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Concurrent child history and contextual predictors of children's internalizing and externalizing behavior problems in foster care

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Abstract

This study contributes to current research on the behavior problems of children in foster care by analyzing a more comprehensive set of concurrent child history and contextual predictors. Kinship home status and sibling status (i.e., whether the sibling was a biological sibling to the foster child) were evaluated as moderators of significant associations. Data were collected at the baseline of a foster parent training intervention program prior to any intervention services using parent phone interviews ($N = 310$, 51.6% male, M age = 7.57 years). Two linear hierarchical regressions were used to evaluate each set of predictors' association with behavior problems as well as each individual predictor's contribution. Results indicated that as a set, the contextual variables predicted a significant and unique amount of variability in the child's internalizing and externalizing behavior scores, but the child history variables did not. Specifically, the child's placement in a non-kinship home, being in a non-ethnically matched child-parent pair, higher parent stress scores, a greater number of prior group home placements, and higher internalizing behavior scores for the child predicted higher child externalizing scores. Higher parent stress scores, higher focal sibling externalizing behavior scores, and higher externalizing behavior scores for the child predicted higher internalizing scores for the child. The association between focal sibling externalizing behavior scores and child internalizing scores was moderated by kinship home status, such that there was a stronger association between the focal sibling's externalizing score and the child's internalizing score if the child was in a kinship compared to a non-kinship home. Implications for intervention services are discussed, particularly the importance of assessing the child's foster home environment when addressing the child's behavior problems.

Keywords

kinship care; foster care; internalizing behavior problems; externalizing behavior problems; maltreatment; foster family

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1. Introduction

As of September 2015, 427,910 children were currently living in foster care in the United States (Adoption and Foster Care Analysis and Reporting System, 2016). Children in foster care face several challenges due to the abuse or neglect they experience as well as the instability of being removed from their homes and families. As a result of these challenges children in care may exhibit heightened levels of behavior problems compared to their non-foster counterparts. Furthermore, foster children's behavior problems have been found to be comparable to children in intensive mental health settings (Trupin, Tarcio, Low, Jemelka, & McClellan, 1993).

Two types of behavior problems, internalizing behavior problems and externalizing behavior problems are commonly studied in the literature and are used in the current study. Internalizing behavior problems are defined as a lack of control of emotions, including demand for attention, feelings of inferiority or worthlessness, social withdrawal, and dependency (McCulloch, Wiggins, Joshi, & Sachdev, 2000). Externalizing behavior problems can be defined as, "overt behaviors that are aggressive, hostile, destructive, or defiant in nature" (Keil & Price, 2006, pg. 764). Several studies have found that there is comorbidity between internalizing and externalizing behavior problems (Bornstein, Hahn, & Haynes, 2010; McWey, Cui, & Pazdera, 2010).

For youth in foster care, behavior problems and mental health issues are factors that foster caregivers identify as challenging (Octoman, McLean, & Sleep, 2014), have been found to predict an unsuccessful transition to foster care (Barber, Delfabbro, & Cooper, 2001), and increase the risk of placement instability (García-Martín, Salas, Bernedo, & Fuentes, 2015; Van Rooij, Maaskant, Weijers, & Hermanns, 2015). Children in foster care exhibit higher scores on the externalizing, internalizing, and total broadband scales of the Child Behavior Checklist (CBCL; Achenbach, 1991) compared to their community counterparts (Carbone, Sawyer, Searle, & Robinson, 2007; Tarren-Sweeney, 2008). For children in foster care prevalence rates of clinical behavior problems on the CBCL vary from around 20% (Heflinger, Simpkins, & Combs-Orme, 2000) to 61% (Carbone et al., 2007) and results vary greatly based on the age, gender breakdown, and type of sample.

