



Published in final edited form as:

*Child Youth Serv Rev.* 2009 January ; 31(1): 104–111. doi:10.1016/j.childyouth.2008.06.003.

## Natural Mentoring and Psychosocial Outcomes among Older Youth Transitioning From Foster Care

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### Introduction

#### Psychosocial Outcomes among Older Youth Transitioning from Foster Care

In the past two decades we have heard about the troubling lives of older youth transitioning from systems of care (See Osgood, Foster, Flanagan, & Ruth, 2005; Clemetson, L., 2006), particularly the foster care system (Courtney, Piliavin, Grogan-Kaylor, & Nesmith, 2001; English et al., 2003; Goerge et al., 2005; Eckholm, E., 2007; See Courtney & Heuring for a Review, 2005). Developmentally, this stage of life, recently termed emerging adulthood, roughly ages 18-25, has been characterized as stressful, filled with uncertainty (Arnett, 2000) and in today's culture scholars have argued it is a time when young adults are receiving more help from their parents than in past generations (Furstenberg, Rumbaut, & Settersten, 2005). Imagine, then, the stress level for older youth in foster care, many of whom make this difficult life transition with limited family support and few resources (Britner & Kraimer-Rickaby, 2005; Courtney et al., 2001; Collins, 2001). By nature of entering foster care, these youth have experienced stressful life events, such as removal from home, stress related to being in the system, and in many cases prolonged abuse and/or neglect. During the time of transition, things may be even more difficult, as these older youth may be expected to leave relationships and services that they have learned to depend on. It remains unclear as to how older youth in foster care get the emotional support, resources, social connections, and instrumental supports that are necessary to make the transition. Expecting older youth leaving foster care to make it on their own is absurd. Our social service system needs to focus increased attention on the needs of this vulnerable population and how to help them.

Research reports convincingly support the notion that older youth in foster care do not do well during the transition to adulthood (See Courtney & Heuring, 2005 for a Review). For example, The Midwest Study reported that when compared to a nationally-representative sample of same age youths, at 19-years old, former foster care youths were less likely to be currently employed, more likely to report poor overall health, and more likely to be disconnected to society (Courtney et al., 2005) and at age 21, the foster youths in this study were more likely to have been arrested (Courtney et al., 2007). Other studies have reported high rates of depression and depression symptoms among older youth in foster care (McMillen et al., 2005; Barth, 1990). While research reports have effectively described the poor outcomes of these youths, we know next to nothing about what might help older youth during the transition from alternative care

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to more independent adulthood. One possibility is supportive relationships with non-kin natural mentors that continue through the transition years.

## Mentoring

Mentoring relationships, or consistent connections between caring non-parent adults and children, can be life changing. Whether it is through structured programs or through relationships that develop on their own, mentoring has been shown to benefit youth. Emerging theories postulate that these benefits may occur through a variety of mediating processes, such as changes in social and emotional development, cognitive development, identity development and all of the above (Rhodes, 2002; Rhodes, 2005). To date, very few studies have tested these pathways (e.g., Rhodes, Grossman, & Resch, 2000; Parra, DuBois, Neville, Pugh-Lilly, & Povinelli, 2002). The present study of natural mentoring focuses on the first order question: Is the presence of naturally occurring relationships with non-kin mentors, along with their individual features, associated with psychosocial outcomes? Ideas for the present study were influenced by the social emotional development pathway, which draws on the work of attachment theorists (Bowlby, 1969/1982) and relational-cultural theory (Miller & Stiver, 1997). We hypothesize that among this group of youth, specifically those that have experienced extreme and unsafe circumstances in their relationships with caregivers, some may find that an important relationship with a natural mentor can provide a new example of a healthy relationship, a safe place, emotional and instrumental support and ultimately better psychosocial outcomes. In the present study, natural mentors were defined as unrelated adults that are older than the participants that are willing to listen, share experiences, and guide the youth through their lives.

With regard to natural mentoring and outcomes among non-foster care samples, one study found that among urban adolescents, youth with a natural mentor were less likely to smoke marijuana, and get involved in delinquency (Zimmerman, Bingenheimer, & Notaro, 2002). Also, while studying females that have endured profound, ongoing stress, Rhodes, Ebert & Fischer (1992) reported that youth with natural mentors were less depressed than their peers that did not identify a mentor. Finally, a recent study examining natural mentors among youth in the Adolescent Health study found that the presence of a natural mentor was associated with greater levels of life satisfaction (DuBois & Silverthorn, 2005).

