# CHILD WELFARE PLACEMENT FEATURES AND PSYCHOSOCIAL ADJUSTMENT AMONG NEWLY EMANCIPATED FOSTER YOUTH

By

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A capstone project submitted for
Graduation with University Honors

May 14, 2019

University Honors
University of California, Riverside

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## Abstract

This study examined the individual and interactive influences of children's age of entry into the foster care system and the extent of their placement disruptions on later psychosocial adjustment among 172 newly emancipated youth (66% female, 84.6% ethnic-racial minority). Youth reported on their experiences in the child welfare system and their current externalizing behaviors (i.e., substance use and criminal behaviors) and internalizing problems (i.e., anxiety and depression). Regression analyses revealed significant interactive relations between age of system entry and placement disruption, which were further moderated by youth gender. Males who entered foster care at a later age and experienced a high number of placements evidenced significantly higher levels of substance use problems in young adulthood, but these relations were not significant for females. Criminal behaviors were elevated among foster youth of both genders when they entered foster care at a later age and also experienced a higher amount of placement disruption. There was a main effect of age at entry on anxiety problems with youth who entered foster care later in development reporting higher levels of anxiety; however, neither of age of placement, placement disruption, nor their interaction predicted later depression symptoms. This study was among the first to document the individual and interactive contributions of youth's child welfare experiences on later adjustment. The findings highlight the role of placement disruption as an important (and negative) influence on foster youths' adaptation, especially for males.



Keywords: age of entry, aging out; child welfare, externalizing problems, foster youth, internalizing problems, placement disruption

There has been a significant increase in the number of children placed into foster care over the past several years, with approximately 437,000 children in care during the 2016 fiscal year (U.S. Department of Health and Human Services, 2017). According to the U.S. Department of Health and Human Services (2017), neglect has consistently been the major reason for removal from the home (61% of cases), followed by having a drug abusing parent (34% of cases). The average time children spend in foster care is 19.0 months, yet the median time of stay is 13.9 months. Thus, there is a skewed distribution as only 4% of children stay in care for 5 years or longer. About 250,000 children exit care every year, primarily through reunification with family or adoption. According to the Child Welfare Information Gateway (2017), 8% of youth who exit foster care either 'age out' or 'emancipate' from the child welfare system.

Emancipated foster youth experience mental disorders at two to four times the rates of their non-fostered peers (Havlicek, Garcia, & Smith, 2013; McMillen et al., 2005). In addition to experiencing elevated rates of anxiety and depression (Pecora et al., 2005), these youth are more likely than their non-fostered peers to commit crimes, drop out of school, and experience substance abuse problems (Doyle, 2007). Courtney and colleagues (2004) found that two-thirds of emancipated boys and half of emancipated girls evidenced a history of delinquency during their last year in foster care.

Although there is an emergent literature on how emancipated youth fare once they leave the system (Courtney & Dworsky, 2006; Courtney et al., 2001), very little is known about if and how specific features of their child welfare experiences, such as their age of entry into care and placement disruptions, may influence youth's later psychosocial outcomes. The current study addressed this gap by evaluating relations between specific child welfare features (i.e., age of entry into care, placement disruption) and young adult adjustment outcomes (i.e., substance use,

criminal behavior, anxiety, depression) while controlling for youth's history of child maltreatment in a sample of 172 newly emancipated foster youth.

**The state of emancipated foster youth**

'Aging out' or 'emancipating' from the foster care system leaves youth particularly vulnerable. Many of these individuals do not have a family or support systems that they can turn to, which contributes to a treacherous transition to adulthood (Courtney, Terao, & Bost, 2004). At the same time, however, this period marks their liberation from the rules and limitations that they faced while in the child welfare system (Tyrell & Yates, 2018). Due to the lack of support available, these youth must transition into adulthood at a faster rate than their same-aged peers from the general population. Although these youth are focused on making decisions, taking responsibility, and becoming financially independent, only 40% of emancipated foster youth report having been employed in the past year, versus 92% of their non-fostered peers (Courtney & Dworsky, 2006). In part, these employment difficulties may follow a history of poor academic achievement and high school dropout (Miller and Porter, 2007). Likewise, these employment and educational issues may contribute to (or follow from) mental health and/or substance abuse problems (Courtney et al., 2001).