Previous research has explored the etiology of behavior problems for children in foster care. Researchers have found that reason for removal, prior removals from the home, kinship home status, chronic illness, gender, age, and length of time in foster care predict internalizing and externalizing behavior problems (Cheung, Goodman, Leckie, & Jenkins, 2011; Tarren-Sweeney, 2008; Vanschoonlandt, Vanderfaellie, Van Holen, De Maeyer, & Robberechts, 2013). There have been inconsistencies in the literature when examining the importance of different predictors on children's behavior problems while in care, which may occur because researchers often only consider one set of predictors (i.e., child history variables or current contextual predictors). There are three ways in which this study proposes to contribute to the literature. First, the current study will examine child history variables and current contextual variables as a set to examine which set of predictors explains more variance in current child behavior problems. Second, this study will consider novel variables, such as foster sibling behavior problems and foster-parent/ foster child

ethnicity match, to determine whether these predictors are significant over and above well studied variables, such as, kinship care status and length of present placement. Finally, this study strives to evaluate whether kinship care status and sibling status (for the sibling behavior predictor) moderate the strength of the association of predictors on internalizing and externalizing behavior problems. Child history predictors include the child's reason for removal from their families, the number of prior removals the child has experienced, and the type of prior removals the child has experienced. Contextual predictors include whether the child is in kinship or non-kinship care, the number of children in the home, the length of the present placement, the foster parent's stress, presence of a biological sibling in the home, and the focal sibling's level of externalizing behavior.

1.1 Child History Predictors

1.1.1 Reason for removal—Based on the current literature, it is not clear how maltreatment, as documented by reason for removal in the current study, leads to a greater number of behavior problems, which may be due to comorbidity between the different reasons for removal (Herrenkohl & Herrenkohl, 2009). Generally studies have found that certain types of neglect lead to better outcomes or fewer behavior problems than any type of abuse (Dubowitz, Zuravin, Starr, Feigelman, & Harrington, 1993; Petrenko, Friend, Garrido, Taussig, & Culhane, 2012). Within the abuse categories, physical abuse has been found to be predictive of higher scores on the total broadband scale of the CBCL for children in foster care in Australia (Tarren-Sweeney, 2008) and higher levels of internalizing and externalizing behavior problems for preadolescents and adolescents in foster care (Petrenko et al., 2012; Simmel, 2010). Moreover, sexual abuse has been found to also predict behavior problems over and above other maltreatment subtypes (Petrenko et al., 2012; Simmel, 2007). In previous research there has been some variability in results, which may be due to varying approaches for classifying the maltreatment subtypes. Past researchers have used a hierarchical approach that classifies abuse experienced (e.g., sexual abuse > physical abuse > physical neglect > supervisory neglect), a regression approach (i.e., the maltreatment variable is kept continuous while controlling for other forms of maltreatment), or a latent class analysis approach (Petrenko et al., 2012). In the current study we use a regression approach because we are interested in the unique association of each continuous maltreatment subtype with children's behavior problems. Based on the literature, we predict that physical abuse and sexual abuse may be associated with higher levels of internalizing and externalizing behavior problems.

1.1.2 Number and Type of Placement Disruptions—Placement disruptions are defined as removals from a placement setting for a child due to negative reasons, which can include a request from the foster or kinship parents or a move in the best interest of the child (Fisher, Stoolmiller, Mannering, Takahasi, & Chamberlain, 2011). Research suggests that the relationship between behavior problems and placement disruptions is bidirectional. Several studies have found that a greater number of child internalizing and externalizing behavior problems predicts a greater likelihood of placement disruption (Chamberlain et al., 2006; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007; Vanschoonlandt et al., 2013). Researchers have also found that placement disruptions or unstable placement histories are predictive of increased behavior problems (Newton, Litrownik, & Landsverk,

2000; Villodas, Litrownik, Newton, & Davis, 2016). Furthermore, as placement disruptions for a child increase so does the likelihood of future placement disruptions (Oosterman et al., 2007). In the current study it is hypothesized that a greater number of placement disruptions will be predictive of higher levels of internalizing and externalizing behavior problems for the child.

Type of placement may also be predictive of the level of internalizing and externalizing behavior problems a child in foster care experiences. One study found that children with at least one group home placement were two and a half times more likely to be at risk for delinquency, one subtype of externalizing behavior problems, than those placed with foster families (Ryan, Marshall, Herz, & Hernandez, 2008). Another study of children in care found that children in group homes displayed higher levels of externalizing behavior problems than those in kinship care or non-kinship foster care (Cheung et al., 2011). Therefore, a greater number of group home placements should be predictive of more externalizing behavior problems.

