

Juvenile delinquency in child welfare: Investigating group home effects

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Abstract

Group homes fall into the broad category of residential care, a category that also includes half-way homes, campus based homes, emergency shelters, self-contained settings, and staff secured setting. In general, residential care services represent an option of last resort. In the current study we use administrative records from a large urban county and propensity score matching to investigate the relationship between group home placements in child welfare and the risk of delinquency ($n=8226$). The results indicate that the relative risk of delinquency is approximately two and one half times greater for adolescents with at least one group home placement as compared with youth in foster care settings. This finding raises serious questions about the use of group homes for victims of physical abuse and neglect.

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1. Introduction

Group homes fall into the broad category of residential care, a category that also includes half-way homes, campus based homes, emergency shelters, self-contained settings, and staff secured setting (Curtis, Alexander, & Lunghofer, 2001; Child Welfare League of America, 2005). In general, residential care services represent an option of last resort. That is, child welfare systems attempt to work with children and families in the least restrictive environment. Such practices reflect the 1980 Adoption Assistance and Child Welfare Act (P.L. 96272) which established the foundation for a continuum of care (Stuck, Small, & Ainsworth, 2000). When less restrictive environments are unavailable or insufficient with regard to meeting needs of individuals, child welfare systems move youth up the continuum of care and into more secure settings. In the current study we investigate the relationship between group home placements in child welfare and the risk of delinquency. Our review of the literature focuses on the definition of group homes, the characteristics of youth served in group homes, and the potential problems associated with group home placements.

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Group homes are utilized in a variety of social service settings including child welfare, mental health, and juvenile justice. Within the child welfare system, approximately 11% of all substitute care placements are associated with a group home (CA RADD, 2001). Group homes are smaller than other residential facilities, consisting of a medium size home capable of housing between 6 and 9 adolescents in a community based setting. Within the social service continuum of care, group homes are less restrictive than in-patient psychiatric clinics and juvenile detention centers, but more restrictive than family foster care (Handwerk, Friman, Mott, & Stairs, 1998). Group homes are considered staff secured as opposed to a locked facility. In contrast with large residential care facilities, group homes generally do not provide academic instruction and the adolescents served within these programs largely attend local public schools. In part, the relatively low number of youth served within each group home and the staff required to manage each facility causes group homes to be one of the most expensive placements options for child welfare systems. Congregate care placements cost between six and ten times as much as placement in a foster family home (Barth, 2002). In 2000 for example, 43% of all substitute care dollars in the state of California were associated with group home placements (CA RADD, 2001). As the vast majority of youth never enter a group home setting, the high costs and overall proportion of the budget allocated to group home placements is concerning for child welfare systems. The current study focuses not on the concerns related to cost, but rather concerns related to program effectiveness.

1.2. Characteristics of youth served in group homes

The placement of children in group homes, like other placement settings, is not random. That is, some children and adolescents in the child welfare system are significantly more likely to experience at least one spell of care in a group home. In part, this non random selection process makes it difficult to fully disentangle individual and group home specific effects. Adolescents placed in group home settings are older, more likely to be male, minority, experience a range of socio-emotional and behavioral problems, and are more likely to have prior involvement with the juvenile justice system as compared with adolescents living in traditional foster care or a specialized foster care home (Berrick, Courtney, & Barth, 1993; Curtis et al., 2001; Knapp, Baines, Bryson, & Lewis, 1987; Mech, Ludy-Dobson, & Hulseman, 1994). Using the Child Behavior Checklist several studies document the significantly higher rates of externalizing behaviors and conduct disorders with adolescents in group care settings (Heflinger, Simpkins, & Combs-Orme, 2000; McMillen et al., 2005). Given the prevalence of such problems, youth in group care settings are also more likely to receive psychotropic medications. In a recent study of medication for youth in care, Breland-Noble et al. (2004) report that adolescents in group home placements were significantly more likely than youth in therapeutic foster care settings to take medication and to take more medications (polypsychopharmacology). In addition to individual characteristics, the potential for delinquency in group home settings may also result from high rates of placement instability and the exposure to other high risk adolescents.