We know far less about natural mentoring and outcomes among older youth in foster care. For children and youth with histories of risk, including abuse, these relationships may be even more critical for positive development, as there may be an increased need for secure, safe connections with adults. One seminal study revealed that among maltreated youths in Hawaii, those with supportive adults in their lives did better when they reached adulthood, particularly with regard to establishing their own supportive connections with significant others (Werner & Smith, 1992). More recently, Kaufman et al. (2004) found that, among maltreated youth, positive supports reduced the risk associated with a specific genetic profile related to depression. This new biological research adds support to the potential for relational interventions among maltreated youths. Finally, compelling journalistic reports reveal that transitioning foster care youth consistently discuss key supportive relationships with non-parental adults when they talk about their lives (Shirk & Stangler, 2004).

Even fewer studies have examined the individual characteristics of mentoring relationships, such as the duration of the relationship and the quality of the relationship. Grossman & Rhodes (2002) utilized the Big Brothers Big Sisters Impact Study and found that one-year was a critical marker for mentoring relationships, with those in relationships lasting longer than one-year having the greatest benefit. Mentoring researchers have also begun to examine the quality of mentoring relationships. Qualitative studies suggest that youth like mentoring relationships that are characterized by authenticity and respect (Spencer, 2002; Spencer, Jordan, & Sazama,

2004). Also, a quantitative study revealed a positive association between mentoring relationship quality and self-esteem (Liang, Tracy, Taylor, & Williams, 2002a). Building on this work, the present study looked to examine the associations between individual characteristics of mentoring relationships and outcomes.

Cumulatively, this evidence suggests that focused investigation of relationships between transitioning foster care youth and their natural mentors may be a fruitful area of inquiry. Findings from this research can inform the field on the potential for natural mentoring relationships as a positive influence in the lives of transitioning foster care youth.

### The Present Study

As the evidence suggests above, there are few studies examining natural mentoring among older youth transitioning from foster care and none that we know of examining mentoring over time, individual mentoring features and psychosocial outcomes among this high risk group. In this study, we examined the relative contribution of demographic characteristics (e.g., gender), clinical characteristics (psychiatric diagnoses, maltreatment history), custody status, and mentoring on outcomes. We hypothesized that the presence of a supportive relationship with a non-kin adult and more specifically one that lasted over time would be related to better psychological and behavioral outcomes, after controlling for potential covariates. We also hypothesized that the duration and quality of the relationships would be related to positive outcomes.

### Method

The study uses data from a longitudinal survey study of older youth transitioning from the foster care system in Missouri. The protocol for the study called for nine quarterly interviews that were conducted by professional interviewers every three months from the youths 17<sup>th</sup> to 19<sup>th</sup> birthdays. All of the youths were in the legal custody of the Missouri Children's Division at the first interview. Recruitment efforts for the study are described in a previous study (See McMillen et al., 2004).

The present study utilized demographic and clinical history variables collected during the 1<sup>st</sup> face-to-face interview of the larger study (N=406), which took place when the youth were 17-years of age (details of these measures are found in the measures section). The remaining data utilized in the present study was collected during the follow-up interviews. At 18, we interviewed all of the youths that interviewers were able to contact. Sixty-seven of the youths were not interviewed at 18. The remaining 339 youths were interviewed on non-kin natural mentoring relationships. These are the youth included in this study. At 18½ and 19 we interviewed the youth on outcomes and mentoring. Imputed data was utilized for those youth that we were unable to contact at 18½ and 19.

Retention analyses were conducted on major study variables such as race, gender, maltreatment and psychiatric history to examine differences between the youth that were interviewed at 18 and those that were not interviewed. Of all of the variables examined, only gender was related to retention. More specifically, male youth were less likely to still be in the study at 18 than female youth (OR=0.55, 95% CI=0.309-0.990). We conducted multivariate logistic regression analyses again to predict retention at the final interview. Males, youth with past year PTSD, youth with a history of juvenile detention at the first interview and having been released from custody were related to decreased odds of being in the study at the final interview.

## Participants

Participants in the present study were the 339 youth that participated in the first study of natural mentoring among older youth as they were nearing their 18<sup>th</sup> birthday (Mean Age = 18.04,  $SD = 0.09$ ). At 18, 62% (211) reported the presence of a natural mentor, with 70% reporting having known their natural mentor for over 1 year. Also, approximately half of those that nominated a natural mentor reported having met them through “formal” pathways, such as the mental health, education and child welfare systems, with another 46% reporting having met their mentor through family, friends or the neighborhood (Munson & McMillen, 2006).