**Age of entry into foster care**

The majority of youth who age out of foster care entered care during their adolescent years (Courtney & Barth, 1996). However, the literature has not yet considered whether or not age of entry, which is synonymous with duration of time in care for emancipated youth, is predictive of later psychosocial outcomes. Stott (2011) argues that youth who entered foster care during their teen years spent the majority of their development living with parents or guardians who ultimately were found to have abused, neglected, and/or abandoned them. Therefore,

individuals who entered care at a relatively later age may be particularly vulnerable when they age out and reach adulthood. In contrast, other data suggest that the longer a child is in foster care, the greater their opportunity is to have experienced disrupted attachments and placement changes, which may negatively affect later adjustment (Proch & Taber, 1985). Thus, other evidence suggests that an earlier age of entry into care may predict greater problems for emancipated youth.

**Placement disruptions in care**

Placement disruption may be one of the most researched features of the child welfare experience. Teens are more likely to experience placement disruptions than younger children in foster care (Wertheimer, 2002; Wulczyn et al., 2003). The average number of placements for those who emancipated or age out of care is six (Our Children, 2007), while the average number of placements across all youth in the welfare system is 3.2 (U.S. Department of Health and Human Services, 2008). Further, placement instability evidences a significant negative effect on well-being, beyond levels of adjustment problems reported at the time of entry into the system (Rubin, O'Reilly, Luan, & Localio, 2007). It is important to note that placement disruption and youth maladaptation are mutually reinforcing (Newton, Litrownik, & Landsverk, 2000). For example, youth who enter the system with more behavior problems are also more likely to have a greater number of placements than youth who entered the system with relatively few problems. At the same time, however, placement disruption can increase youth's feelings of rejection, which can negatively affect their social and mental health (Kools, 1999; Proch & Taber, 1985). In a sample of 173 current foster youth, Newton, Litrownik, and Landsverk (2000) found that youth's placements ranged from 1 to 15 during the first 18 months of their time in the system, with a *mean* of 4.23. They also determined that 58% of the sample was at a clinical level for an

internalizing, externalizing, or total behavior problem. Of note, youth who exhibited behavior problems at the time of their initial placement into foster care were more likely to experience a higher number of placement changes.

Unrau, Seita, and Putney (2008) conducted a qualitative study to understand the perceived impact of placement disruptions on individual who lived in foster care at some point during childhood. Although the sample ranged from ages 18 to 65 years old ($N$ = 22), a common theme of loss emerged across the narratives. The first theme was a loss of power over personal control; these individuals often mentioned that they did not know why or where they were moving, but they recognized that moving was a part of the child welfare system experience. Second, these experiences also led to a loss of self-esteem as individuals began to attribute their placement disruptions to something that was wrong within themselves. Finally, in addition to internal feelings of loss, these former foster youth also reported losing connections with friends, personal belongings, and even siblings. As a result of these lost relationships, participants reported that they felt detached or withdrawn from people, often leading to distrust in the people they would later meet. According to Boss (2004), this idea of ambiguous loss, which is defined as "an unclear loss—a loved one missing either physically or psychologically," can lead to adverse outcomes, such as stress, confusion, and increased levels of depression and anxiety for youth in foster care (p. 235).

**The Current Study: An interactive model of age of entry and placement disruption effects**

The current study offered a novel investigation of how youth's experiences in the child welfare system individually and interactively predicted their later psychosocial functioning in a sample of 172 newly emancipated foster youth. As previously mentioned, emancipated youth are at heightened risk for both externalizing (e.g., substance and conduct problems) and internalizing

(e.g., anxiety and depression) behaviors. However, prior work has not addressed how the features of the welfare system may contribute to these outcomes.

Although age of entry into care and placement stability are crucial features of the child welfare experience, I hypothesized that the interaction of these two experiences would be more predictive of psychosocial outcomes than either factor in isolation. Moreover, I further anticipated that these relations might differ between boys and girls. Thus, I tested relations between emancipated youth's age of entry into foster care and various adjustment outcomes (i.e., substance use, criminal behavior, anxiety, and depression) when placement disruptions were high and low, and among girls versus boys, while controlling for the participant's maltreatment history. Ultimately, this study sought to identify the long-term effects of specific child welfare features to inform and improve services for children in out-of-home placement and mitigate the negative outcomes associated with aging out of foster care.