Placement instability is a common phenomenon and characteristic associated with residential placement settings (Courtney, 1998; Knapp et al., 1987). In part, such instability can be explained with how group home placements are utilized. Children and adolescents are rarely removed from the biological family home and placed directly into a congregate care setting. In general, out of home placements commence in kin or non kin foster family homes, and when such arrangements no longer work, individual youth are moved up the continuum into more secure settings. There are a variety of reasons placements “don’t work” but foster parent unwillingness is the most pervasive. In a recent and comprehensive study of placement instability, Zinn et al. (2006) reports that 76% of placement disruptions were due, at least in part, to foster parents’ inability or unwillingness to continue fostering. Among those moves attributed to foster parents, the reason most commonly cited (28%) was foster parents’ inability to tolerate children’s behavioral or emotional problems. Placement instability is problematic because it is associated with a range of negative outcomes including child behavior problems, feelings of insecurity, and overall dissatisfaction with the foster care experience (Festinger, 1983; Kurtz, Gaudin, Wodarski, & Howing, 1993; Redding, Fried & Britner, 2000). Specific to the current study, evidence indicates that frequent placement changes within the child welfare system significantly increase the risk of juvenile delinquency (Ryan and Testa, 2005).

Perhaps even more than placement instability, the negative effects of peer contagion within the group home is disconcerting for practitioners and policy makers. Such concern focuses largely on the exposure and socialization processes (e.g. social learning) that are likely to shape and support deviant attitudes and behaviors. Dishion et al. (1999) report that peer group interventions increase problem behaviors and negative life outcomes through adolescence and in to early adulthood. The authors argue that detaining youth in congregate residential settings and specifically the

prolonged exposure to high risk peers has the unintended effect of exacerbating deviance via positive social relationships. The conceptualization of deviance includes but is not limited to smoking, school problems, aggression, substance abuse, and delinquency (Lee, 2007).

The potential for problems associated with group home placements seems to increase as ties are severed between group home youth and other more positive role models. Group homes often cut juveniles off from their nondelinquent and prosocial peers and keep youth with others that are often delinquent and/or have emotional and behavioral problems including conduct disorders and ADHD (Osgood & Briddle, 2006). The potential positive effects of living in a group home may be lost to the effects of social anxiety, peer pressure and other residual occurrences of being in the presence of peers, especially such peers with strong personalities, as is often the case with deviant youth (Dodge, Dishion & Landsford, 2006).

The risk for delinquency also appears to be mediated by the level of deviance a peer has upon entrance into a group facility, the number of deviant peers present, and the length and amount of deviant peer exposure one has. Specifically, a child who is moderately deviant is most susceptible to become more entrenched in delinquent friendships (Dodge & Sherrill, 2006).

With regard to specific outcomes in the child welfare system, group care has achieved little success. In fact, a recent review entitled *Institutions vs. Foster Homes: the Empirical Base for a Century of Action* indicates that there is virtually no evidence to support the use of group care in child welfare (Barth, 2002). Group homes are described as unsafe, unable to support healthy development, unstable, and costly. Moreover, children in group care settings report seeing family members less often as compared with children in kinship care, and are less likely to experience reunification with biological caregivers; this is especially true for children aged 6–12 (Barth, 2002; Wulczyn, Hislop, & Goerge, 2000).

Problems associated with group homes within the child welfare system are also reported in the academic domain. Compared with youth in family foster care arrangements, youth in group homes received mostly Cs and lower in school, have truanting problems, take remedial classes in school, and attain lower levels of education (Berrick et al., 1993; Festinger, 1983; Knapp et al., 1987; Mech et al., 1994). Educational problems may be more prevalent for those in group care because of the limited opportunity for children to be involved in extra-curricular activities—activities that promote well-being and self-confidence. Moreover, the highly structured nature of group living can hinder children's pursuit of individual development in academic and extra-curricular activities (Barth, 2002). Areas for studying and learning at the group facilities may be limited due to the shortage of resources (e.g., lack of both available staff to help with homework and appropriate or adequate study areas) and the presence of disruptive peers. Similarly, children in group care have fewer opportunities and are less likely to demonstrate the ability to engage in real life tasks (Barth, 2002; Mech, Ludy-Dobson, & Hulseman, 1994).