## Measurement

**Psychological and Behavioral Outcomes**—*Current depressive symptoms* are one of the dependent variables of interest in this study. Depression symptoms were measured with the Depression Outcomes Module (DOM) (Smith, Burman, Burns, Cleary & Rost, 1994) during consecutive waves of data collection. The DOM was used to assess the experience of depressive symptoms in the past 4 weeks (e.g., “How often in the past 4 weeks did you have days in which you experienced little or no pleasure in most of your activities?”) at 18, 18½ and 19 years of age. Response options range from *Not at all* (1) to *Nearly every day for at least 2 weeks* (4). Responses were summed to create a current depressive symptom score, ranging from 11 to 44 with higher scores indicating greater depressive symptoms. The DOM has been tested in culturally diverse populations. There is evidence for good convergent validity, with depression severity on the DOM being correlated with depression ratings on the Hamilton-D ( $r=0.41$ ,  $p<.01$ ), symptoms on the SCID ( $r=0.60$ ,  $p<.01$ ), and number of depressive symptoms on the Diagnostic Interview Schedule ( $r=.56$ ,  $p<.01$ ) (Smith, Rost, and Rost, 1996). The Cronbach alpha on the DOM in this study was 0.81 at 18 years of age, 0.84 at 18½ years of age and 0.81 at 19 years of age.

*Perceived Stress* was measured with The Global Measure of Perceived Stress (PSS) (Cohen, Kamark, and Mermelstein, 1983). This fourteen item scale measures level of stress in the past month utilizing a five point Likert scale with response options from (1) *Never* to (5) *Very Often*, creating a range from 14 to 70 with a higher score indicating a higher level of perceived stress. An example reads, “In the last month, how often have you been upset because of something that happened unexpectedly?” One of the items was incorrectly phrased in the survey creating systematic measurement error. Two more items were deleterious to internal consistency reliability with this sample, as evidenced by low correlations with the overall remaining items. Thus, the PSS in the present study utilized 11 items (Range 11 to 55). The Cronbach alpha for this measure was 0.75 at age 18½ and 0.74 at age 19.

The Students' Life Satisfaction Scale (SLSS) (Hubner, 1991) was utilized to elicit the respondent's general *satisfaction with their life*. The seven question Likert scale with response options ranging from (0) *never* to (3) *always* has a range from 0 to 21. The SLSS has been found to have strong reliability (alpha coefficient = .82) (Terry and Hubner, 1995). An example reads, “I have what I want in life”. The Cronbach alpha for life satisfaction in this study was 0.80.

In this study, two dichotomous variables were utilized that asked about any use of alcohol and marijuana in the past year. Current employment in a legal job and lifetime arrest history were dichotomized to indicate whether or not a youth was currently employed or had ever been arrested.

**Independent Variables**—Five dimensions of mentoring were assessed in this study: (1) Presence of a non-kin natural mentor at 18; (2) Retrospective Duration of the relationship at 18; (3) Frequency of contact; (4) Relationship Quality; And, (5) Mentoring Over Time (From

age 18 to age 19). *Presence of a mentor at 18* was measured with a screening question taken from previous mentoring research (Rhodes, 2002) that asked youth whether they had an unrelated adult in their lives that is older than you, and is willing to listen, share his or her experiences, and guide you through some part or area of your life? Two variables measuring contact between the youth and their mentor were summed to examine *frequency of contact*. Participants reported the number of days they spoke on the phone and the number of days they had in person contact with their mentor in the past thirty days. These two numbers were summed to create the frequency of contact variable, which ranged from 0 to 60. *Retrospective Duration* at age 18 was assessed by asking youth “how long have you known your mentor?” In this study, duration was collapsed into two categories: greater than or less than 1 year. This decision was made as a recent study found 1 year to be a critical marker with those in mentoring relationships lasting over 1 year having the greatest benefit (Grossman & Rhodes, 2002).

The 11-item Relational Health Indices-Mentor (Liang et al., 2002b) one of the only measures expressly designed to examine mentoring *relationship quality*, was utilized in this study. Youth indicated the extent to which they felt statements such as, “I can genuinely be myself with my mentor” described their relationship on a 5-point Likert scale ranging from (1) *Never* to (5) *Always*. Liang and colleagues piloted the RHI-M on a population of college females and found good overall internal consistency ( $\alpha = .85$ ) and good convergent validity with other measures of relationship quality (Liang et al., 2002b). In a subsequent study, Liang and colleagues utilized the RHI-M as a one-dimensional scale due to high correlation among factors (Liang et al., 2002a). The present study followed this example, utilizing the RHI-M as a one-dimensional scale of relationship quality. The Cronbach alpha was 0.82 in this study.

