Published in final edited form as:

Soc Dev. 2015 August 1; 24(3): 483–500. doi:10.1111/sode.12102.

Characteristics of the Social Support Networks of Maltreated Youth: Exploring the Effects of Maltreatment Experience and Foster Placement

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Abstract

Little is known about the social support networks of maltreated youth or how youth in foster care may compare with those who remain with their parent(s). Social network characteristics and perceived social support were examined between (1) maltreated and comparison youth, (2) maltreated youth who remained with their biological parent, those with a foster parent, or a those with a kin caregiver, and (3) youth in stable placements and those who have changed placements. Data came from a sample of 454 adolescents (241 boys, 9–13 years old at enrollment) who took part in a longitudinal study of child maltreatment. Participants completed three assessments approximately 1 year apart. Results showed that on average, maltreated adolescents named significantly fewer people in their network than comparison adolescents. At Time 2, comparison adolescents reported more same-aged friends. In the maltreatment group, youth with a foster parent reported significantly more older friends than maltreated youth with a kin caregiver. Fewer maltreated youth named a biological parent on the social support questionnaire at all three time points. More youth in kinship care described their caregiver as supportive than those in foster care. These findings indicate that despite heterogeneous placement histories, social support networks among maltreated youth were very similar.

Keywords

maltreatment; foster care; social networks; social support

Introduction

Establishing successful interpersonal relationships and social support networks is a key developmental task of childhood. Beginning in infancy, secure attachment to primary caregivers develops a schema for the way an individual will approach interpersonal interactions (Bowlby, 1969). Stemming from secure attachments, healthy peer interactions help establish competencies in social arenas that will serve an individual throughout the lifespan. Adaptive patterns of interpersonal interaction also aid the formation of healthy romantic relationships and secure attachment to offspring (Ainsworth, 1989; Hazan & Shaver, 1994).

The disruptive effect of child maltreatment on these normative developmental tasks is well documented. Early studies using the strange situation found that physically abused children were at greater risk of insecure attachment to their caregivers and exhibited more negative social interaction with peers and teachers (George & Main, 1979). Follow-up studies reviewed in several recent articles have reinforced the prevalence of insecure attachment among maltreated children (Baer & Martinez, 2006; Cicchetti & Toth, 2005; Stronach et al., 2011). When children enter school and begin to negotiate peer relationships, the interpersonal deficiencies created by insecure attachments often manifest in aggressive, avoidant, or inappropriate behavior. Even as young as toddlerhood, studies have shown that maltreated children are more aggressive, less prosocial, and more disturbed in their responses to the distress of others than are children who have not been abused or neglected (Youngblade & Belsky, 1989). This trend continues into late childhood and early adolescence, as studies have shown physically abused children have more conflictual friendships and display less positive affect in activities within friendship dyads (Parker & Herrera, 1996). Similarly, Salzinger, Feldman, Hammer, and Rosario (1993) found that physically abused children had lower peer status and were rated by peers as more aggressive and less co-operative than non-abused children. Alink, Cicchetti, Kim, and Rogosch (2012) found that physically or sexually abused children were more disruptive or aggressive than non-maltreated children, and those with emotional abuse or neglect were less prosocial. In their review paper, Cicchetti and Toth (2005) found that, in general, maltreated youth exhibit elevated aggression toward or withdrawal from peers and are more likely than non-maltreated children to bully others (Teisl, Rogosch, Oshri, & Cicchetti, 2012). The evidence points to both insecure attachment and behavioral problems (e.g., aggression, deficits in emotion regulation) as precursors to the interpersonal deficiencies experienced by many maltreated youth (Kim & Cicchetti, 2010).

Child Maltreatment and Social Support

It is likely that the difficulties with interpersonal interaction evidenced by maltreated youth transfer into poor social support networks. This notion is supported by evidence showing that maltreatment is associated with lower perceived support from friends and family (Pepin & Banyard, 2006). Although maladaptive interpersonal interactions likely contribute to social support deficits among maltreated individuals, these findings may also be related to the absence of supportive figures in their lives. For example, maltreatment may be associated with environments in which caretakers are unavailable to provide children with adequate support and protection, or families may be more isolated from others. As such, social support deficits of maltreated youth may be the result of lack of access to supportive figures, in addition to the direct effects that maltreatment may have on victims' interpersonal interactions.

Although maltreatment is linked with poorer social support, good social support is one mechanism that may buffer the negative effects of child maltreatment. For example, victims of child maltreatment with higher levels of social support exhibit more successful adjustment (Brown, Cohen, Johnson, & Smailes, 1999), although not in all studies (Appleyard, Yang, & Runyan, 2010). Social support from family and peers has been most

commonly linked with better functioning among maltreated youth (Berliner & Conte, 1995; Spaccarelli & Kim, 1995).

Finally, it is important to note that most of the social support literature (including the studies mentioned here) has relied on self-reports. This reliance on measures of perceived rather than actual social support introduces the possibility that relationship schemas, already acknowledged to have an effect on maltreated individuals' social interactions, may also bias their assessment of others as being supportive. Despite these measurement limitations, perceived social support has been shown to be one of the most consistent and strongest predictors of personal adjustment (Pierce, Sarason, Sarason, Joseph, & Henderson, 1996).