1.2 Contextual predictors

1.2.1 Kinship care—Kinship care has been defined as care provided by relatives, such as grandparents or aunts and uncles, and non-kinship care has been defined as care provided by non-relatives (Dubowitz et al., 1993). Several studies utilizing the CBCL have found that children in non-kinship homes have higher rates of externalizing behavior problems (Cheung et al., 2011; Hegar & Rosenthal, 2011; Keller et al., 2001; Vanschoonlandt et al., 2013), total behavior problems (Keller et al., 2001; Tarren-Sweeney, 2008), and internalizing behavior problems (Hegar & Rosenthal, 2011; Keller et al., 2001). Moreover, a meta-analysis found that children in kinship care experience less placement instability, fewer behavior problems, and better well-being than children in non-kinship care (Winokur, Holtan, & Batchelder, 2014). Relative caregivers may be less likely to take a child into the home if the child has a high level of behavior problems and therefore, the differences in behavior problems between kinship and non-kinship care may be a result of relative caregivers' selectivity. For example, recent work has found that differences in placement stability between kinship and non-kinship care are the result of the characteristics of children entering care, such as initial level of behavior problems, rather than something fundamentally different about the care itself (Font, 2015). Based on this work, it is hypothesized that children in non-kinship homes will have a greater number of internalizing and externalizing behavior problems than children in non-kinship homes.

1.2.1 Number of children in the home—Very few studies have looked at how the total number of children in the home is related to a child's behavior problems in foster care. Harden and Whittaker (2011) found that having more children in the home was associated with more externalizing behavior problems for children. Researchers utilizing a pooled time series analytic technique found that for each additional child added to the home, each child demonstrates approximately one more behavior (Moore, Osgood, Larzelere, & Chamberlain, 1994) and more children in the foster home has been found to predict an increase in relational aggression for children in foster care (Perry & Price, 2017). However, in a recent meta-analysis, for two out of three studies, the presence of more foster children in a

placement setting was associated with less placement instability, while the presence of carer's children was associated with more instability (Rock, Michelson, Thomson, & Day, 2015). In the current study, the number of children in the home includes all children currently residing in the home whether they are other foster children or biological children of the foster parents. Based on this research it is expected that a greater number of children in the home will predict more externalizing behavior problems. Based on limited research there is no specific hypothesis regarding internalizing behavior.

1.2.2 Length of present placement—A study of adolescents in long-term foster care found that the internalizing and externalizing behavior problems of youths decreased over time (McWey et al., 2010). Several studies have confirmed that behavior problems of children in foster care may remain stable over time after an initial adjustment time period of four months (McAuley, 2000) or two years (Simmel, 2007). However, a recent meta-analytic study has shown that foster care does not result in reductions or increases in internalizing or externalizing behavior problems (Goemans, van Geel, & Vedder, 2015). Therefore, we predict that there will be no relation between time in the home and internalizing and externalizing behavior problems. However, this is still an important variable to consider as we are considering the potential moderating role of kinship care, which may influence the relationship between length of present placement and children behavior problems while in care.

1.2.3 Parent stress—In non- foster populations, several studies have found that parents of children with a high level of behavior problems experience more parenting stress, which is specific to the demands of parenting and is theorized to be a result of a mismatch between perceived parenting resources and parenting demands (see Morgan, Robinson, & Aldrige, 2002 for a review). Two recent studies have found that foster children's behavior problems influence foster parents' stress which may in turn lead to ineffective parenting techniques (Vanderfaellie, Van Holen, Trogh, & Andries, 2012; Vanschoolandt et al., 2013). These ineffective parenting techniques may in turn lead to more externalizing problems for the child as there is evidence of a reciprocal relationship between parenting stress and the number of externalizing behavior problems a child exhibits (Baker et al., 2003). In a year-long study of preschool children, Baker and colleagues (2003) found that parents with high levels of parenting stress had children whose behavior problems became inflated over time, which in turn led to more parenting stress. There is also evidence of a bidirectional relationship between parenting stress and internalizing behavior problems. In a sample of children with Autism Spectrum Disorders, researchers found that there was a significant reciprocal relationship between parenting distress and internalizing and externalizing behavior problems over time (Zaidman- Zait et al., 2014). Based on this body of research, it is predicted that children will exhibit more internalizing and externalizing behavior if they have foster parents exhibit higher levels of parenting stress.