It is important to note that the criticisms associated with child welfare placements are not limited to group care. In fact, there exists a long standing debate with regards to how states can best serve families involved with child protection. Advocates of family preservation argue for keeping families intact and providing a variety of clinical and concrete services in the family home (citation needed). Such advocates assert that too many families have their children removed only to then experience the secondary trauma of placement (citation needed). Regardless of whether states have the correct population of children and adolescents in care, it is critical to understand the outcomes associated with such placement experiences and to identify whether or not certain types of placement (e.g. foster care) are more likely to improve strengths and reduce risks as compared with others (e.g. group homes).

The current study builds on the child welfare literature and makes a unique contribution by focusing the discussion on the types of placements that might be most problematic. As the term “placement” as used in previous studies often encompasses a variety of unique settings, conclusions drawn from this work may lead to misguided shifts in policy and practice. For example, Doyle (in press) reports that children on the margin of placement achieve better outcomes when they remain in the home as compared with children placed in “foster care.” Specifically, Doyle (in press) concludes that children in “foster care” have significantly higher delinquency rates, teen birth rates, and significantly lower earnings. With this finding one might logically argue against the use of foster care. Yet Doyle (in press) uses the term “foster care” to represent any and all placements within the child welfare system. Foster care is in fact only one of several different types of placements used in the child welfare system. Thus, a methodological approach that differentiates and compares various settings within the child welfare system is critical to understanding “placement” effects. In the current paper, we disentangle the differences between two commonly used placements in child welfare: foster care and group homes.

In summary, group home placements are often associated with a range of negative outcomes. Yet to date there exist no studies of group home placements and the likelihood of delinquency in the child welfare system. In the current study we use sophisticated analytic techniques to help minimize sample selection bias and focus on the likelihood of delinquency for youth in group home placements.

2. Methods

Several sources of data are used in the current study, which include administrative records for all children and families involved with the Department of Children and Family Services and the Department of Probation in Los Angeles County. The child welfare data (DCFS) include demographic information (birthdates, race, gender), allegations of maltreatment (report date, type of maltreatment, finding), and child welfare services (placement dates, placement types). The measure of maltreatment includes official reports of physical abuse, sexual abuse, neglect, emotional abuse, and substance exposure at birth. The child welfare records include all youth ($n=91,860$) involved with DCFS between 2001 and 2005. Involvement with child welfare in Los Angeles County includes any open or ongoing case between 2001 and 2005. Such cases may be limited to a single allegation of maltreatment, but also include children receiving in-home services and children in long term placements.

The delinquency records originate with the Los Angeles County Department of Probation and include all arrests ($n=230,259$) for all minors ($n=82,376$) in Los Angeles County between 2001 and 2005. The delinquency records include demographic characteristics (birthdates, race, gender), arrest date, offense type, and judicial disposition. The child welfare and juvenile justice records do not share a common unique identifier (e.g. social security number) and were thus linked by common identifiers (last name, first name, birthdate, race, gender) using probabilistic matching software.

The current study focuses on the risk of delinquency associated with group home placement. Thus, the sample in the current study is limited to adolescents with at least one placement episode. The sample is also limited to youth with no prior arrests (prior to first placement episode that is) and limited to youth between 7 and 16 years of age—so that each youth is eligible for a delinquency petition during the period of observation ($n=20,309$). To best understand the unique effects of group home placement however, we use a propensity score approach to match youth in group homes with youth in foster care.

Within the full sample ($n=20,309$), there are 5238 (26%) youth with at least one group home placement. The remaining 15,071 (74%) youth reside in foster care placements. Important to note are the differences between these two placement groups. For example, group homes serve a higher percentage of males (54% vs. 45%) and African Americans (48% vs. 41%). Similarly youth in group home placement are associated with a significantly higher number of prior placements as compared with youth entering foster care placements (62% of group home youth are associated with 4 or more placements as compared to 23% of youth in foster care). Prior research identifies each of these characteristics as significant predictors of delinquency within the context of the child welfare system (Ryan & Testa, 2005). Thus, such differences and the potential selection effects associated with group home settings must be considered when investigating specific placement effects. In the current study we use propensity score matching (PSM) procedures to minimize selection bias.