Foster Care and Social Support Networks

Foster care placement can be viewed as a social network intervention, with its benefits to children likely dependent on the features of the placement involved. Stability of placement likely has important implications for child well-being. Studies have found a protective effect of stable placements on the mental health and behavioral functioning of foster youth (Aarons et al., 2010; Rubin, O'Reilly, Luan, & Localio, 2007), an effect ostensibly linked to having a stable social support network. Additionally, foster placement has influences on the social networks of children that depend on the type of placement. A foster placement with a relative may be the best in terms of reducing disruption. Youth in kinship care are likely to maintain ties with their family, thus maintaining social support ties while gaining new ones in the kinship household (Perry, 2006).

Aside from placements in residential facilities or group homes in which young people live outside of a family context, placement with a non-relative foster parent can be considered the most disruptive form of placement. Additionally, youth may be hesitant to form close social ties in these contexts due to ambiguity regarding the length of that particular placement and the permanence of these newly formed relationships. A study of foster youth found that those in foster care feel less supported by their biological parents and adult caregivers than non-foster care youth, but those in stable kinship placements reported no differences compared with non-foster care youth (Perry, 2006). This finding has been attributed to kinship care being less disruptive than non-relative foster placements. However, this study did not include youth who remained with a biological parent.

Characteristics of Maltreated Children's Social Support Networks

Although there is a great deal known about the interactional style and social support of maltreated youth, much less is known about the specific characteristics of their social networks. A study of physically abused children found that their social networks are more insular, and they name a larger proportion of very young children and a smaller proportion of same-aged peers compared with non-abused children (Salzinger et al., 1993). Longitudinal analyses have shown that maltreated children gain fewer playmates over time when compared with non-maltreated children (Bolger, Patterson, & Kupersmidt, 1998). Membership in risky, sparse networks has been linked with a history of childhood physical abuse among homeless women (Green et al., 2012). Additionally, out-of-home placement is associated with smaller social networks in adulthood (Westermeyer, Thuras, & Waaijer,

2004). The size of social networks is an important predictor of health, with higher mortality rates among socially isolated individuals (Uchino, Cacioppo, & Kiecolt-Glaser, 1996). There is limited information about the size, composition, and types of support received in the social networks of maltreated youth.

Current Study

Due to the dearth of knowledge about the specific characteristics of the social networks of maltreated youth, the current study used a descriptive approach to identify relevant differences between (1) maltreated and comparison youth and (2) within the maltreatment group by placement type: (1) biological parent, (2) kin caregiver, and (3) non-relative foster parent. If theory based on maladaptive relationship schema resulting from maltreatment is correct, we would expect to find differences in the networks of maltreated children overall. Additionally, if disruption in placement is also important for the formation of social networks, then we would expect there to be differences between youth living with a biological parent, a relative, or in non-relative foster care. Lastly, we compared maltreated youth who were in stable placements between study assessments with those who changed placements. Again, if disruption is particularly salient, we would expect individuals in unstable placements to have more impoverished social networks (e.g., smaller size, fewer family and friends, and fewer supportive people).

Method

Participants

The present study used data from the first three assessments (approximately 1 year apart) of an ongoing longitudinal study examining the effects of maltreatment on adolescent development. At Time 1, the sample was composed of 454 adolescents aged 9–13 years (241 boys and 213 girls). Table 1 contains participant characteristics.

Recruitment—The maltreatment group ($N = 303$) were recruited from active cases in the children and family services (CFS) agency of a large West Coast city. The inclusion criteria were (1) a new substantiated referral to CFS during the preceding month for any type of maltreatment (e.g., neglect, physical abuse, sexual abuse, emotional abuse); (2) age of 9–12 years; (3) identified as Latino, African-American, or White (non-Latino); and (4) residing in 1 of 10 zip codes in a designated county at the time of referral to CFS. With the approval of CFS and the institutional review board of the affiliated university, potential participants were contacted and asked to indicate their willingness to participate. Of those contacted, 77 percent agreed to participate.

The comparison group ($N = 151$) was recruited using names from school lists of children aged 9–12 years residing in the same 10 zip codes as the maltreated sample. Caretakers of potential participants were contacted and asked to indicate their interest in participating; 50 percent of the comparison families contacted agreed to participate. To ensure the fidelity of the comparison sample, caretakers were asked about involvement with CFS and none indicated prior or current contact with CFS. Additionally, all names of comparison children were searched in the CFS database and none had past or active cases in the system.

Upon enrollment in the study, the maltreatment and comparison groups were compared in terms of demographic variables. The two groups were similar in age ($M = 10.93$ years, $SD = 1.16$), gender (53 percent male), race (38 percent African-American, 39 percent Latino, 12 percent biracial, and 11 percent White), and neighborhood characteristics (based on census tract information) (Trickett, Mennen, Negri, & Horn, 2011). However, they differed in terms of living arrangements; 93 percent of the comparison group lived with a biological parent compared with 52 percent of the maltreatment group.