*Mentoring over time* was developed from data collected at 18 and 19 years of age. We asked the youth that had a mentor at 18 whether they were still in touch with the same adult they nominated at eighteen to get a better sense of the stability of the nominated relationships. Youth reporting a continued relationship with the same adult from age 18 to age 19 were included in the long term mentoring group. The short term mentoring group consisted of youths that reported a mentor at either 18 or 19, but not at both data points. The youths in the no mentor group reported no mentor at either data point.

**Demographic and Clinical Characteristics:** Youth were asked to identify their *race/ethnic group membership*. Race/ethnic group membership was dichotomized in this study (i.e., white and youth of color), as beyond black/African American, which constituted over 90% of the youth of color, other ethnic groups were too small in number to be considered separately in multivariate analyses. The ethnic breakdown among the study sample was as follows: White, Caucasian, not of Latino Origin (n=151, 45%); Black, African American, (n=175, 52%); American Indian (n=2, 0.59%); Middle Eastern (n=1, 0.29%); Pacific Islander (n=1, 0.29%); and, Biracial or Multiracial (n=9, 3%). *Gender* was recorded as perceived by the interviewer with females accounting for 67% (n=198) of the youth in the sample. *Psychiatric history* was utilized as an independent variable in this study. Information from the Diagnostic Interview Schedule for DSM-IV (Robins et al., 1995) was utilized to create categories of lifetime history of depression (n=96; 28%), mania (n=21; 6%) and disruptive behavioral disorders (n=154; 45%). *Maltreatment history* was also assessed in this study. Physical abuse (n=160; 47%) and physical neglect (n=156; 46%) were assessed with the Child Trauma Questionnaire (CTQ; Bernstein & Fink, 1998). The CTQ uses five items, ranging from *never true* (1) to *very often true* (5), to assess each type of maltreatment. Youth indicated the extent to which they had been victims of physical abuse and neglect. For clarity of results, a previously established cut-off score of 10 or above was utilized to identify cases of moderate or severe abuse and neglect (Bernstein & Fink, 1998). To assess sexual abuse (n=120; 35%), three items were adapted from a previous study (Russell, 1986). Youth were asked to indicate (a) if they were ever made to touch someone's private parts against their wishes, (b) if anyone had ever touched their private



parts (breasts or genitals) against their wishes, and (c) if anyone ever had vaginal, oral, or anal sex with them against their wishes. Youth responding “yes” to any of the questions were identified as having a history of sexual abuse and youth responding “no” to all three questions were identified as having no history of sexual abuse. *Custody Status at 19* was determined by youth self-report for those interviewed and from the Children's Division for youth not retained in the study or youth who were unsure of their exit date from the foster care system.

## Analyses

The data was imputed using IVEware (Raghunathan, Solenberger, & Van Hoewyk, 2002), a multiple imputation program that uses a sequence of regression models, varying the type of regression model by the type of variable being imputed. Covariates include other variables observed or imputed on that individual across the different waves, maximizing the amount of information available to impute missing data. Although IVEware is touted as being able to use all existing data, we found the program did not operate well when using more than 30 covariates. So, we screened potential covariates for the strongest predictors of the variable being imputed and used these in our regression calculations. Five imputed datasets were created.

Data analysis was conducted through a series of steps. First, descriptive statistics were obtained to provide a picture of the salient variables in the study. Frequencies and percentages were examined for categorical variables. Measures of central tendency and distributions were examined for numeric measures. Chi-square tests, t-tests, and analyses of variance were conducted to examine between group differences in outcomes by mentoring characteristics. Regression diagnostics were conducted in order to ensure the data met the assumptions of the multivariate test statistics. Regression analyses were conducted to further examine relationships among study variables. Results and discussion focus on findings that are significant at the  $p \leq .05$  level. We do note findings that were significant at the  $p \leq .10$  level, but we do not discuss them.

## Results

### Descriptive Statistics

Descriptive statistics (See Table 1) reveal the means, standard deviations, range and skewness of continuous variables and percentages of categorical variables. Mean scores of depression and perceived stress increased from age 18½ to age 19 (See Table 1). Skewness of all continuous variables were within normal limits, with the exception of depression symptoms, which was log transformed. Results of independent samples t tests, analysis of variance, and chi-square tests revealed that all of the independent variables, with the exception of the quality and frequency of contact of the mentoring relationships at 18, were bivariately related to at least one of the outcomes in this study. However, of these variables, only race/ethnic group membership, gender, lifetime history of depression, depression symptoms at 18, perceived stress at 18½, the presence of a mentor at 18, the duration of the relationship at 18 and being in a long term mentoring relationship remained significant in multivariate models (see Tables 2 thru 6).