**H1. Age of entry into care.** I expected to find a main effect for age of entry into care such that youth who entered care at a later age would evidence more negative mental health and psychosocial outcomes than youth who entered care at a younger age.

**H2. Placement disruption.** I expected to find a main effect for placement disruptions such that youth who experienced a higher number of total placements would evidence poorer adjustment in young adulthood as compared to youth with fewer placements.

**H3. Interaction between age of entry and placement disruption.** I hypothesized that youth who entered care at a later age and also experienced relatively high levels of placement disruption would evidence the most negative psychosocial outcomes following emancipation.

**H4. Moderation by youth gender.** I hypothesized that predicted relations between child welfare features and externalizing problems would be significantly more pronounced among

males than females, whereas relations between child welfare features and internalizing problems would be more pronounced among females as compared to males.

## METHOD

### Participants

Participants were 172 youth (66% female) who emancipated from the foster care system in Southern California. The youth were between the ages of 18 and 21 at the first wave of data collection for a longitudinal study of youth's adaptation to aging out ($M_{age\_W1}$ = 19.63, *SD* = 1.11). The sample was 27.3% Latino American/Hispanic, 23.8% African American/Black, 15.7% European American/White, .6 % Asian American, and 32.6 % multiracial. On average, youth entered the foster care system when they were 8.67 years-old (SD = 5.52), spent 8.99 years (SD = 5.75) in foster care, and experienced 7 different placement changes (M = 7.18, SD = 4.91) before they emancipated out of the system at an average age of 18.20 years (SD = .52).

### Procedures

Youth were invited to participate in a study of Adapting to Aging Out between 2009 and 2011, which was prior to the implementation of Assembly Bill 12, which extended foster care support in California. Flyers were distributed to social service providers, independent living programs, and agencies serving emancipated foster youth (e.g., health clinics, resource centers). Of the 199 participants who called and did the phone screening, 190 completed the wave 1 interview (9 participants fell outside the target age range of 18-21). These interviews were conducted at the University or at another comfortable location (e.g., agency offices, libraries) for the participant. Interviews were audio recorded, and later transcribed verbatim. Written consent was gathered after reviewing the study aims, voluntary nature of participation, confidentiality information, and the reasons for mandated reporting. Participants were compensated $75 and all

procedures were approved by the Institutional Review Board. From the sample of 190 interviews, 18 individuals were excluded from these analyses because they entered care after the age of 16 ($n$ = 8) and/or entered foster care due to juvenile delinquency in the absence of maltreatment ($n$ = 12).

**Measures**

*Child maltreatment* was assessed using the Child Abuse and Trauma Scale (CATS; Sanders & Becker-Lausen, 1995) to measure the frequency and extent of maltreatment on a series of 5-point items (e.g., "Did your relationship with your caregivers ever involve a sexual experience?") from *never* (0) to *always* (4). The three maltreatment scales - child neglect ($\alpha$ = .904), child physical abuse ($\alpha$ = .753), and child sexual abuse ($\alpha$ = .876) - were composited to yield a global measure of childhood maltreatment.

*Age of entry into foster care* was determined using the age in months that the individual was when they entered foster care for the first time.

*Placement disruption* was assessed using a structured interview in which each youth was asked to describe their placement history from the time they entered foster care to when they emancipated. Youth reported on their age at each placement, why they moved, and who they lived with (e.g., family reunification, group home, kin placement).

*Externalizing behavior* was assessed using measures of substance use and criminal behavior that were drawn from the Adolescent Health Survey (Blum et al., 1989). Substance use was indicated by the total number of problems caused by alcohol or drug use (e.g., "In the past year, have you ever had any of the following problems from drinking or drug use (not including drugs a doctor told you to use)?"). Criminal behavior was scored as the total number of criminal

behaviors the individual reported having taken part in, regardless of whether they were caught (e.g. assault, armed robbery, vandalism, homicide).

*Internalizing symptoms* were assessed using the Trauma Symptom Checklist-40 (TSC-40; Elliott & Briere, 1992). The TSC is a 40-item self-report that measures dissociation, anxiety, depression, sexual abuse trauma, sleep disturbance, and sexual problems over the last two months. For the purpose of this study, nine items assessing the frequency of symptoms of anxiety (e.g., "anxiety attacks," "dizziness") and nine items assessing the frequency of symptoms of depression (e.g., "insomnia," "weight loss (without dieting)") were rated on a 4-point scale from *never* (0) to *very often* (3).