Attrition

The attrition rate between Time 1 and Time 2 was 13.4 percent ($N = 61$). Between Time 1 and Time 3, it was 31 percent ($N = 141$). Analyses indicated that participants who did not take part in the study at Time 2 were more likely to be in the maltreatment group (odds ratio (OR) = 4.38, $p < .01$) and those who did not take part at Time 3 were more likely to be Latino (OR = 3.37, $p < .01$) and in the maltreatment group (OR = 5.36, $p < .01$). These variables were included as covariates in analyses when appropriate.

Procedure

Assessments were conducted at an urban research university. After assent and consent were obtained from the adolescent and caretaker, respectively, the adolescent completed questionnaires and tasks during a 4-hour protocol. The measures used in the analyses represent a subset of the questionnaires administered during the protocol, which also included hormonal, cognitive, and behavioral measures. Both children and caretakers were paid for their participation according to the guidelines of the National Institutes of Health standard compensation for healthy volunteers.

Measures

Child Social Support—The social support networks of the adolescents were assessed using a series of name-generating questions (e.g., Who do you hang out with, who takes you places you need to go, who makes you feel better when you are upset, and who can you count on to always be there for you?; Bogat, Chin, Sabbath, & Schwartz, 1985). For each of the individuals named, follow-up questions asked their gender, age, relationship to the adolescent, frequency of contact (a few times a year or less to almost every day), whether they go to them for guidance or advice (coded as *yes* or *no*), and whether they can count on the person for help when they need something (coded as *yes* or *no*).

Based on variables shown to be important in prior studies and the available data, network variables were computed. Conceptually, these variables were separated into *social network characteristics* and *social support*. In terms of social network characteristics, the size of the network was computed according to (1) total size, (2) number of family members, (3) number of same-aged friends (within 2 years of the participant's age), (4) number of older friends (>2 years older than the participant), (5) proportion of family members to total network size, (6) proportion of same-aged friends to total network size, and (7) proportion of older friends to network total size. To assess social support, we determined whether adolescents named a biological parent or their current caregiver as part of their social support network. Next, attribute data were used to create composite variables for individuals

in the network who provided important forms of support. Based on previous literature showing that emotional and instrumental support are integral for foster care youth (Greenson & Bowen, 2008), receipt of social support was calculated using follow-up questions, 'Do you go to this person for guidance or advice?' and 'Can you count on this person to be there for you or to help when you need something?' which have been deemed to indicate emotional and instrumental support, respectively (House, 1981). Each individual reported to provide either or both types of support was coded as a source of social support. Thus, the following variables were created: (1) support of current caregiver, (2) total number of supportive individuals, (3) number and proportion of family members who are supportive, (4) number and proportion of same-aged friends who are supportive, and (5) number and proportion of older friends who are supportive.

Placement Type and Stability—Information about each child's current living situation was obtained from the participating caregiver at each study visit. Caregivers were asked to specify their relationship to the child; this information was used to create the following placement types: (1) biological parent (N = 163), (2) kinship caregiver (N = 64), and (3) non-relative foster caregiver (N = 76). Only adolescents who maintained stable placements over the three time points were included.

To assess placement stability, if adolescents changed caregivers from one study assessment to the next, they were coded accordingly (change T1–T2: N = 51; change T2–T3: N = 11). No comparison youth changed households or caregivers, and therefore were excluded for this set of analyses.

Results

Social Network Characteristics

Maltreated vs. Comparison Adolescents—The effects of maltreatment, foster placement, and stability of placement on social support networks were examined using a repeated-measures analysis within a mixed-modeling framework using SAS 9.3 (SAS Institute, Cary, NC). The models were estimated using an unstructured covariance matrix and maximum likelihood procedures to account for missing data and allow for the use of participants with data at one, two, or all three data points. Age, race and ethnicity (minority vs. non-minority), and sex were entered as covariates in all models. A time point-by-group interaction was included in the model to examine whether there were significant differences between groups in mean levels of social network characteristics across time (i.e., slope across time). Second, *post hoc* analyses were performed on the significant time point-by-group interactions by slicing the interaction in Proc Mixed to test whether there were mean group differences at each time point. Outcome variables were total size of network, total number of family members, total number of same-aged friends, total number of older friends, number of family members providing support, number of same-aged friends providing support, number of older friends providing support, and proportions of all these variables to overall network size.