1.2.4 Presence of a biological sibling—Siblings play an extremely important role in the foster care system. Most children in foster care, up to 77% desire more contact with their siblings (Chapman, Wall, & Barth, 2004) and many children actually have more contact with their siblings than their parents (Pecora, 2010). In a nationally representative study, children

who were in kinship care had significantly fewer behavior problems using teacher ratings of behavior when they had at least one sibling or all of their siblings in the home compared to if they had none of their siblings in the home (Hegar & Rosenthal, 2011). However, in the same study no significant differences were found when utilizing parent or youth reports of child behavior (Hegar & Rosenthal, 2011). In a meta-analysis, children who were separated from their siblings were more likely to experience instability in care (Rock et al., 2015). Therefore, it is hypothesized that children placed with at least one biological sibling will exhibit fewer internalizing and externalizing behavior problems than children who are separated from their biological siblings.

1.2.5 Focal sibling's behavior problems—Virtually no studies have examined how foster sibling relationships might contribute to behavior problems. In non-foster populations, negative sibling relationships characterized by conflict and aggression may perpetuate increased behavior problems for the child. In a longitudinal study of low-income boys, aggressive behavior was highest among children who experienced high levels of sibling conflict with a direct link from sibling conflict to delinquency (Garcia, Shaw, Winslow, & Yaggi, 2000). Older sibling's externalizing behavior problems have also been found to be associated with a younger sibling's increased externalizing behavior problems over time (Shortt, Stoolmiller, Smith-Shine, Mark Eddy, & Sheeber, 2010). Longitudinally, sibling negativity contributes to adolescents' externalizing behavior problems directly, as well as indirectly through deviant peer associations (Kim, Hetherington, & Reiss, 1999). This research suggests that the behaviors of the sibling in the home affect the child both directly through aggression in the dyadic sibling relationship and indirectly through exposure to social groups with more externalizing behaviors. In the current study, focal siblings were operationalized as the child closest in age to the foster child, so this could be a biological sibling of the foster child, a child that is somehow related to the foster child (e.g., cousin), or another foster child. It is expected that there will be a positive association between focal sibling externalizing behavior problems and child behavior problems.

1.3 Kinship care and sibling status as moderators

Additionally, this study will consider whether significant child history and contextual predictors are moderated by kinship home status. Kinship families may invest more in children because of their prior relationship and a biological similarity with the child, as prior research has suggested that families invest more when they are closely related to the child (Anderson, 2005; Lawler, 2008). Additionally, children in care may behave differently in different environments, which may lead to children having different types of interactions with kinship caregivers and families compared to non-kinship caregivers and families (Font, 2015). These different interactions may lead to differential behavior effects based on whether the child is in a non-kinship or kinship home. Prior research has examined the moderating role of type of placement (foster-to-adopt vs. foster care) and found that there was a negative relation between parent commitment and children's behavior problems for foster care placements but no relation for foster-to-adopt placements (Dubois et al., 2015). The current study extends this work by examining whether kinship vs. non-kinship status moderates the associations between predictors and child behavior problems.

This study will also consider whether the association between focal sibling externalizing behavior problems and child behavior problems is moderated by sibling status (i.e., whether the focal sibling is a biological sibling to the child). As stated above, the presence of biological siblings in the home may be protective against placement instability (Rock et al., 2015). However, other work has found that conflict between siblings in a foster home may lead to a greater likelihood of placement instability (Rock et al., 2015). Therefore, in the current study, sibling status will be examined as a moderator of the relation between focal sibling externalizing behavior and the child's internalizing and externalizing behavior. It is hypothesized that when a focal sibling has a high level of externalizing behavior problems, there will be a stronger relation to the child's internalizing and externalizing problems if the focal sibling is a biological sibling to the child compared to if the sibling is not a biological sibling. A three way interaction between focal sibling externalizing behavior problems, sibling status, and kinship care status will also be examined to evaluate whether there are specific types of placements (i.e., placed with sibling in kinship care, placed without sibling in kinship care, placed with sibling in non-kinship care, placed without sibling in non-kinship care) that predict the strongest relationship between focal sibling externalizing behavior problems and child internalizing and externalizing behavior problems.