With regard to mentoring relationships lasting over time, 25% (n=85) reported no mentor at either age 18 or 19, 41% (n=139) reported a short term mentoring relationship and 34% (n=115) reported a long term relationship with their natural mentor.

### Relationships between mentoring and psychological outcomes at 18½

We examined the associations between the presence of a mentor at 18 and psychological outcomes at 18½, after controlling for ethnic group membership and gender. Male youth (-0.12,

-4.09,  $p \leq .001$ ) and youth nominating a mentor (-0.10, -3.18,  $p \leq .01$ ) reported fewer depression symptoms. Being a youth of color was associated with higher levels of perceived stress and lower scores on the life satisfaction scale. After controlling for race/ethnic group membership and gender, results show that the presence of a mentor was associated with lower levels of stress and higher life satisfaction (See Table 2).

Ordinary least squares regression was utilized, entering all the independent variables simultaneously into the models (hereafter referred to as simultaneous regression), to examine the relationships between individual mentoring characteristics and outcomes at 18½. Results suggest that after controlling for ethnic group membership and gender, only the duration of the relationship is related to any of the examined outcomes, with those youth reporting relationships with mentors that had lasted for over one year having fewer depression symptoms than those reporting relationships that had lasted less than one year (See Tables 3 and 4). Quality and frequency of contact were not related to outcomes.

### **Relationships between mentoring over time and psychological outcomes at 19**

Finally, we examined the associations between mentoring over time and outcomes at age 19. After controlling for gender, race, maltreatment history, history of psychiatric disorders, custody status, and perceived stress measured at age 18½ results revealed that when compared to those with no mentor, having a long term mentor was associated with less stress at age 19 (See Table 5).

### **Relationships between mentoring over time and behavioral outcomes at 19**

Logistic regression models revealed that males were more likely to have used marijuana and alcohol in the past year and were more likely to have been arrested than females. Youth with a lifetime history of depression, those with a lifetime history of a disruptive behavioral disorder and those that had left custody by 19 were more likely to use substances. Youth that had left custody were also more likely to have been arrested. Youth that were involved in long term mentoring relationships were less likely to have been arrested (See Table 6). Being in a long term mentoring relationship was not related to substance use or current employment.

## **Discussion**

This study examined the non-kin natural mentoring relationships between older foster care youths and their mentors, along with the associations between these relationships and psychosocial outcomes. Approximately two-thirds of the older youth in this study nominated a supportive relationship with a non-kin natural mentor at some point from age 18 to age 19. Perhaps more important, one-third of the youths reported that their mentoring relationship lasted over time. Journalistic reports have suggested the importance of supportive relationships with caring adults among older youth in care (Shirk & Stangler, 2004), but these data systematically support the idea that the majority of older youth perceive themselves to be in supportive relationships with natural mentors at some point between 18 and 19. Some have suggested that youth with histories of maltreatment may close themselves off to relationships, or may be less open to them (Britner & Kraimer-Rickaby, 2005). These data suggest the opposite. It is somewhat distressing that 85 of the youth could not think of a non-kin supportive adult in their lives at either 18 or 19. These findings raise important questions, such as why are some youth able to find support while others are less able? Further research is needed to look at whether these data replicate in other samples of older youth exiting foster care. Also, studies that examine both kin and non-kin relationships are needed to provide a more comprehensive picture of the support networks among older youth exiting care.

As hypothesized, mentoring was related to important psychological and behavioral outcomes among youth in the present study. Nominating a non-kin natural mentor at 18 was related to fewer depression symptoms, less perceived stress and greater satisfaction with life six months later, at age 18½. Longitudinal data on mentoring over time, further supported the significance of these relationships. After controlling for custody status, maltreatment history, psychiatric history, and level of perceived stress at previous time points, we found that having a long term mentor was related to less perceived stress and a lower likelihood of having been arrested by age 19. With continued attention pointing to the negative outcomes among this population, these findings provide a glimmer of hope regarding one possible strategy of helping these youth make successful transitions to adulthood. It is possible that within the foster care population, a sub-group of youth with increased individual and environmental risk, youth may uniquely benefit from non-kin natural mentors. It may be that these youths have somebody positive in their life that they can talk to, which makes the world and their place in the world seem more satisfying and just a bit less stressful. It may also be that they have an adult that provides them instrumental support that is necessary to survive (e.g., food, shelter) and succeed (e.g., career advice, connections). Finally, having an adult in their lives may provide the youth with a reason to be accountable for some of their behaviors, such as criminal behavior. It is important to note that beyond having been arrested, having a long term mentoring relationships, as compared to no mentor, was not related to differences in substance use or employment. While some of this might have been due to single indicator measures of these outcomes, it may also be that natural mentoring is more important to the psychological lives of older youth. Another possible explanation is that the more behavioral, or functional, outcomes, such as finding work may take more time to achieve. It may be that it takes improved psychological outcomes, along with time, job training, etc. to become gainfully employed.