The two (maltreated vs. comparison) by three (time point) repeated-measures analysis for the total size of the network revealed a statistically significant main effect for group, $F(1,$

448) = 5.07, $p = .02$, indicating that, on average, maltreated adolescents named fewer people in their social support network than comparison adolescents (see Table 2 for adjusted means). There was no significant time point-by-group interaction, indicating that the groups changed similarly across the three time points. The analysis of the number of same-aged friends showed a significant effect for time point, $F(2, 448) = 3.68, p = .02$, with more same-age friends reported at Time 1 than Time 2. There was a marginal effect for group, $F(1, 448) = 3.56, p = .06$, with maltreated adolescents reporting fewer same-aged friends. Additionally, there was a marginal time point-by-group interaction $F(1, 448) = 2.80, p = .06$. The *post hoc* analysis revealed that at Time 2, maltreated adolescents reported significantly fewer same-aged friends than comparison adolescents $F(1, 448) = 7.65, p = .01$. Similarly, the proportion of same-aged friends differed significantly at Time 2, with maltreated adolescents having a smaller proportion of same-aged friends $F(1, 447) = 4.79, p = .03$. Time also had a significant effect on the proportion of same-aged friends; as seen in Table 2, the proportion of same-aged friends increased over time, with *post hoc* analyses indicating this variable was significantly higher at Time 3 than at Time 1 and Time 2.

Caregiver Type With Stable Placement—The three (biological, foster, and kin) by three (time point) repeated-measures analysis showed a significant time point-by-group interaction effect on the number of older friends, $F(4, 236) = 2.63, p = .04$. *Post hoc* examination of effect slices indicated a significant difference at Time 1 only, $F(2, 236) = 3.73, p = .03$, and that maltreated adolescents living with a non-relative foster caregiver reported more older friends than maltreated youth living with a related caregiver ($p = .01$; see Table 3 for adjusted means). There was a similar effect for the proportion of older friends at Time 1 $F(2, 236) = 3.74, p = .03$, with youth living with a foster relative reporting a larger proportion of older friends in their network than youth living with a kin caregiver. Time had a significant effect on the total number of people in the networks of adolescents, $F(2, 238) = 5.06, p = .01$, with significantly more people named at Time 1 than at Time 2 and Time 3. Time was also significant in terms of the number of family members, $F(2, 238) = 6.63, p = .01$, with fewer family members reported as adolescents aged. In terms of the proportion of same-aged friends, time was significant $F(2, 237) = 4.12, p = .02$, with adolescents reporting a higher proportion of same-aged friends at Time 3 than Time 1 and Time 2.

Placement Stability—Only one main effect was found at Time 2: Youth in stable placements reported more family members than those who changed caretakers, $F(1, 249) = 4.73, p = .03$ (see Table 4). There were no group differences for Time 3 social network variables.

Social Support

Maltreated vs. Comparison Adolescents—Chi-square analysis showed that at Time 1, maltreated adolescents were less likely to name a biological parent, with 99 percent of comparison youth naming a biological parent as a social support network member compared with 87 percent of maltreated adolescents, $\chi^2(1, 451) = 21.32, p < .01$. Group differences were also found at Time 2: 91 percent of comparison and 61 percent of maltreated adolescents named a biological parent, $\chi^2(1, 391) = 6.37, p < .05$. At Time 3, 89 percent of

comparison and 62 percent of maltreated adolescents named a biological parent, $\chi^2(1, 322) = 28.52, p < .01$. Similar analyses were conducted for current caregiver at Time 1, with non-relative foster parents or kin caregivers replacing biological parents if applicable. Again, comparison youth were more likely to name their current caregiver as a social support network member (100 percent) than maltreated youth (89 percent), $\chi^2(1, 451) = 17.92, p < .01$. Additionally, fewer maltreated youth reported that their current caregiver was a source of emotional and/or instrumental support (82.5 percent) than comparison youth (92.1 percent), $\chi^2(1, 451) = 7.48, p < .01$. (Similar results were found using logistic regression after controlling for age, race, and sex but had wide confidence intervals, thus we only present the chi-square results.) No significant group effects were found for family, same-aged friends, or older friends who provided emotional and/or instrumental support. There was a significant effect of time point on the total number of supportive people in the networks of participants, $F(2, 238) = 6.09, p = .01$, with significantly more people named at Time 1 than Time 2 and Time 3. There was also a significant effect of time on the number of supportive older friends, $F(2, 448) = 3.92, p = .02$, with *post hoc* analyses indicating that adolescents reported more older supportive friends at Time 1 than Time 2 and Time 3.

Caregiver Type With Stable Placement—Of the youth who remained with their biological parent, 97.4 percent named at least one biological parent as a social support network member, compared with 74 percent in kinship care, $\chi^2(3, 392) = 26.86, p < .01$, and 63.2 percent in non-relative foster care, $\chi^2(3, 392) = 41.78, p < .01$. The percentage of adolescents in non-relative foster and kinship care who named a biological parent was not significantly different. In terms of the current caregiver, 71 percent of adolescents with a non-relative foster parent named them as a social support network member compared with 97.4 percent of those living with their biological parent, $\chi^2(3, 392) = 35.61, p < .01$, and 98 percent of those living with a kin caregiver, $\chi^2(3, 392) = 13.31, p < .01$. Regarding whether their current caregiver provided emotional and/or instrumental support, youth with non-relative foster parents were lowest (65.8 percent), followed by those with biological parents (88.4 percent) and those with kin caregivers (98 percent). Significantly more maltreated youth living with a biological parent perceived their parent as supportive than youth who perceived their non-relative foster parent to be supportive, $\chi^2(3, 394) = 11.56, p < .01$. Additionally, more maltreated youth in kinship care reported their kin caregiver to be supportive than maltreated youth living with non-relative foster parents, $\chi^2(3, 394) = 16.74, p < .01$.