The three aims of the study are: (1) To assess whether as a set the child history and contextual characteristics predict internalizing and externalizing behavior for children in foster care using a combination of novel (e.g., focal sibling behavior problems, parent-child ethnic match) and previously studied variables; (2) To assess which specific child history and contextual characteristics predict internalizing and externalizing behavior for children in care; and (3) to assess whether kinship care status moderates the associations between the predictors and foster child behavior problems and whether sibling status moderates the relation between focal sibling externalizing behavior and child behavior problems.

2. Method

2.1 Participants

Participants were 310 foster and kinship families and their children who took part in a foster parent training intervention implementation trial (KEEP - Keeping Foster Parents Trained and Supported) in southern California (see Price, Roesch, Walsh, & Landsverk, 2015). The data for this study were collected at the baseline (T1) interview prior to the implementation trial. From each household an age eligible foster child was chosen to be the focal child, the main participant in the study, and the child in the home closest in age to the focal child became the focal sibling. Foster parents selected the focal child if there were multiple children in the home whom were age eligible. Families were excluded from the study if there was only one child in the home. Demographic information for the focal child, focal sibling, and the foster parent are presented in Table 1. There was no ethnicity data available for the focal sibling.

2.2 Procedure

Social service administrative data were used to identify potential foster families that were eligible for the study. Participants were children living in state supported foster homes in San

Diego County whom had been in their current placement for at least 30 days. This was done to exclude children in temporary placements or emergency placements. Children were also excluded if they were deemed severely physically or mentally fragile (as noted in administrative data). Families with at least one age eligible child (5- 12 years old) were contacted to potentially participate in the study. This study was conducted in compliance with the local university IRB, parents gave informed consent during initial home visits, and families were compensated for completing assessments.

The child in the household that was closest in age to the focal child was identified as the *focal sibling*. The focal sibling could be a biological sibling, have some familial relation (e.g., cousin), or be of no relation to the focal child. The age of the focal siblings could range from 3 to 17 years of age.

Data for the current study were generated from baseline interviews that were administered over three phone interviews during a two-week period to the foster and kinship parents participating in the study. Trained research assistants administered the calls. Calls were audio recorded. Interviews were conducted in both English and Spanish based on the preference of the foster parent and bilingual interviewers translated measures. System specific demographic information about the foster child such as number of prior placements, types of prior placement, and reason for removal from the home were taken from administrative data.

2.3 Measures

2.3.1 Internalizing and externalizing behavior—The Child Behavior Checklist (CBCL; Achenbach, 1991) was used to measure internalizing and externalizing behavior problems for the focal child and focal sibling. The CBCL is a 113-item parent report measure of youth symptoms designed to assess clinical behavior in youth. For children in care, foster parents have been proven to be reliable informants of foster child behavior (Tarren-Sweeney, Hazell, & Carr, 2004). Respondents answer questions on a three point scale: (0) not true, (1) somewhat or sometimes true, (2) or very true or often true. There are three broadband scales of the CBCL: total behavior problems, internalizing problems, and externalizing problems. The total scale was not used in the current study. The CBCL is a widely validated and reliable measure (Achenbach, 1991). In the current study, the internalizing scale ($\alpha = .88$) and externalizing scale ($\alpha = .93$) demonstrated good reliability for focal children and the externalizing scale demonstrated good reliability for focal siblings ($\alpha = .92$). Achenbach and Rescorla (2001) recommend using raw scores instead of standardized scores when using the CBCL in data analysis and therefore, the raw scores were used in the regression analyses in the current study. However, to provide thorough descriptive information, standardized scores were calculated using age and gender norms and Achenbach System of Empirically Based Assessment (ASEBA) software. These standardized scores allowed us to calculate a percentage of children in our sample in the clinical and borderline clinical range of behavior problems.

2.3.2 Child history variables—Placement history includes both the number of prior placements and type of prior placements a foster child has experienced. The number of prior

placements a child has experienced is the total number of prior exits from a biological, foster, or kinship home for a positive, negative, or neutral reason, before entering the study. Type of prior placement is defined as the nature of the establishment the child has previously experienced - group home placements or home placements.

The type of maltreatment experienced by the child was estimated using an administrative code representing the reason for removal from the biological home. A specific code was assigned to each removal. Each time the child was removed from the home this event was coded as a removal due to: physical abuse, sexual abuse, emotional abuse, severe neglect or general neglect. Severe neglect and general neglect were collapsed into one neglect category. These variables represent the total number of times a child has been removed from the home due to a certain type of maltreatment. In the current sample, 46.4% of children experienced multiple types of maltreatment. Neglect was the most common reason for removal documented in the current sample, and across all removals neglect and physical aggression were the most likely to co-occur ($r = .41, p < .001$, see table 3).