Our study also examined the contribution of individual characteristics of mentoring on outcomes. Similar to Grossman and Rhodes (2002) we found that, at age 18, youth reporting that their relationships had lasted longer than one year had fewer depression symptoms than those in relationships lasting less than one year. This finding supports the view that the duration of the relationship matters. We hypothesized that the quality of the relationship would be individually related to outcomes. This hypothesis was not supported. One possible reason for this may be that we found a ceiling effect with the Relational Health Indices-Mentor (RHI-M) in this study, which led to low variability in relationship quality.

## Limitations

There are important limitations to note with regard to the present study. The study is only generalizable to older youth in foster care from eight counties in the state of Missouri. The RHI-M evidenced a ceiling effect, which decreased the variability in relationship quality. Further, the study only examined one supportive relationship. Youth may have had other important relationships with kin and or non-kin adults that help explain these results. Also, in examining outcomes such as depression symptoms and stress the study would have been stronger had the predictive models included more of the previously identified correlates, such as family history of depression and/or history of stressful life events. Future studies should include additional correlates to further specify the analytic models. It is critical to discuss endogeneity when interpreting the results of the present study. The present study reports an association between mentoring and some positive psychosocial outcomes; however, we do not know whether having a mentor leads to better outcomes or having fewer psychosocial problems leads to more success at developing and sustaining supportive relationships. Further research is needed to better understand this association. Also, the present study does not include information on natural mentoring relationships prior to age 18. It is possible that a significant mentor impacted some of these youths' lives early on even though they are no longer in their lives. While this study provides a good start in examining natural mentoring and outcomes



among older youth exiting care, future research is needed to examine non-kin natural mentors throughout the lives of these youth for a more complete picture. Also, while the present study found an association between long term mentoring relationships and a lower likelihood of having been arrested, this finding must be considered with caution, as our data does not indicate when the arrest occurred. In some cases it may be possible that youth were arrested well before meeting their mentor. Finally, the present study utilized self-report data.

## Implications

This study suggests that many older youth in foster care can identify non-kin supports in their lives and that these supportive relationships are associated with some positive psychological outcomes. The foster care system may benefit from considering ways to utilize these adults while youth are still in care and help to sustain these relationships as youth age out of care.

The foster care system may benefit from enhancing services by providing relational components to already existing services (i.e., Independent Living Programs). Possible mentor-type interventions, which could incorporate youth that previously made the transition as role models, may lead to a youth's enhanced understanding of the transition experience, coupled with an enhanced ability to trust in relationships. The work of Sparks (2004) with incarcerated girls, many of whom report long histories of relational violations, provides an example of a possible relational intervention for older youth. Her intervention, entitled "Understanding Relationships with Ourselves and Others", provided a safe space for girls to gain understanding of their interpersonal relationships, examine how structural forces in society impact their lives and evaluate their coping strategies within relationships (Sparks, 2004). She argued that young delinquent girls can repair relationships by experiencing new healthy relationships. Her intervention provides ideas for how to make an impact in the relational lives of older foster care youth. Ultimately, these types of interventions may enhance the long term relationships older youth have with others as they emerge into adulthood. We do not mean to suggest that mentoring alone will lead to successful transition among older youth in foster care, rather we suggest that mentoring could be an important ancillary intervention that may keep young adults feeling connected to society and other helpful adults.

A previous study utilizing this sample reported that 51% of the youth in this sample nominated a non-kin natural mentor they met through a formal service pathway (e.g., child welfare, mental health systems) (Munson & McMillen, 2006). The fact that professionals are nominated by the youths as they are leaving care and that for some the relationships are associated with positive psychological outcomes raises some practice questions for the child welfare field. More specifically questions regarding the possible extension of these relationships. Termination is a complex clinical question for social workers for which there are many different strategies. Some caseworkers remain in touch with youth long after their case has been formally terminated. Others would argue it is not clinically sound to remain in contact with youth that are no longer on your caseload. While it brings to the fore a number of complex questions, these data suggest that abrupt termination of these relationships may be detrimental to important psychological outcomes such as stress, depression symptoms and life satisfaction. Moreover, it highlights the importance of professionals taking the time to process the termination of services with youth in their care.