PSM is a technique used to select control subjects (youth in foster care) who are “matched” with the treated subjects (youth served in group homes) on background covariates. Propensity score matching controls for many background covariates simultaneously by matching on a single scalar variable (D’Agostino, 1998). The PSM analysis was performed with STATA/PSMATCH2. The method selected was nearest neighbor matching within caliper with no replacement. This method consists of randomly ordering the treated (group home) and control (foster care) subjects, then selecting the first treated subject and finding the control subject with closest propensity score within a predetermined common-support region called a caliper. Both subjects are then removed from consideration for matching and the next treated subject is selected.

The sample used in the PSM procedures included 20,309 youth between 7 and 16 years of age with at least one placement episode. Before matching, the treated group (i.e. group home) had an $n=5238$ and a mean propensity score of .3704 (SD=.2312, min=.0995 and max=.9712). We used the following variables to create the matched groups: age at first placement, race, gender, total placement changes, placement changes related to AWOL, placement changes related to child behavioral problems, and physical abuse as the primary reason for placement. The control/non-treated group (i.e. foster care) had an $n=15,071$ and a mean propensity score of .2188 (SD=.1214, min=.0995 and

Table 1
Comparison of original and matched samples

	Pre match sample (<i>n</i> =20,309)		Post match sample (<i>n</i> =8226)	
	Foster care	Group home	Foster care	Group home
	%	%	%	%
Race				
African American	41	48	48	47
Hispanic	42	33	33	34
White	15	17	17	17
Asian	2	2	2	2
Sex				
Female	55	46	46	45
Male	45	54	54	55
Reason for placement				
Physical abuse	22	31	33	34
Neglect	50	48	41	44
Emotional abuse	20	20	18	20
Sexual abuse	8	11	10	12
Reasons for placement change				
AWOL	8	22	13	15
Behavioral problem	7	18	11	12
Dependent variable				
Arrested as minor	5	26	8	20
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age at first placement	8.9 (5.04)	8.6 (5.14)	8.5 (5.26)	8.4 (5.17)
Length of stay in placement	39.9 (49.6)	62.1 (55.7)	51.8 (50.4)	53.1 (52.8)
Total changes in placement	2.6 (2.0)	6.5 (4.8)	4.5 (2.68)	5.1 (4.04)

max = .9572). Subsequent to matching, the treated group had an $n=4113$ and a mean propensity score of .3333 (SD = .2061, min = .0995 and max = .9712). The control/non-treated group had an $n=4113$ and a mean propensity score of .3078 (SD = .1732, min = .0995 and max = .9572). The mean propensity score for the matched treatment group (.33) differed only slightly from the mean propensity score for the nontreatment group (.31). A comparison of the pre and post matched groups is displayed in Table 1.

2.1. Delinquency measure

There is no single ideal measure of delinquency. Within the maltreatment–delinquency literature, researchers have utilized a variety of measurement techniques including self-report surveys, official arrest records, entry into secure correctional settings, and even the transition to probation (Jonson-Reid, 2002; Ryan & Testa, 2005; Ryan, 2006; Thornberry & Krohn, 2000; Widom, 1991). There are advantages and disadvantages associated with each approach. In the current study we use official arrest data provided by the Los Angeles County Department of Probation. This measure of delinquency is broad in scope and includes any arrest ranging from minor probation violations to murder. Status offenses and traffic violations are not included in our measure of delinquency.

2.2. Estimating group home effects

Prior research identifies the increased risk of delinquency associated with child welfare placements (Ryan & Testa, 2005; Doyle, in press). Yet prior research has yet to pinpoint the exact timing of the delinquent event in relation to specific placements within the child welfare system. That is, are youth offending in placement or subsequent to their release from placement? This is an important distinction as it may not be the placement itself that increases the risk of delinquency but rather the adequacy of aftercare or transitional services. In the current study, we employ several strategies to estimate the association between group home placement and delinquency. First, we develop a Cox Regression model and focus on the size and direction of the coefficient associate with group home placement. This

strategy is consistent with prior research and estimates the risk of subsequent delinquency for any youth with at least one group home placement. Second, we use the arrest dates and placement dates (intake and discharge) to identify the specific placement at the time of the initial arrest. This is important because as noted it is unclear where youth reside within the child welfare system at the time of arrest. Finally, we compare the types of offenses committed by youth in various placement settings.