2.3.3 Contextual variables—Kinship care was assessed by parent report and was coded as a dichotomous variable (1 = kinship care, -1 = non-kinship care). Length of time the child has been in the home was measured by parent report of the number of months the foster child has been living in the foster home. The number of children in the home was measured by the number of children who are under eighteen reported to be currently living in the home. The focal sibling's behavior problems, was assessed by the focal sibling's CBCL externalizing behavior score. Presence of a biological sibling in the home, was measured by a dichotomous variable to track whether there was at least one sibling in the home or whether there were no siblings in the home (1 = siblings present in the home, -1 = non siblings present in the home). A biological sibling was defined as a biological sibling, a half-sibling, or a stepsibling. Moreover, sibling status, which is examined as a moderator in the current study was measured by a dichotomous variable to track whether the focal sibling was a biological sibling of the child or not a biological sibling of the child (1 = biological sibling, -1 = non-biological sibling).

A parenting stress measure created by investigators at the Oregon Social Learning Center (OSLC) was used to measure the foster parent's parenting stress. At the beginning of this questionnaire an interviewer stated the following to the foster parent: "We know being a kin/foster parent can be both very rewarding and very stressful. We want to know how much stress you've experienced while parenting. I am going to read a feeling to you and I would like to know how often you have felt that way in the past month." Following this prompt, foster parent stress was assessed using a seven-item questionnaire with the following format: In the past month, how often have you: (1) felt hopeless about your foster child's future?; (2) felt cut off from help?; (3) felt cut off from normal social contact?; (4) had trouble sleeping?; (5) felt easily annoyed or irritated?; (6) felt like you weren't getting enough support from the system as you wanted? Questions were answered using a five- point Likert scale (1- Never to 5- Always). The last question on the scale asked foster parents to rate their stress level for being a foster parent in the past month on a scale of 1 (No Stress) to 10 (Extreme amount of stress). This score was divided by two to make it comparable on a five-point scale (1- No

stress to 5- Extreme amount of stress). A foster parent stress score was computed by averaging these responses. The internal consistency was good in this sample ($\alpha = .83$).

2.4 Data analysis overview

First, descriptive statistics were generated for all variables. Outliers were examined, where an outlier was defined as any value that is greater than three standard deviations above or below the mean. Outliers were modified by adjusting the outlier value to $\pm$ three standard deviations from the mean (Kline, 2011). Standardized scores were used to examine the percent of children who scored in the borderline and clinical range on the CBCL. To control for potential confounding variables, parent and child age and ethnicity, whether there is an ethnic match between the child and the parent, whether the parent has a spouse, and parent education, were assessed as potential covariates. These variables have been considered as potential covariates or been found to be significant demographic predictors in past research examining behavior problems for children in care (e.g., Bellamy, 2008; Tarren-Sweeney, 2008). Associations between the predictor variables and outcome measures were assessed using bivariate correlations. The variance inflation factor (VIF) was used to determine whether collinearity was a problem among the predictor variables.

For the primary analyses, two hierarchical linear regression models were used to analyze how much variability in internalizing and externalizing behavior was explained by each set of predictors and to examine which specific predictors emerged as significant. Any significant control variables from the preliminary analyses were entered in the first step of the hierarchical regression. The relationship between internalizing and externalizing behavior problems was also controlled for at this step. Next, the child history predictors were entered because these variables precede the contextual variables in time, such that all child variables occur before the child is in their current placement. In the last step of the hierarchical regression, the contextual variables were entered.

To examine whether kinship home status or sibling status moderated any of the significant associations, two regressions were run in which significant variables and the two-way interaction coefficients from the prior analyses were entered in step one of the regression, and the three-way interaction coefficient was entered in step two of the regression. Procedures for computing the interactions and probing the simple slopes followed guidelines by Cohen, Cohen, West, and Aiken (2003).

3. Results

3.1 Preliminary analyses

Descriptive statistics for the variables are presented in table 2. The VIF ranged from 1.02 to 1.49 suggesting the absence of a collinearity problem.