This study provides data that policymakers can draw on to argue for extending Independent Living monies to incorporate psychosocial services, which include mentor-type components or to argue for additional monies for new, innovative programs with relational components for former foster care youths through age twenty-five.

## Conclusion

In conclusion, the present study contributes to the body of literature focusing on natural mentoring among high-risk youth. It also adds to the emerging literature on developing ways to intervene to help older youth as they leave systems of care that have cared for them for many years of their lives. Further research is needed to determine whether the present findings generalize to other samples of older youth nearing their exit from care. Also, qualitative data is needed to begin to understand how it is that natural mentors help older youth in foster care successfully transition to adulthood.

## Acknowledgments

This study was supported by grants from the National Institute of Mental Health (NIMH) (F31-MH-071024 to MRM and R01-MH-61404 to JCM).

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**Table 1**

Percentages, Means, Standard Deviations, Skewness, and Ranges for Study Variables

Variable	n/%	M	SD	Skewness	Possible/Obtained Range
<b>Duration at 18</b>					
<i>1 =&gt; One-Year</i>	148/70%				
<i>0 =&lt; One-Year (n=211)</i>	63/30%				
<b>Frequency of Contact at 18 (n=211)</b>		29.0	(22.7)	[0.28]	0-60/0-60
<b>Relationship Quality at 18 (n=211)</b>		48.0	(6.5)	[-1.3]	11-55/14-55
<b>Mentoring Over Time (18 to 19)</b>					
<i>No Mentor=0</i>	85/25%				
<i>Short Term MR</i>	139/41%				
<i>Long Term MR</i>	115/34%				
<b>Current Depression Symptoms at 18½</b>		14.41	(4.5)	[1.84]	11-44/11-34
$\alpha = 0.84$					
<b>Current Depression Symptoms at 19</b>		15.32	(4.94)	[1.62]	11-44/11-39
$\alpha = 0.81$					
<b>Perceived Stress at 18½</b>		27.90	(7.4)	[0.29]	11-55/11-52
$\alpha = 0.75$					
<b>Perceived Stress at 19</b>		28.57	(6.92)	[0.01]	11-55/11-50
$\alpha = 0.74$					
<b>Life Satisfaction at 18½</b>		12.53	(4.6)	[-0.29]	0-21/0-21
$\alpha = 0.80$					
<b>Employment at 19</b>					
<i>1=Yes</i>	148/44%				
<i>0=No</i>	191/56%				
<b>Alcohol Use at 19</b>					
<i>1=Yes</i>	217/64%				
<i>0=No</i>	122/36%				
<b>Marijuana Use at 19</b>					
<i>1=Yes</i>	101/30%				
<i>0=No</i>	238/70%				



Variable	n/%	M	SD	Skewness	Possible/Obtained Range
0=No					
<b>Arrest History at 19</b>					
1=Yes	152/45%				
0=No	187/55%				

**Table 2**

Associations Between Presence of a Mentor and Stress and Life Satisfaction at age 18½

	Perceived Stress at 18½				Life Satisfaction at 18½			
	(b)	SE	(t)	(b)	SE	(t)		
Of Color	1.88	0.89	2.12*	-2.10	0.54	-3.89***		
Male	-1.59	0.86	1.85	0.31	0.51	0.61		
Mentor	-3.05	0.91	-3.34**	1.38	0.57	2.43*		
R-Square	0.07			0.08				
Change R-Square	0.04***			0.02**				
Model F	6.67***			8.55***				

Note. In the hierarchical regression models the estimates for race and gender did not significantly change in the second step. Thus, the second step is presented in these tables.

\* p≤.05,

\*\* p≤.01,

\*\*\* p≤.001

**Table 3**  
 Associations Between Individual Features of Natural Mentoring Relationships and Psychological Outcomes

	Depression Symptoms at 18½				Perceived Stress at 18½			
	(b)	SE	(t)	(b)	SE	(t)		
Of Color	-0.03	0.03	-0.81	1.77	1.10	1.62		
Male	-0.11	0.03	-3.39***	-1.77	0.98	-1.80		
Mentoring								
Duration	-0.07	0.03	-2.08*	-0.80	1.02	-0.79		
Contact	0.00	0.00	1.78	0.03	0.02	1.56		
Quality	0.00	0.00	-0.10	0.10	0.07	-1.41		
R-Square	0.10			0.06				
Model F	4.16***			1.96				

Note. Depression Symptoms variable was log transformed (natural log)

\*  $p \leq .05$ ,

\*\*  $p \leq .01$ ,

\*\*\*  $p \leq .001$

**Table 4**

Associations Between Individual Features of Natural Mentoring Relationships and Psychological Outcomes