A trend time point-by-group interaction emerged in terms of the number of older friends, $F(4, 236) = 2.26, p = .06$, with the *post hoc* analysis showing a significant group difference at Time 3, $F(2, 236) = 3.53, p = .03$. Specifically, maltreated youth living with a biological parent reported more supportive older friends than maltreated youth living with a relative ($p = .01$; see Table 5 for adjusted means). This difference was a trend effect at Time 1 ($p = .06$). Similarly, there was main effect of group on the proportion of older friends who provided support, $F(4, 235) = 3.05, p = .049$, and a trend time point-by-group interaction effect, $F(4, 235) = 2.20, p = .07$. *Post hoc* pairwise comparisons indicated that, on average, maltreated youth living with a kin caregiver reported the lowest proportion of supportive

older friends. Time had an effect on the proportion of supportive same-aged friends, $F(2, 237) = 3.92, p = .02$, with a higher proportion at Time 3 than Time 1 and Time 2.

Placement Stability—A higher proportion of adolescents in stable placements from Time 1 to Time 2 (87 percent) named a biological parent as a social support network member at Time 2 (73 percent), $\chi^2(1, 300) = 6.62, p < .01$. Similarly, adolescents in stable placements from Time 2 to Time 3 were more likely to name a biological parent than those who changed placements (74 percent vs. 27 percent, respectively), $\chi^2(1, 300) = 11.83, p < .01$. Analyses regarding current caregivers could not be conducted due to this variable only being available at Time 1. A trend effect of group was found at Time 2, with youth in stable placements reporting more family members who provide emotional and/or instrumental support than those who changed caretakers, $F(1, 389) = 3.23, p = .08$ (see Table 4). There were no differences in the number or proportion of people who provided support, same-aged friends who provided support, or older friends who provided support.

Discussion

Substantial evidence has indicated that maltreated individuals often have difficulties with interpersonal interactions, which may translate into deficiencies in their social support networks. It is unclear whether this occurs through altered schemas of close relationships or because of disruption caused by multiple placements. It is likely that a combination of these factors is most detrimental. The current study explored social network characteristics and perceived social support by maltreatment status, placement type, and placement stability. Using three waves of data from a longitudinal study enabled us to capture developmental changes in social support networks in addition to maltreatment and placement effects.

Maltreated vs. Comparison

The results showed that maltreated and comparison youth had very similar social support networks in terms of composition. However, maltreated youth named fewer people in their network on average, a difference that decreased across the three time points. It is possible that these effects on network size are proximate to the maltreatment experience and wane over time. Maltreated youth also named one fewer same-aged friend on average, but only at Time 2. These findings are similar to a study of physically abused children who named a smaller proportion of same-aged peers when compared with non-abused youth (Salzinger et al., 1993). The age range at Time 2 (10–14 years) is a period of development in which youth spend increasing amounts of time with peers and peers become more influential (Rubin, Bukowski, & Parker, 1998). The lower number of same-aged friends reported by maltreated youth may indicate that, at a time when the development of friendships is a key sign of normative development, they struggle to keep up with adolescents who have not had maltreatment experiences.

With regard to social support variables, maltreated youth were less likely than the comparison group to name a biological parent as a member of their social support network at all three time points. Additionally, maltreated children were less likely to name their current caretaker or to report that this person was a source of emotional or instrumental support at Time 1 (the only time point for which data were available). Although relationship schemas

have been discussed as potential mediators of maltreatment and social support, it is important to note that findings regarding support from biological parents or caretakers may also reflect actual differences in maltreated children's care environments, as opposed to cognitive distortions. Given that 95 percent of maltreated children in this sample were abused or neglected at some point in the past by a biological parent—many of whom retained custody of the child—it is not surprising that they would be less likely to regard their parents or caretakers as sources of social support. Whatever the causes, these group differences are particularly troubling given evidence showing that deficits in parental support predict increases in depressive symptoms and the onset of major depression (Stice, Ragan, & Randall, 2004).

There were no significant differences between maltreated and comparison youth in terms of aggregated social support variables (e.g., number of family members or same-aged friends who are supportive). This differs from previous research showing maltreatment is associated with lower perceived support from friends and family (Pepin & Banyard, 2006). The lack of group differences in this sample may be related to how social support was measured. In this study, participants identified individual members as sources of support, with each network member, regardless of their relative importance to the individual, contributing equally to an aggregated support statistic. This method of assessing social support is substantially different from the vast majority of social support studies, which have used Likert-type scale items to assess global and/or domain-specific perceptions of support. Although it is possible that these types of instruments may allow participants to more effectively weigh the relative importance of people in their lives, a focus on general impressions of social support (as opposed to this study's assessment of individual network members) may increase the possibility that negative affectivity would bias self-report ratings (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003).