For the internalizing and externalizing behavior scales, both standardized scale scores and raw scores were calculated, but raw scores are used in the analyses as per Achenbach and Rescorla's (2001) suggestions. For descriptive purposes, standardized scores were calculated using normed data with a non-clinical sample to determine the proportion of children who scored within the clinical and borderline clinical range for each broadband scale. Using

clinical and borderline clinical cutoffs from Achenbach's (1991) manual, for internalizing problems, 21.6% of children scored in the clinical range and 10% of the children scored in the borderline clinical range. For externalizing problems, 34.2% of children scored in the clinical range and 13% of children scored in the borderline clinical range. These percentages are similar to those found in prior research with other samples of children in foster care (e.g., Heflinger, Simpkins, & Combs-Orme, 2000). For correlations among the predictor variables, control variables, and internalizing and externalizing behavior scores see table 3. The internalizing and externalizing scales were positively associated with each other (table 3, $r = 0.61$, $p < .001$) and one control variable was associated with internalizing and externalizing behavior problems. Foster parent education was significantly associated with internalizing ($r = 0.18$, $p < .001$) and externalizing problems ($r = 0.19$, $p < .001$).

For the categorical control variables, child ethnicity was significantly predictive of externalizing scores ($F(5, 302) = 3.74$, $p = .003$), but a Scheffe post-hoc test revealed no significant differences. Parent ethnicity was significantly predictive of externalizing scores ($F(5, 302) = 2.83$, $p = .016$) but a Scheffe post-hoc test revealed no significant differences. Ethnicity match was significantly predictive of externalizing scores ($F(1, 308) = 4.843$, $p = .03$). Children who had the same ethnicity as their foster parent had significantly lower externalizing scores than children who had a different ethnicity than their foster parent.

Therefore, control variables included in the internalizing behavior regression were parent education and the child's externalizing score. Control variables included in the externalizing regression were parent education, the child's internalizing score, and ethnicity match between the child and the parent.

3.2 Primary analyses

3.21 Internalizing behavior problems—At step 1, the control variables significantly predicted internalizing behavior scores (see table 4, $F(2, 303) = 96.23$, $p < .001$, $R^2 = .39$). At this step, the child's externalizing behavior score emerged as a significant predictor, such that higher externalizing scores were associated with higher internalizing scores. At step 2, the child history variables did not explain a significant amount of the variability in behavior scores over and above the control variables ($F(3, 297) = 0.76$, $p = .61$, $R^2 = .01$). At step 3, the contextual variables explained a significant amount of variability in internalizing behavior scores over and above the child history and control variables ($F(6, 291) = 8.63$, $p < .001$, $R^2 = .09$). At this step, the focal sibling's externalizing behavior score and foster parent's stress score emerged as significant predictors. Overall, higher child externalizing behavior scores, focal sibling externalizing behavior scores, and foster parent stress scores predicted higher internalizing behavior scores.

3.22 Externalizing behavior problems—At step 1, the control variables significantly predicted externalizing behavior scores (see table 5, $F(3, 298) = 65.45$, $p < .001$, $R^2 = .40$). At this step, the child's internalizing behavior score and ethnicity match significantly predicted externalizing behavior scores. Higher internalizing scores and a non-ethnic match between the child and parent were predictive of higher externalizing scores. At step 2, the child history variables did not explain a significant amount of variability in behavior scores

over and above the control variables ($F(6, 292) = 1.37, p = .23, R^2 = .02$). Even though the child history variables as a set did not predict a significant amount of variability over and above the control variables, one variable related to child history -the number of prior group home placements - emerged as a significant predictor, such that a greater number of prior group home placements were predictive of higher externalizing scores. At step 3, the contextual variables explained a significant amount of variability in behavior scores over and above the child history and control variables ($F(6, 286) = 3.34, p = .006, R^2 = .04$). At this step, kinship care status and the foster parent's stress score significantly predicted externalizing behavior scores. The child's presence in non-kinship care and higher foster parent stress scores predicted higher externalizing behavior scores. Overall, higher child internalizing scores, a greater number of prior group home placements, higher parent stress scores, a non-ethnic match between parent and child, and the child's presence in non-kinship care predicted higher externalizing behavior scores for the child.