Life Satisfaction at 18½			
	(b)	SE	(t)
Of Color	-2.63	0.63	-4.14***
Male	0.72	0.66	1.09
Mentoring			
Duration	0.91	0.67	1.35
Contact	-0.01	0.01	-1.05
Quality	0.06	0.05	1.24
R-Square	0.11		
Model F	4.61***		

\*  
p≤.05,\*\*  
p≤.01,\*\*\*  
p≤.001

**Table 5**

Associations between Mentoring Over Time and Psychological Outcomes

Variable	Depression Symptoms at 19				Perceived Stress at 19			
	(b)	SE	(t)	(b)	SE	(t)	(t)	
Of Color	.25	.03	.85	.70	.84	.84	.84	
Male	-.01	.03	-.24	-.97	.78	-.78	-1.23	
Maltreatment History								
Physical Abuse	.05	.03	1.59	.51	.83	.62	.62	
Physical Neglect	-.04	.03	-1.28	-.37	.81	-.47	-.47	
Sexual Abuse	.02	.03	.68	.52	.82	.63	.63	
Psychiatric Disorder								
History of Depression	.11	.04	3.14**	1.10	.98	1.12	1.12	
History of Mania	.02	.06	.34	.57	1.53	.37	.37	
History of DBD	.06	.04	1.83+	1.61	.85	1.90+	1.90+	
Custody Status	.04	.03	1.35	-1.07	.76	-1.42	-1.42	
Dep. Symptoms at 18/Stress at 18½	.33	.07	4.88***	0.36	.06	6.05***	6.05***	
Short Term Mentor	-.04	.04	-1.12	-.93	.92	-1.02	-1.02	
Long Term Mentor	-.06	.04	-1.39	-2.01	1.03	-1.94*	-1.94*	
R-Square	.25			0.23				
Model F	7.63***			6.43***				

Note. Mentoring Over Time is dummy coded: (No Mentor=0). Depression Symptoms variable was log transformed (natural log). Betas presented are from the final models.

+ p≤.10,

\* p≤.05,

\*\* p≤.01,

\*\*\* p≤.001



**Table 6**

Associations between Mentoring Over Time and Behavioral Outcomes

Variable	Current Employment			Past Year Alcohol Use			Past Year Marijuana Use			Arrest History		
	OR	CI	P	OR	CI	P	OR	CI	P	OR	CI	P
Of Color	.98	0.62-1.55	0.93	0.75	0.46-1.22	0.25	0.87	0.52-1.46	0.60	1.21	0.74-1.99	0.44
Male	1.46	0.90-2.37	.013	1.98	1.18-3.32	0.01*	2.39	1.36-4.20	0.002**	2.70	1.62-4.52	.0001***
Physical Abuse	1.18	0.72-1.95	0.52	0.77	0.45-1.31	0.33	0.76	0.43-1.34	0.35	0.80	0.47-1.37	0.42
Physical Neglect	.97	0.60-1.57	0.90	1.09	0.65-1.82	0.75	0.80	0.47-1.39	0.43	1.32	0.78-2.22	0.30
Sexual Abuse	1.06	0.63-1.76	0.83	0.94	0.55-1.60	0.82	1.50	0.83-2.69	0.18	0.73	0.42-1.25	0.25
History of Depression	.99	0.59-1.68	0.98	1.83	1.03-3.24	0.04*	0.91	0.50-1.65	0.75	0.96	0.55-1.69	0.89
History of Mania	1.06	0.42-2.69	0.91	1.29	0.46-3.62	0.64	1.55	0.56-4.32	0.40	2.57	0.92-7.22	0.07+
History of DBD	.74	0.47-1.19	0.22	1.43	0.87-2.36	0.16	1.88	1.11-3.18	0.02*	1.95	1.18-3.22	0.009**
Custody Status	.84	0.53-1.33	0.44	1.38	0.85-2.24	0.20	2.31	1.34-4.00	0.003**	1.91	1.16-3.13	0.01
Short Term Mentor	1.25	0.71-2.21	0.43	0.86	0.47-1.57	0.63	1.61	0.86-3.01	0.13	1.06	0.59-1.91	0.85
Long Term Mentor	1.30	0.72-2.35	0.38	0.80	0.43-1.49	0.49	0.81	0.40-1.62	0.55	0.46	0.25-0.87	0.02*
Chi-Square/p	5.60/ns			20.85/*			37.74/****			52.80/****		
C coefficient	0.58			0.65			0.70			0.73		

+ p≤.10,  
 \* p≤.05,  
 \*\* p≤.01,  
 \*\*\* p≤.001

Note. These analyses utilize the first imputation from multiple imputation