## RESULTS

Descriptive statistics and bivariate relations among study variables are shown in Table 1. Maltreatment was positively associated with placement disruption and all pathological outcomes, except for substance use problems. There was a significant negative correlation between the first age of placement into foster care and total placements such that the earlier in development that youth entered foster care, the more placements they had. The dependent variables (i.e., alcohol and drug problems, criminal behaviors, anxiety, and depression) were all significantly and positively correlated with one another.

### Regression Analyses

Hayes' (2013) PROCESS routines evaluated relations between age at foster care entry and adjustment outcomes as moderated by sex and total number of placements. As shown in Table 2, there was a significant three-way interaction between age at entry and total placements as moderated by sex (B = -.055, SE = .023, $p$ = .018) in the prediction to number of problems caused by alcohol or drugs. Figure 1 shows that males, but not females, who entered foster care

at an older age and experienced high levels of placement disruption experienced significantly more problems caused by alcohol and drugs (b = .605, $p < .001$). As shown in Table 3, there was a significant interaction between age at entry and total placements (B = -.024, SE = .012, $p = .044$) in the prediction to criminal behaviors. Figure 2 shows that age of entry was positively related to criminal behavior, but only for youth who also experienced high levels of placement disruption (b = 0.193, $p < .001$). In fact, although the relation was not significant, the relation between age of entry and criminal behavior was negative for youth who experienced relatively low levels of placement disruption. Finally, although there was a positive main effect of age at entry on anxiety problems, none of the interaction terms attained significance (See Table 4). The predictors in this study did not account for significant variance in depression outcomes in this sample (See Table 5).

## DISCUSSION

This study drew on a sample of 172 newly emancipated foster youth to document the individual and interactive relations of welfare features, namely age at first entry and placement disruption, on later psychosocial outcomes. While current literature does highlight the detrimental effects of placement disruption, no previous work has looked at relations between placement disruption and age of entry into care together. Consistent with prior studies suggesting that emancipated youth are at elevated risk of engaging in substance use and taking part in criminal behavior (Doyle, 2007), males who entered care at an older age and experienced a high number of placements had significantly higher substance use problems. With regard to criminal behavior, both males and females evidenced higher criminal behaviors when entering care at an older age and experiencing high placements. My hypothesis that that the interactive relation between entering at a later age and experiencing a high number of placements was supported for

externalizing behaviors. However, my hypothesis in regards to gender was rejected in terms of criminal behaviors because both females and males exhibited significantly high levels of criminal behavior. As for internalizing behaviors, there was a main effect of age at entry on anxiety problems with those who entered foster care later reporting higher levels of anxiety; however, neither the individual effects of age of placement or placement disruption, nor their interaction predicted later depression symptoms. My hypothesis that I would find a main effect of age at entry on anxiety was supported; however, my hypotheses that high placement disruption and being female would be associated with more internalizing problems was rejected. Interestingly, all my hypotheses were rejected in terms of depression symptoms.

Consistent with Stott's (2011) argument that entering care as a teenager may lead youth to be more vulnerable during their transition into adulthood, my findings regarding externalizing behaviors (e.g., substance use, criminal behavior) indicated that entering care at a later age ( > 8.7 years-old) was associated with higher levels of both substance use and criminal behavior. While the age determined to be significant in my study is younger than that suggested by Stott (2011), entering care later in development is still a crucial factor in this relation. Newton, Litrownik, and Landsverk (2000) focused on the effects of placement disruption on behavior problems and found that youth who experienced higher levels of placement disruption exhibited higher externalizing behaviors. These findings were also supported by my results for both externalizing behaviors.

According to prior work, emancipated youth face higher rates of mental health problems (e.g., anxiety, depression) compared to their non-fostered peers (Havlicek, Garcia, & Smith, 2013; McMillen et al., 2005; Pecora et al., 2005). Further, studies suggest that placement disruption can increase youth's feelings of rejection, which, in turn, negatively affects their

mental health (Kools, 1999; Proch & Taber, 1985). However, relations between placement disruption and later internalizing symptoms did not reach significance in the current sample.

