectory 3: Middle Childhood Peak

This trajectory class accounts for 23.1% of the sample. The Middle Childhood Peak group had a significantly lower rate of crossing over than the Late Childhood Onset and Persistent Involvement groups. The crossover rate for this class was 14.4%. This trajectory group showed low likelihood of involvement from infancy through age 6 or 7. Likelihood of involvement peaked at that time then dropped off. This period might align with the start of formal schooling where youth have more formal contact with others in the community and maltreatment might become more visible. However, 26.2% of these youth had at least one contact with DCF prior to the episode that resulted in a decision of substantiated maltreatment, suggesting that over a quarter of these youth were the target of child welfare concerns and known to the system before becoming more formally involved. Only 17.8% of youth in Trajectory Class 3 experienced an out-of-home placement.

Trajectory 4: Early Childhood Peak

This is the largest group, accounting for 25.2% of the sample. This trajectory group showed a peak in maltreatment around age 2 or 3. After early childhood, this group was not likely to have further DCF involvement. The most common maltreatment types in this group were physical neglect (73.2%) and emotional neglect (43.2%). The crossover rate for this class was 13.7%, significantly lower than the Late Childhood Onset and Persistent Involvement groups but not different than the Middle Childhood Peak group.

Trajectory 5: Infancy, Decreasing

Finally, trajectory 5 (Infancy, Decreasing) accounts for 21.2% of the sample. This group had high levels of involvement with the child welfare system in the first two years of life, but then lower likelihood of contact outside of this period. The validity of this latent class is demonstrated as well by having the highest number of high-risk newborn allegations. There are also very low levels (0.5%) of previous allegations, which is indicative of the very early involvement this group experiences. Nearly 30% of this group experienced an out-of-home placement; the only group with a higher rate is the Persistent Involvement group. The crossover rate for this class was 12.2%, significantly lower than Trajectory Groups 1 and 2 but not different than Trajectory Groups 3 and 4.

V. Summary, Implications, and Conclusion

The goals of the current study were to identify factors that distinguish COY from youth with child welfare experiences with no subsequent juvenile justice contact. In examining a variety of factors, it was found that crossover rates were higher among:

- Males (19.8%) than females (13.5%);
- African American (21.2%) and Hispanic (19.5%) youth than White youth (13.5%);
- Youth with repeated involvement in DCF (24.1%) compared with youth whose involvement was limited to a single instance (12.8%);
- Youth who experienced out-of-home placement/foster care (23.8%) compared with youth who were never removed from the home (14.5%);
- When youth did experience an out-of-home placement, the younger they were at first placement and the more episodes they experienced increased their likelihood of crossing over.

We also explored the timing of maltreatment and found, using regression analyses that youth who were older at their first maltreatment allegation were more likely to cross over. With a trajectory-based approach two groups emerged as more likely to crossover. The first group was youth whose involvement started in mid to late childhood and then steadily increased. This fits with the regression findings. However, the group with the highest risk of crossing over according to the trajectory-based model had a history of persistent DCF involvement throughout childhood and into adolescence. Because this was a very small group, just 5.5% of the sample, their experiences were not detectable in the regression analyses. In other words, the trajectory-based analyses enabled us to tease out a significant pattern of crossover that did not emerge through traditional statistical modeling techniques.

Implications. The implications of these findings are several. First, existing interventions can capitalize on the identification of enhanced risk of crossover among particular subgroups of youth; for example, youth with persistent child welfare involvement would likely benefit from relatively intensive, evidence based interventions that promote social skills, effective impulse control, decision-making, and vocational skills. Second, additional exploration of these trajectories across cohorts, jurisdictions, and in consideration of policy

shifts is necessary if we are to understand if trends are universal. Third, these data need to be integrated with information from other systems (e.g., child welfare, education, health, housing) to enable an examination of the relation between various child and family interventions and youth outcomes. Fourth, this study confirms ample prior research documenting racial and ethnic disparities in the child welfare and juvenile justice systems, with continuing implications around the need to implement bias-reduced decision making and to engage in targeted, culturally competent prevention efforts. Finally, future research should examine characteristics of youth who do not cross over, e.g., apply strength or resilience focused approaches.

Conclusion: Next Steps. The partners are planning next steps for data analysis, including looking at how youth with "deep involvement" in child welfare become involved in juvenile justice compared to youth without a history of maltreatment. Additionally, efforts are being made to engage other systems that serve these youth, including mental health, education, and homeless supports, specifically, to obtain data that will draw a clearer picture of youth trajectories in light of involvement in various systems, interventions, and programs. This information can be put to use in identifying youth at increased risk of crossing over and developing prevention efforts. The ongoing work of this project aims to inform how systems can coordinate with one another to better serve some of the most vulnerable youth in our state.