2.3. Analytic techniques

We used cross-tabulation and chi-square to explore the relationship between youth and placement characteristics and delinquency. We use survival analysis (SPSS Cox Regression v.15) to examine the influence of individual variables on survival rates. This analytic technique is similar to logistic regression in that it enables one to calculate the odds of a particular event occurring. However, survival analysis considers the differential impact between groups on the timing of this event (Land, McCall, & Parker, 1994). In the current study, youth enter the observation period (2001–2005) at different points in time. For example, a youth may be 7 years of age in 2001. In general, children younger than 9 years of age are not processed in the juvenile justice system. Thus, the 7 year old is only at risk of delinquency for approximately 3 years (2003–2005). In contrast an adolescent that is 10 years old in 2001 is at risk for the entire observation period. In short, individuals are exposed to the risk of delinquency for varying lengths of time. The average time at risk in the current study is 1384 days (3.7 years). The sample was selected so that all youth are at risk for at least 1 year. Survival models adjust for these variations by censoring observations. Observations are censored if the target event (delinquency) is not observed during the observation period. The resultant coefficients are interpreted similarly to those from logistic regression.

Table 2
Bivariate results: child and placement characteristics and delinquency: ($n=8226$)

	No arrest %	Arrest %
Race*		
African American	84	16
Hispanic	86	14
White	91	9
Asian	91	9
Sex*		
Female	89	11
Male	84	16
Reason for placement*		
Physical abuse	84	16
Neglect	89	11
Emotional	90	10
Sexual abuse	90	10
AWOL reason for instability*		
Other reason	88	12
AWOL	73	27
Child behavior reason for instability*		
Other reason	87	13
Child behavior	80	20
Type of placement*		
Foster care	92	8
Group home	80	20
	Mean	Mean
Age at first placement*	8.4	9.1
Length of time in substitute care placements	53.0	56.9
Total changes in placement*	4.7	5.5

* $p < .01$

3. Results

The matched sample is 47% African American, 34% Hispanic, 17% White and 2% Asian. On average, children were 8.5 years old at the time of their first placement. Fifty-four percent of the sample is male. As the sample is matched, 50% are associated with at least one group home placement. On average children stayed in care for 52 months. With regard to delinquency, 1142 (14%) of the 8226 adolescents in placement had at least one arrest subsequent to their first placement episode.

The results from the bivariate analyses are displayed in Table 2. Consistent with prior studies and the overall risk of delinquency in the general population, males in the child welfare system are more likely to engage in delinquency as compared with females in the child welfare system (16% vs. 11%). African Americans had the highest risk of delinquency (16%) as compared with Hispanics (14%), whites (9%) and Asians (9%). There was a difference in risk associated with reason for placement: neglect (11%), physical abuse (16%), sexual abuse (10%), and emotional abuse (10%). The reasons for instability also appear to impact the likelihood of delinquency. Movements associated with AWOLs (27% vs. 12%) and child behavioral problems (20% vs. 13%) are associated with an increased likelihood of delinquency. With regard to group home placements, adolescents with at least one group home placement are at an increased risk of delinquency (20% vs. 8%).

3.1. Survival analysis

The results from the Cox regression are displayed in Table 3. The table includes the coefficient and standard error for each independent variable as well as the hazard ratio. A hazard ratio greater than 1 indicates a higher likelihood of delinquency. A hazard ratio less than 1 indicates a lower likelihood of delinquency. If 1 is subtracted from the hazard ratio and the remainder is multiplied by 100, the resultant is equal to the percentage change in the hazard of arrest. Of the 8226 adolescents, 1142 (14%) were arrested at least one time subsequent to the start of their first placement. The Cox regression model includes child demographics, indicators of maltreatment (reference category is physical abuse), and placement information (type and frequency of placement changes).