As for gender differences, males had significantly higher levels of substance use when they entered care at a later age and experienced high levels of placement disruption, whereas, both males and females reported higher levels of criminal behavior when they entered care at an older age and experienced high levels of placement disruption. Substance use may therefore be used as a maladaptive coping strategy (Kuper, Gallop, & Greenfield, 2010) for males. Females may have more social support and therefore they may not cope by using substances, thereby resulting in this gender difference. As found by Hoeve et al. (2014) there is a bidirectional effect between financial problems and delinquent behaviors. Hoeve et al. also found no gender effect suggesting that most youth do financially struggle leading them in the direction of committing crimes to make ends meet.

**Limitations**

The primary limitation of this study is the absence of data regarding youth's behaviors and symptomology prior to emancipation. Due to the lack of these data, it is difficult to understand the direction of whether placement disruption and age of entry were influenced by these problem behaviors or vice versa. This information would have resulted in more conclusive interpretations of the data. In addition to prior symptomology, Doyle (2007) argues that removing a child is only worse if they are on a marginal basis of entry into care. Therefore, including variables regarding the reason for the child's entry into care could be crucial in understanding our interactive relation.

Second, the entire interview that was conducted with these emancipated youth consisted of self-report measures. While this does allow for fruitful first-hand data, an independent

assessment or outside information from another person (e.g., parent, social worker) would be helpful in acquiring the most valid data. Of note, the time span across which externalizing versus internalizing behaviors were reported is important to highlight. The Adolescent Health Survey does not ask whether certain behaviors have taken place within a certain time period, but rather whether or not the behavior has ever been done. However, for internalizing behaviors, the TSC-40 asks about symptoms within the last two months. Therefore, if the occurrence of these behaviors were both limited to the same period of time, I may have had different findings.

Third, the youth in this study come from a convenience sample from Southern California. Therefore, this subset of youth may not be representative of emancipated youth across the nation. Indeed, the sample excluded youth who were institutionalized or incarcerated during the first wave of research. Despite these restrictions, the youth examined here did evidence higher negative outcomes compared to previous research with emancipated youth (Tyrell & Yates, 2018). In addition, I only used information gathered during the first wave of data collection, which further constrained my ability to make any directional conclusions.

**Implications**

The current study highlights the significance that features of the welfare system experience may have on emancipated foster youths' later psychosocial outcomes. Specifically, I found that age of entry into care and placement disruption may play a role in later substance use problems for males, but females, as well as in criminal behaviors for both male and female emancipated foster youth. Future research should consider varying reasons for entry into foster care and include measures of behavioral problems prior to emancipation. Further, researchers should continue to study emancipated youth as little is known about this subset of the population despite their elevated risk for negative outcomes that have greater personal and societal costs.

These findings can lead the way for new interventions that will help youth who ‘age out’ or ‘emancipate’ transition out of the system in a more effective and healthy manner, by allowing the child welfare system to know how to recognize those at highest risk. For example, support groups for males can be the first step in providing males with a safe environment to cope and deal with their problems.

**Table 1**
Descriptive statistics and bivariate relations among study variables.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| 1. Age Placed | -- | | | | | | |
| 2. Total Placements | -0.383** | -- | | | | | |
| 3. Maltreatment | -0.136 | 0.289** | -- | | | | |
| 4. TSC Anxiety | -0.100 | 0.207** | 0.223** | -- | | | |
| 5. TSC Depression | -0.023 | 0.109 | 0.216** | 0.777** | -- | | |
| 6. Total Problems Caused by Alcohol or Drugs | 0.133 | 0.111 | 0.148 | 0.276** | 0.236** | -- | |
| 7. Total Criminal Behaviors | -0.002 | 0.141 | 0.157* | 0.166* | 0.214** | 0.370** | -- |
| Mean | 8.706 | 7.180 | 1.850 | 13.300 | 14.088 | 3.890 | 16.014 |
| Standard Deviation (SD) | 5.522 | 4.898 | 0.756 | 5.024 | 4.982 | 3.722 | 2.277 |

Note. *$p < 0.05$; **$p < 0.01$.