Placement Type

Maltreated youth who remained with a biological parent were compared with youth in kinship or non-relative foster care. The results showed that the groups were very similar in terms of their social network characteristics, with only one significant mean difference: At Time 1, maltreated youth with a non-relative foster caregiver reported the highest number of older friends and those with a kin caregiver had the smallest number of older friends in their network. Older friends have largely been studied as a risk factor for negative behaviors, such as delinquency, substance use, and sexual activity (Harding, 2009; Jenkins et al., 2011; Manlove, Ryan, & Franzetta, 2007). Therefore, it may be that kinship care is protective against the influence of older friends compared with non-relative foster care or remaining with a biological parent.

With regard to social support variables, the results showed that children who remained with a biological parent were more likely to name a biological parent as a social support network member than those in kinship or non-relative foster care. These results provide support for the idea that out-of-home placement may be detrimental to maintaining ties with biological parents. Another possibility is that children who remain with their biological parent experience a less adverse home environment and more consistent caregiving, and thus will

be more likely to have developed schemas representing their biological parent as available and supportive. The implication that out-of-home care may be associated with the perception of biological parents as not supportive may be particularly problematic for families in which reunification is the ultimate goal of placement, because these negative effects may be an obstacle to maintaining positive and active relations while children are in out-of-home care. Results also showed that children in non-relative foster care were less likely than those living with a biological parent or a kin caregiver to name their current caregiver as a social support network member or consider them as a source of emotional or instrumental support. These results again highlight the possible disruptive effects of being placed with a non-relative caregiver or preexisting caregiving differences. They also provide evidence in support of kinship care because adolescents in this group were just as likely to feel supported by their current caregiver as those who remained with a biological parent. This may reflect prior differences in the support system of kinship care families. Because being placed in kinship care is predicated upon having an available and willing kinship caregiver, these families may have closer ties, be more supportive before placement occurs, and continue to be supportive after placement.

Analysis of aggregate social support variables revealed a significant effect regarding the number of older friends who provided support at Time 3, with maltreated youth living with kin reporting the lowest number compared with maltreated youth living with a biological parent. This may simply be an artifact of the overall lower number of older friends reported by participants in kinship care. In this sample, the majority of biological parents who retained custody of their child were implicated as the perpetrator of the maltreatment. Perhaps adolescents who remain with their biological parent after experiencing maltreatment lose trust that that parent can act as a stable, supportive figure. As the adolescent ages, this lack of trust may become amplified, resulting in a reliance on older friends to fill this void. Children in kinship care may find replacements for the inadequacies of the biological parent in the kin caregiver, and thus do not feel the need to compensate for support deficits with older friends.

Placement Stability

Adolescents who had different caregivers at Time 1 and Time 2 reported significantly fewer family members in their network at Time 2. Specifically, 55 percent of the youth who changed placements between Time 1 and Time 2 went from a foster placement back to a biological parent and 35 percent went from a biological parent to a foster placement. Unfortunately, these cell sizes were too small to include these groups in the analyses. However, the results support the assertion that instability in placement, regardless of the caregiver, affects perceptions of family members as support figures. Additionally, participants with stable placements at Time 1 and Time 2 were more likely to name a biological parent as a social support network member. Again, although most of the youth with unstable placements returned to the biological parent at Time 2, many still did not include a biological parent as a member of their social support network. Changing placements is bound to disrupt the maintenance of family ties (Perry, 2006), although this result may also be due to more adverse caregiving environments in homes where a child is removed.

Limitations

The small cell sizes for the number of youth in non-relative foster care, particularly at Time 2 and Time 3, limited the power to detect significant group differences. Cell sizes were also inadequate to examine differences between adolescents who moved from foster placement back to a biological parent vs. those who went from a biological parent to foster care. Additionally, social network variables and social support variables may be highly correlated due to the nature of the name generator. Although the name generator did list specific examples of types of support, some individuals named by participants may have been included due to items such as 'Who do you hang out with?' whereas others could have been prompted by items such as 'Who can you count on to always be there for you?' Follow-up questions regarding emotional and instrumental support added validity to the assumption that most people were supportive, although the measure could not qualitatively assess what was meant by a person being listed as a source of social support. The varied amount of time that youth spent in kinship care may be a reason this group more closely resembled comparison youth. Unfortunately, we did not have reliable information about the length of time spent in foster care, time spent in kinship vs. non-relative foster placements, the cumulative number of placement changes, or the frequency of contact with a biological parent (in cases of out-of home placement), all of which could affect the formation of social support ties. These are important variables to include in future investigations. Lastly, we did not use information detailing the maltreatment experiences of these children, and were therefore unable to ascertain whether certain types of maltreatment are more closely tied to difficulties in the formation of social support networks. Although research on peer relationships and specific maltreatment types has been limited, it is possible that certain types of maltreatment may have different effects on the development of social relationships. We also do not know whether the comparison group experienced maltreatment that was not reported to CFS, which could be one reason for the limited differences between the maltreated and comparison groups.