We find that the results of the Cox regression are similar to those reported in the bivariate tables. Group home status, placement changes associated with AWOL, race, and gender have the biggest impact on subsequent delinquency. The relative risk of delinquency is approximately two and one half times greater for youth with at least one group home placement ($\text{Exp}(b)=2.40$) and for youth with an AWOL related placement change ($\text{Exp}(b)=2.60$). The risk of delinquency increased by 80% for males ($\text{Exp}(b)=1.80$) as compared with females, by 80% for African Americans, and by 32% for Hispanics as compared with white youth. The race and gender effects are consistent with prior studies of delinquency in the general population as well as within the context of the child welfare system (Ryan & Testa, 2005). Also consistent with prior research, placement instability significantly increases the risk of delinquency. This is in addition to the effects associated with reasons for placement change. Finally, adolescents placed for reasons associated with physical abuse were more likely to experience arrest.

Table 3
Cox regression: Delinquency for adolescents in child welfare placements ($n=8226$)

	<i>B</i>	S.E.	$\text{Exp}(b)$
Age at placement	.05*	.01	1.05
African American	.59*	.10	1.80
Hispanic	.28*	.10	1.32
Asian	-.09	.31	0.91
Male	.59*	.06	1.80
Physical Abuse	.17*	.08	1.18
AWOL related movement	.96*	.08	2.60
Child behavior related movement	.32*	.08	1.38
Length of stay	.01*	.01	1.01
Placement changes	.01*	.01	1.01
Group home placement	.88*	.07	2.40

* $p < .01$

Table 4
Placement location at time of initial arrest ($n=1671$)

Location at time of initial arrest	<i>n</i> (%)
Group home	675 (40%)
Foster care	900 (54%)
AWOL (run away from placement)	66 (4%)
On home trial visit	15 (1%)
Shelter	15 (1%)
Total	1671 (100%)

The results of the Cox regression models indicate that adolescents with at least one group home placement are more likely to engage in delinquency relative to adolescents with no group home placements. But at what point are these youth arrested? Are these adolescents arrested during their stay in the group home or subsequent to their release? These analyses utilize the initial sample of 20,309 youth (i.e. the original sample prior to matching). Of these 20,309 youth, 2106 adolescents were associated with at least one arrest, and 1671 (79%) of these youth experienced their first arrest in a substitute care placement setting (see Table 4). Of the 1671 adolescents arrested in placement, 675 (40%) occurred while the youth was placed in a group home. As only about 25 of the sample ever experienced a group home placement, the estimate of 40% is concerning. The timing of arrests is an important distinction as it addresses whether there is a lingering group home effect or whether the experiences and impact of the group home are more immediate. An adolescent slowly adopting values and beliefs consistent with a deviant lifestyle and then acting upon those beliefs subsequent to their release from the group home might be indicative of a lingering or sleeper effect. Yet the adolescents in the current study are arrested during their group home placement—perhaps indicating that the effect of these placements is more immediate.

So group home placements appear to increase the risk of delinquency. This is evident by the estimates generated in the Cox regression models and by a more detailed descriptive analysis of the location of each youth at the time of initial arrest. A question remains however with regard to the types of offenses committed by youth in various placement settings. We compare the offense types for adolescents in group homes and foster care settings. We construct and compare five broad categories of offending—categories that are similar to those used by the federal government (Snyder, 2005). These categories include property, violent, threats, drug and weapon related offenses. The property offenses include burglary, larceny-theft, motor vehicle theft and arson. The violent related offenses include murder and nonnegligent manslaughter, forcible rape, robbery, aggravated assault and other assault. Three significant differences emerge. Adolescents in group homes are significantly less likely to be arrested for a weapons related offense (4% vs. 8%). In contrast, adolescents in group homes are significantly more likely to be arrested for a threat related offense (9% vs. 3%) and significantly more likely to be arrested for a violent related offense (29% vs. 18%). It's important to note that the percentage of violence related offenses are greater than the percentages reported within the general delinquency population. In 2003, approximately 2.2 million minors were arrested. Of these arrests, approximately 335,000 (15%) were violence related (Snyder, 2005).

4. Discussion

There is considerable evidence that victims of physical abuse and neglect are at an increased risk of juvenile delinquency. Within the child welfare literature there is evidence that the risk of delinquency is further increased by placement in substitute care settings (Ryan & Testa, 2005; Doyle, *in press*). Yet to date there exist no studies that specifically investigate whether the risk of delinquency varies between placement settings in the child welfare system. That is, are some placements more problematic with regard to juvenile offending than others? The primary purpose of the current study was to address this gap in the knowledge base and to specifically examine the likelihood of delinquency for adolescents in group home placements as compared with adolescents in foster family home settings.