**Table 2**
Total problems caused by alcohol or drugs on age placed as moderated by sex and total placements.

| Effect | Total Problems Caused by Alcohol or Drugs | | | |
|---|---|---|---|---|
| | B | SE | Bootstrapped 95% CI (bias-corrected) | |
| | | | LLCI | ULCI |
| Sex | -1.867 | 1.989 | -5.794 | 2.060 |
| Maltreatment | **.742** | **.366** | **.018** | **1.465** |
| Age Placed | -.257 | .155 | -.563 | .050 |
| Total Placements | -.250 | .162 | -.570 | .070 |
| Age Placed x Total Placements | **.065** | **.019** | **.027** | **.103** |
| Age Placed x Sex | .199 | .186 | -.168 | .566 |
| Total Placements x Sex | .295 | .185 | -.070 | .660 |
| Age Placed x Total Placements x Sex | **-.055** | **.023** | **-.100** | **-.010** |
| | $R^2 = .135$ | | | |
| | $F(8,163) = 3.167$, $p = .002$ | | | |

**Table 3**
Total criminal behaviors on age placed as moderated by sex and total placements.

| Effect | Total Criminal Behaviors | | | |
|---|---|---|---|---|
| | B | SE | Bootstrapped 95% CI (bias-corrected) | |
| | | | LLCI | ULCI |
| Sex | -1.793 | 1.226 | -4.215 | .629 |
| Maltreatment | .432 | .226 | -.014 | .878 |
| Age Placed | -.129 | .096 | -.318 | .059 |
| Total Placements | -.057 | .100 | -.254 | .141 |
| Age Placed x Total Placements | **.024** | **.012** | **.001** | **.048** |
| Age Placed x Sex | .165 | .115 | -.061 | .392 |
| Total Placements x Sex | .098 | .114 | -.127 | .323 |
| Age Placed x Total Placements x Sex | -.022 | .014 | -.050 | .006 |
| | $R^2 = .100$ | | | |
| | $F(8,163) = 2.260$, $p = .026$ | | | |

**Table 4**
Anxiety subscale score on age placed as moderated by sex and total placements.

| Effect | Anxiety Subscale Score | | | |
|---|---|---|---|---|
| | B | SE | Bootstrapped 95% CI (bias-corrected) | |
| | | | LLCI | ULCI |
| Sex | 2.995 | 2.728 | -2.412 | 8.401 |
| **Maltreatment** | **1.312** | **.504** | **.316** | **2.308** |
| **Age Placed** | **.141** | **.213** | **-.280** | **.563** |
| Total Placements | .243 | .223 | -.197 | .684 |
| Age Placed x Total Placements | -.018 | .027 | -.070 | .035 |
| Age Placed x Sex | -.116 | .256 | -.621 | .390 |
| Total Placements x Sex | -.102 | .254 | -.604 | .400 |
| Age Placed x Total Placements x Sex | .005 | .032 | -.058 | .067 |
| | $R^2 = .091$<br>$F(8,163) = 2.035$, $p = .045$ | | | |

**Table 5**
Depression subscale score on age placed as moderated by sex and total placements.

| Effect | Depression Subscale Score | | | |
|---|---|---|---|---|
| | B | SE | Bootstrapped 95% CI (bias-corrected) | |
| | | | LLCI | ULCI |
| Sex | 1.012 | 2.767 | -4.452 | 6.477 |
| Maltreatment | 1.333 | .510 | .326 | 2.340 |
| Age Placed | .051 | .216 | -.375 | .477 |
| Total Placements | .135 | .226 | -.311 | .580 |
| Age Placed x Total Placements | -.010 | .027 | -.063 | .043 |
| Age Placed x Sex | .043 | .259 | -.468 | .553 |
| Total Placements x Sex | -.072 | .257 | -.580 | .436 |
| Age Placed x Total Placements x Sex | .003 | .032 | -.060 | .066 |
| | $R^2 = .060$ | | | |
| | $F(8,163) = 1.310$, $p = .242$ | | | |