Conclusions

Overall, these results show that maltreated youth are quite similar to comparison youth in their perceptions of social support, although there were notable differences when examining specific sources of support (i.e., biological parents and current caregivers). Maltreatment experiences and placement may affect different aspects of social support networks. Although maltreated youth generally reported fewer people in their network, placement had more of an effect on composition of their friend network. Developing and maintaining a social support network may be a key component in long-term adaptive functioning for vulnerable youth. Therefore, the next step will be to examine outcomes related to these social support variables to determine the most important factors in terms of predicting long-term functioning. This was the first study to examine in detail the social network and social support characteristics of maltreated adolescents and include their placement history, thus providing important groundwork for further examination of risk vs. resilience factors for maltreated youth.

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Table 1

Participant Characteristics for Time 1, 2, and 3

Demographic variable	Group					
	Maltreated			Comparison		
	Time 1	Time 2	Time 3	Time 1	Time 2	Time 3
N	303	250	191	151	142	128
Age, <i>M</i> (<i>SD</i>)	10.84 (1.15)	12.02 (1.21)	13.85 (1.48)	11.11 (1.15)	12.28 (1.26)	13.57 (1.38)
Gender (%)						
Male	50	48	46	60	60	57
Female	50	52	54	40	40	43
Ethnicity (%)						
African-American	40	40	47	32	32	34
Latino	35	36	29	47	45	43
White	12	11	8	10	11	11
Mixed biracial	13	13	16	11	12	12
Living arrangement (%)						
With parent	52	63	62	93	94	95
Foster or kinship care	48	37	38	7	6	5

Table 2
Mean Differences in Social Network Characteristics between Maltreated and Comparison Groups

N	Time 1			Time 2			Time 3		
	Comparison		Maltreated 301	Comparison 141		Maltreated 249	Comparison 127		Maltreated 190
	M (SE)	p		M (SE)	p		M (SE)	p	
Total size of network	13.80 (.58)		12.16 (.43)	11.19 (.44)		10.21 (.33)	9.69 (.43)		9.49 (.36)
Number of family	6.33 (.32)	.08	5.66 (.25)	4.68 (.25)		4.78 (.19)	3.84 (.22)		4.10 (.27)
Number of same-aged friends	6.09 (.39)		5.38 (.29)	5.56 (.33)	.01	4.43 (.24)	4.76 (.38)		4.90 (.31)
Number of older friends	.52 (.09)		.51 (.07)	.33 (.09)		.46 (.07)	.34 (.09)		.27 (.07)
Proportion of family	.47 (.02)		.48 (.02)	.45 (.02)		.49 (.02)	.45 (.02)		.43 (.02)
Proportion of same-aged friends	.44 (.02)		.42 (.02)	.48 (.02)	.03	.42 (.02)	.49 (.03)		.51 (.02)
Proportion of older friends	.03 (.01)		.04 (.01)	.03 (.01)		.04 (.01)	.03 (.01)		.03 (.01)

Note: Covariates include gender, age, and race.

Table 3

Mean Differences in Social Network Characteristics between Placement Groups

N	Time 1				
	Comparison	Biological	Foster	Kinship	
	151	154	37	50	
	<i>M</i> (SE)	<i>M</i> (SE)	<i>M</i> (SE)	<i>M</i> (SE)	<i>p</i>
Network size	13.74 (.57)	12.05 (.58)	12.31 (1.16)	12.23 (1.00)	
Number of family members	6.58 (.32)	5.66 (.32)	5.60 (.65)	6.76 (.56)	
Number of same-aged friends	5.70 (.37)	5.11 (.37)	5.04 (.74)	4.49 (.64)	
Number of older friends	.52 (.09)	.48 (.09)	.81 (.18) ^a	.19 (.15) ^b	.01
Proportion of family members	.51 (.02)	.50 (.02)	.50 (.04)	.58 (.03)	
Proportion of same-aged friends	.41 (.02)	.40 (.02)	.38 (.04)	.36 (.03)	
Proportion of older friends	.03 (.01)	.04 (.01) ^a	.06 (.01) ^b	.02 (.01) ^{ab}	.02

N	Time 2				
	Comparison	Biological	Foster	Kinship	
	141	126	25	42	
Network size	11.01 (.45)	10.05 (.47)	10.22 (1.05)	10.70 (.81)	
Number of family members	4.68 (.27)	4.86 (.28)	4.85 (.63)	5.18 (.46)	
Number of same-aged friends	5.47 (.33) ^a	4.25 (.34) ^b	4.25 (.77)	4.73 (.59)	.01
Number of older friends	.35 (.08)	.49 (.08)	.24 (.19)	.31 (.15)	
Proportion of family members	.45 (.02)	.49 (.02)	.49 (.05)	.51 (.04)	
Proportion of same-aged friends	.48 (.02)	.41 (.02)	.43 (.05)	.43 (.04)	
Proportion of older friends	.03 (.01)	.05 (.01)	.01 (.02)	.03 (.01)	