The findings indicate that group home placements are associated with a significantly higher risk of delinquency as compared with foster home placements. These effects emerge even after controlling for a wide range of variables including age at placement, race, gender, and previous placement instability. Moreover, despite that only 26% of

adolescents ever experience a group home placement, 40% of all arrests in the child welfare system are associated with a group home placement (as opposed to arrests that occur on home visits or subsequent to reunification). Understanding the timing and location of arrests is important for two reasons (1) pinpointing the exact timing of arrest relative to child welfare placements has yet to be investigated in the literature, and (2) the timing of arrest provides critical information for the targeting of specific policies or programs. The evidence presented in the current study clearly identifies group homes as a target for delinquency prevention efforts in the child welfare system. Now the field must consider and investigate *why* adolescents in group home settings are more likely to experience arrests relative to adolescents in foster home settings.

Understanding the *why* is critical so that interventions can be developed to prevent the emergence of offending attitudes, beliefs, and behaviors. There seems to be at least two promising areas focused specifically on group homes and the factors that help explain delinquency; peer contagion and group home policies on contacting law enforcement. Peer contagion focuses on the individual youth and the congregation of similarly high risk youth in a single group home facility. Group home policies focus not on the individual, but rather on the procedures (e.g. who contacts law enforcement) and thresholds (e.g. when to contact law enforcement) that exist in various types of child welfare placements.

Peer contagion is a form of peer influence that may emerge as deviant and delinquent youth are brought together for treatment purposes (Dishion, McCord, & Poulin, 1999). Deviant peer contagion involves a feedback loop in which deviant adolescents influence one another to become more delinquent than they otherwise would have been in the absence of the program (Osgood & Briddle, 2006). Group homes are a likely source of peer contagion as high risk youth are screened through less restrictive settings and eventually funneled into congregate care placements. It is important to note that the effects of group home placements may vary by individual – that is – an interaction may exist between group home placements and the characteristics of the individual adolescent. The negative effects produced while living in congregate care is likely to be a function of the developmental status of the child, the interactions of the other youth who live there, and the context in which the intervention is provided. Youth may be differentially affected by peer contagion effects depending on the child's age, gender, kinds of behaviors (history of peer rejection can lead to vulnerabilities of deviant peer influences), temperament, maturity, and significant relationships with other adults. Children who are firmly grounded in their identity may be more likely to resist peer temptation (Dodge, Dishion & Landsford, 2006; Dishion, Nelson, Winter, & Bullock, 2004).

Investigating peer effects in group home placements would greatly advance the knowledge base for this particular type of intervention. Yet, such investigations are complex, costly and time consuming. Perhaps such obstacles explain the relatively few studies of peer effects in the child welfare or juvenile justice literatures (Osgood & Briddle, 2006). One fundamental issues in the study of peer groups is the uncertainty surrounding the mechanisms that foster and support deviant peer associations (Cairns, Leung & Cairns, 1995; Espelage, Holt, & Henkel, 2003). Is the process based entirely on self selection? That is, are youth actively seeking peers who share similar beliefs and attitudes with regard to aggression, delinquency and crime (selection association) or is the peer group developing similar attitudes over time as a result of frequent contact and limited supervision (reciprocal association)? Practitioners and policy makers interested in the development of effective interventions designed to decrease delinquency via the peer group must first disentangle the mechanisms by which peer contagion operates.