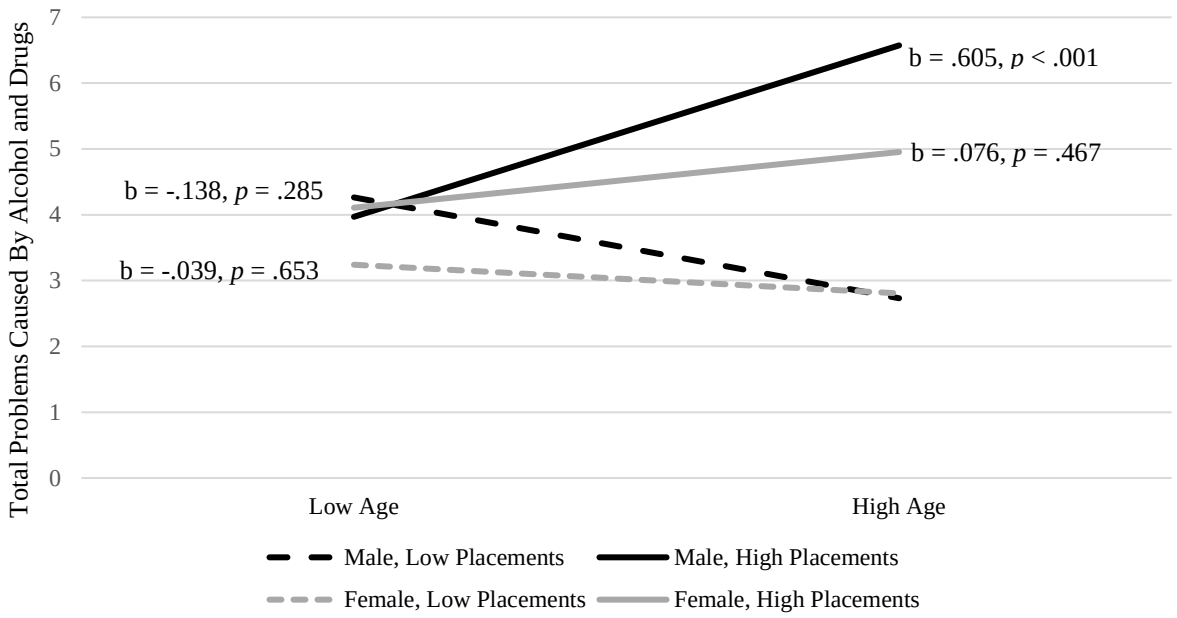


**Figure 1.** The relation between age at entry and total problems caused by alcohol and drugs as moderated by youth sex and total number of placements shown at -1 and +1 standard deviations from the mean.

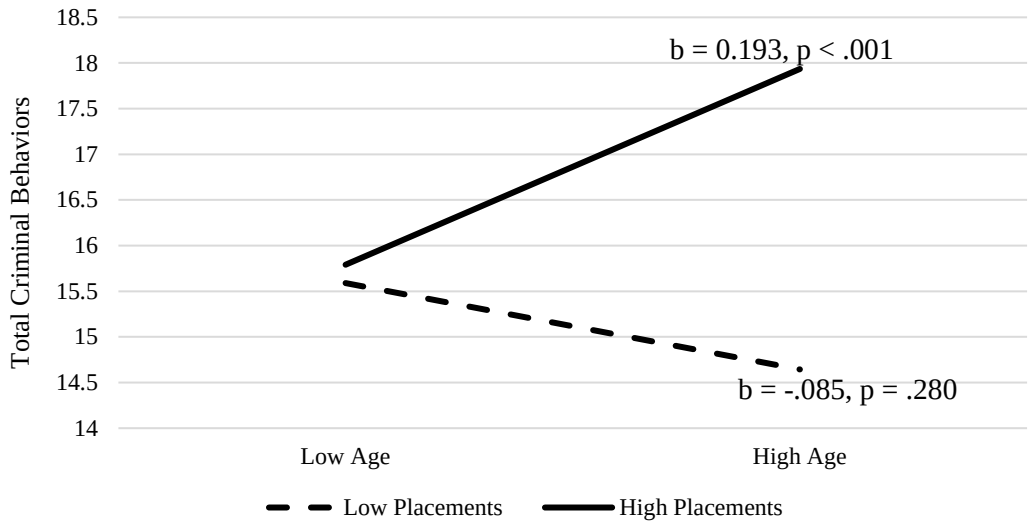


**Figure 2.** The relation between age at entry and total criminal behaviors as moderated by total number of placements shown at -1 and +1 standard deviations from the mean.

## References

Blum, R, Harris, L., Resnick, M., & Rosenwinkle, K. (1989). Technical report on the Adolescent Health Survey. Minneapolis, MN: University of Minnesota Adolescent Health Program.

Boss, P. (2004). Ambiguous loss research, theory, and practice: Reflections after 9/11. *Journal of Marriage and Family, 66*, 551-566.

Child Welfare Information Gateway. (2017). *Foster care statistics 2016*. Washington, DC: U.S. Department of Health and Human Services, Children's Bureau.