N	Time 3				
	Comparison	Biological	Foster	Kinship	
	127	90	16	40	
Network size	9.74 (.38)	9.32 (.45)	10.39 (1.08)	9.74 (.67)	
Number of family members	3.86 (.24)	3.59 (.28)	4.02 (.69)	3.61 (.42)	
Number of same-aged friends	5.27 (.33)	4.95 (.39)	6.14 (.95)	5.60 (.58)	
Number of older friends	.38 (.08)	.43 (.10)	.03 (.24)	.30 (.15)	
Proportion of family members	.41 (.02)	.40 (.03)	.40 (.06)	.39 (.04)	

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Table 4

Mean Differences in Social Network and Social Support Variables by Placement Stability

N	Time 2			Time 3		
	Stable	Change		Stable	Change	
	200	49		145	45	
	M (SE)	M (SE)	p	M (SE)	M (SE)	p
Social network characteristics						
Network size	10.29 (.35)	9.91 (.72)		9.47 (.35)	9.43 (.65)	
Number of family members	4.97 (.21)	3.94 (.42)	.03	3.66 (.22)	.34 (.40)	
Number of same-aged friends	4.32 (.26)	5.00 (.54)		5.19 (.32)	5.73 (.59)	
Number of older friends	.44 (.08)	.43 (.17)		.32 (.06)	.25 (.11)	
Proportion of family members	.50 (.02)	.46 (.03)		.40 (.02)	.38 (.04)	
Proportion of same-aged friends	.42 (.02)	.45 (.03)		.54 (.02)	.58 (.04)	
Proportion of older friends	.04 (.01)	.04 (.01)		.04 (.01)	.03 (.02)	
Social support characteristics						
Number of supportive network members	8.56 (.36)	8.35 (.74)		7.83 (.35)	8.34 (.65)	
Number of supportive family members	4.34 (.19)	3.57 (.39)	.08	3.26 (.21)	3.22 (.37)	
Number of supportive same-aged friends	3.55 (.25)	4.11 (.52)		4.20 (.30)	4.78 (.55)	
Number of supportive older friends	.30 (.07)	.35 (.13)		.23 (.05)	.21 (.10)	
Proportion of supportive network members	.84 (.02)	.86 (.03)		.85 (.02)	.89 (.04)	
Proportion of supportive family members	.44 (.02)	.43 (.03)		.36 (.02)	.37 (.04)	
Proportion of supportive same-aged friends	.34 (.02)	.37 (.04)		.45 (.02)	.48 (.04)	
Proportion of supportive older friends	.03 (.01)	.03 (.01)		.03 (.01)	.03 (.02)	

Note: Covariates included gender, age, and race and ethnicity.

Table 5

Mean Differences in Social Support between Placement Groups

N	Time 1				p
	Comparison	Biological	Foster	Kinship	
	151	154	37	50	
	M (SE)	M (SE)	M (SE)	M (SE)	
Number of supportive network members	11.65 (.53)	10.67 (.53)	10.44 (1.08)	10.19 (.93)	
Number of supportive family members	6.13 (.31)	5.29 (.31)	5.18 (.63)	6.24 (.54)	
Number of supportive same-aged friends	4.41 (.34)	4.37 (.35)	3.85 (.70)	3.27 (.60)	
Number of supportive older friends	.38 (.08)	.44 (.08)	.67 (.16) ^a	.18 (.14) ^b	.06
Proportion of supportive network members	.86 (.02)	.89 (.02) ^a	.81 (.03) ^b	.85 (.03)	
Proportion of supportive family members	.47 (.02)	.47 (.02)	.43 (.04)	.54 (.03)	
Proportion of supportive same-aged friends	.32 (.20)	.34 (.02)	.29 (.04)	.26 (.03)	
Proportion of supportive older friends	.03 (.01)	.03 (.01) ^a	.04 (.01) ^a	.01 (.01) ^b	.07

N	Time 2				p
	Comparison	Biological	Foster	Kinship	
	141	126	25	42	
Number of supportive network members	8.87 (.43)	8.30 (.45)	7.78 (1.01)	9.19 (.78)	
Number of supportive family members	4.20 (.23)	4.20 (.26)	3.97 (.56)	4.65 (.44)	
Number of supportive same-aged friends	3.98 (.31)	3.46 (.33)	3.19 (.73)	3.91 (.57)	
Number of supportive older friends	.22 (.07)	.31 (.07)	.10 (.16)	.28 (.12)	
Proportion of supportive network members	.82 (.02)	.84 (.02)	.78 (.05)	.87 (.04)	
Proportion of supportive family members	.41 (.02)	.44 (.02)	.40 (.05)	.46 (.04)	
Proportion of supportive same-aged friends	.36 (.02)	.33 (.02)	.34 (.05)	.35 (.04)	
Proportion of supportive older friends	.02 (.01)	.03 (.01)	.00 (.01)	.03 (.01)	

N	Time 3				p
	Comparison	Biological	Foster	Kinship	
	127	90	16	40	
Number of supportive network members	8.17 (.40)	7.91 (.47)	9.53 (1.13)	7.30 (.70)	
Number of supportive family members	3.45 (.23)	3.14 (.27)	3.96 (.66)	3.20 (.40)	
Number of supportive same-aged friends	4.30 (.32)	4.24 (.38)	5.35 (.92)	3.89 (.56)	

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