A second promising area of research related to group home placement and delinquency focuses on the organizational factors that may contribute to the likelihood of arrest. Such factors include specific policies and procedures on when to contact law enforcement. It is possible the thresholds that trigger communication with law enforcement vary between placement settings. For example, grandparents (kinship care providers) may tolerate a range of behaviors deemed unacceptable in group home settings. In the current study adolescents coming into the juvenile justice system from group home placements were more likely to be associated with a threat related offense. Why does this difference exist? Are verbal threats more likely to occur in group settings or does the response to a threat vary between group home staff and foster parents? Investigating the thresholds that exists within placement settings would help clarify the mechanisms responsible for increasing the risk of arrest at the organizational level. Although this area of research would be novel to the study of maltreatment and delinquency, there exists a long history in sociology and criminology focused specifically on understanding police encounters with juveniles (Piliavin & Briar, 1964; Black & Reiss, 1970). Historically, this work was limited to individual level factors. Yet in recent years, scholars have focused more attention to the characteristics of settings in explaining delinquency and crime. For example, in a recent study of school climate Crooks et al. (2007) report that students attending schools perceived as safe are significantly less likely

to engage in delinquency. Future efforts focused specifically on the characteristics of settings and the etiology of delinquency in the child welfare system will greatly advance the knowledge base and help inform the development of effective prevention programs. A foundation already exists for such efforts—most notably the research on community context, delinquency, and crime.

The overall framework and conceptual models proposed by Robert Sampson and colleagues (Sampson & Bean, *in press*; Sampson, Morenoff, & Raudenbush, 2005; Sampson & Wilson, 1995) could guide the study of both peer contagion and threshold effects in child welfare. In part, this body of work attempts to explain racial disparities in violence. The authors argue that segregation patterns at the community level expose some individuals to key violence inducing or violence protecting conditions (Sampson & Wilson, 1995). The general thesis, entitled racial invariance, argues that many of the factors responsible for delinquency and crime are similar across racial groups, but that the exposure to such factors varies. Although the study of maltreatment and delinquency is not limited to violent offending, the segregation and placement patterns of children is not a random process, and the consequences of such placement patterns may unintentionally expose certain adolescents to factors known to increase delinquency while simultaneously limiting their exposure to factors known to protect youth from delinquency. Applying the models used to study racial invariance will advance to understanding of placement and delinquency within the context of the child welfare system. Additionally, the application of Sampson and Wilson's (1995) work might also help the field understand how the child welfare system contributes to the long standing problem of overrepresentation in the juvenile justice system.

The overrepresentation of African American youth in the child welfare and juvenile justice systems is well documented through the literature (Courtney & Skyles, 2003; Leiber & Fox, 2005; Rawal, Romansky, Jenuwine & Lyons, 2004; Bishop & Frazier, 1986; Needell, Brookhart, & Lee, 2003). Moreover, the child welfare system is known to be a significant source for the overrepresentation of African American youth in the juvenile justice system. For example, a recent study from Los Angeles County indicates that although the child welfare system is responsible for 7% of all new juvenile arrests in a given year, the child welfare system accounts for 14% of African American entering the juvenile justice system (Ryan, Herz, Hernandez, & Marshall, 2007). In the current study, the risk of arrest was 64% greater for African American youth in placement. Despite the long standing recognition that overrepresentation is a critical issue, there is virtually no work on the mechanisms that connect the child welfare system to overrepresentation in the juvenile justice system. The application of models used to study racial disparities in offending at the community level (Sampson & Wilson, 1995) might also be used to study racial disparities in offending within the child welfare system.

4.1. *Limitations*

The current study makes a significant contribution to the child welfare and juvenile delinquency literature. Yet this study is not without limitation. Although we use sophisticated statistical technique to help minimize the problem of section bias and control for important difference between youth placed in group homes and foster family homes, our analyses are limited to the data fields commonly available in administrative records. Improvements could be made with additional information on youth characteristics and the reasons for group home or foster family placement. Our analyses were also limited to official arrests. It is possible that unknown or unreported juvenile offending is more common in foster family placements—as supervision might be less frequent. Future studies of maltreatment and delinquency might consider multiple measures of offending.

4.2. *Conclusion*

Practitioners and scholars have debated the role and effectiveness of group home placements in child welfare for decades. In fact, Barth (2002) notes that concerns for the institutional care of children are as old as the institutions. The purpose of the current study was to help inform this debate. Specifically we sought to understand the association between group home placement and involvement with the juvenile justice system. The evidence clearly indicates that group homes significantly increase the risk of arrest. This finding raises serious questions about the use of group care for victims of physical abuse and neglect. We encourage child welfare systems to further investigate the pathways and decisions that lead one to utilize group homes, and the mechanisms that are associated with juvenile delinquency.

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