Courtney, M. E. & Barth, R. P. (1996). Pathways of older adolescents out of foster care: Implications for independent living services. *Social Work, 41*(1), 75-83.

Courtney, M. E. & Dworsky, A. (2006). Early outcomes for young adults transitioning from out-of-home care in the USA. *Child and Family Social Work, 11*(3), 209-219.

Courtney, M. E., Piliavin, I., Grogan-Kaylor, A., & Nesmith, A. (2001). Foster youth transitions to adulthood: A longitudinal view of youth leaving care. *Child Welfare, 80*(6), 685-717.

Courtney, M. E., Terao, S. & Bost, N. (2004). Midwest evaluation of the adult functioning of former foster youth: Conditions of youth preparing to leave state care. *Chaplin Hall Center for Children at the University of Chicago*, 1-60.

Doyle, J. J. Jr. (2007). Child protection and child outcomes: Measuring the effects of foster care. *The American Economic Review, 97*(5), 1583-1610.

Elliott, D., & Briere, J. (1992). Sexual abuse trauma among professional women: Validating the Trauma Symptom Checklist-40 (TSC-40). *Child Abuse and Neglect, 16*, 391–398.

Havlicek J. R., Garcia a. R., & Smith D. C. (2013). Mental health and substance use disorders among foster you transitioning to adulthood: Past research and future directions. *Children and Youth Services Review, 35*(1), 194-203.

Kools, S. (1999). Self-protection in adolescents in foster care. *Journal of Child and Adolescent Psychiatric Nursing, 12*(4), 139–152.

McMillen et al. (2005). Prevalence of psychiatric disorders among older youths in the foster care system. *Journal of the American Academy of Child and Adolescent Psychiatry, 44*(1), 88-95.

Miller, C. & Porter, K. E. (2007). Barriers to employment among out-of-school youth. *Children and Youth Services Review, 29*(5), 572-587.

Newton R. R., Litrownik A. J., & Landsverk J. A. (2000). Children and youth in foster care: disentangling the relationship between problem behaviors and number of placements. *Child Abuse and Neglect, 24*(10), 1363-1374.

Our Children: Emancipating Foster Youth (2007). Retrieved from http://www.thesoh.org/about-us/foster-youth-statistics-need/

Pecora et al. (2005). Improving family foster care: Findings from the northwest foster care alumni study. *Seatle, WA: Casey Family Programs*.

Proch, K. & Taber, M. A. (1985). Placement disruption: A review of research. *Children and Youth Services Review, 7*(4), 309-320.

Rubin, D. M., O'Reilly, A. L., Luan, X., & Localio, A. R. (2007). The impact of placement stability on behavioral well-being for children in foster care. *Pediatrics, 119*(2), 336–344.

Sanders, B., & Becker-Lausen, E. (1995). The measurement of psychological maltreatment: Early data on the child abuse and trauma scale. *Child Abuse and Neglect, 19*, 315–323.

Stott, T. (2011). Placement instability and risky behaviors of youth aging out of foster care. *Children and Adolescent Social Work Journal, 29*(1), 61-83.

Tyrell, F. A. & Yates, T. M. (2018). Emancipated foster youth's experiences and perceptions of the transition to adulthood. *Journal of Youth Studies, 21*, 1011-1028.

U.S. Department of Health and Human Services. (2008). *The AFCARS report: Preliminary FY 2006 estimates as of January 2008 (14)*. Retrieved from http://www.acf.hhs.gov/sites/default/files/cb/afcarsreport14.pdf

U.S. Department of Health and Human Services. (2017). *The AFCARS report: Preliminary FY 2016 estimates as of October 2017 (24).* Retrieved from https://www.acf.hhs.gov/cb/resource/afcars-report-24

Unrau, Y. A., Seitam J. R., & Putney, K. S. (2008). Former foster youth remember multiple placement moves: A journey of loss and hope. *Children and Youth Services Review, 30*(11), 1256-1266.

Wertheimer R. (2000). Youth who "age out" of foster care: Troubled lives, troubling prospects. *Child Trends Research Brief*. Washington DC: Children Trends. Retrieved from http://www.childtrends.org/Files/FosterCareRB.pdf

Wulczyn, F., Kogan, J. & Harden, B. J. (2003). Placement stability and movement trajectories. *Social Service Review, 77(*2), 212-236.