3.2.3 Kinship care and sibling status as a moderator—Hierarchical regressions were run with just the significant predictors from the prior analyses to assess whether any of the contextual or child history associations were moderated by kinship care and whether the association between sibling externalizing behavior was moderated by sibling status. In step one, significant control, child history and contextual variables from the prior analyses were entered in addition to the two-way interaction coefficients. For the internalizing behavior analysis, three two-way interaction coefficients were examined, two assessing whether the association between focal sibling externalizing behavior and internalizing problems was moderated by kinship care status and sibling status, and the other assessing whether the association between parent stress and internalizing problems was moderated by kinship care status. For this regression, in step two, a three-way interaction between sibling externalizing behavior, sibling status, and kinship care was examined. For the externalizing behavior analysis, two interaction coefficients were examined, one assessing whether the association between the number of prior group home placements was moderated by kinship care status and the other assessing whether the association between parent stress was moderated by kinship care status.

3.2.3.1 Internalizing behavior problems: The two-way interaction coefficients and the significant variables from the prior analysis (i.e., sibling externalizing problems, foster parent stress, child externalizing problems) significantly predicted child internalizing behavior problems ($F(9, 298) = 30.99, p < .001, R^2 = .47$). The relation between the focal sibling's externalizing behavior score and the child's internalizing behavior score was significantly moderated by kinship care status ($\beta = .09, p = .049$). The association between parent stress and internalizing behavior was not moderated by kinship status ($\beta = .03, p = .51$) and the relation between focal sibling externalizing behavior and internalizing behavior was not moderated by sibling status ($\beta = .01, p = .82$). The three-way interaction coefficient between sibling externalizing behavior, sibling status, and kinship status, was not significant ($\beta = .002, p = .98$). To further examine the interaction between the focal sibling's externalizing behavior and kinship care status, the model was simplified by removing the non-significant interactions and then simple slopes were generated separately for children in kinship care and non-kinship care. For children in kinship care, there was a stronger

relationship between focal sibling externalizing behavior and the child's internalizing behavior ($\beta = .30, p < .001$), than for children in non-kinship care ($\beta = .12, p = .04$), which is shown in Figure 1. This suggests that focal sibling's externalizing behavior may contribute more to children's internalizing behavior problems if they are in kinship compared to non-kinship care.

3.2.3.2 Externalizing behavior problems: The two-way interaction coefficients and the significant child history and contextual variables (i.e., kinship care status, prior group home placements, parent stress, parent-child ethnic match, child internalizing problems) significantly predicted child externalizing behavior problems ($F(7, 297) = 32.45, p < .001, R^2 = .42$). The relation between parent stress and externalizing behavior was not moderated by kinship care status ($\beta = .01, p = .90$) and the association between prior group home placements and externalizing behavior was not moderated by kinship care status ($\beta = -.08, p = .26$).

4. Discussion

In the current study the links between child history and contextual predictors and the child's internalizing and externalizing behavior problems were examined. Internalizing and externalizing behavior problems were positively associated in the regression models, which suggests that there is a comorbid relationship between them. For the internalizing behavior model, after controlling for the significant relation with externalizing problems, parent stress and the focal sibling's externalizing behavior significantly predicted internalizing problems. Additionally, kinship care status significantly moderated the association between the focal sibling's externalizing behavior problems and the child's internalizing behavior problems, such that this relationship was stronger for children in kinship care than non-kinship care. For the externalizing behavior model, after controlling for the significant association with internalizing behavior problems, parent-child ethnic match, kinship care status, and foster parent's stress significantly predicted externalizing behavior problems. These results suggest that in homes where the child and focal sibling have higher levels of externalizing behavior problems and the parent exhibits higher levels of stress, the child may be at increased risk for higher levels of internalizing behavior problems. In homes where the child is not related to the caregiver, there is not an ethnic match between the parent and child, the child has more prior group home placements, the child has higher levels of internalizing behavior problems, and the parent exhibits higher levels of stress, the child may be at increased risk for higher levels of externalizing behavior problems.

In the current study, an ethnic match between the child and parent emerged as a significant predictor of externalizing behavior problems. There is some evidence to suggest that an ethnic match between a client and therapist can contribute to positive outcomes in therapy. Among adolescents, racial differences between the client and therapist resulted in lower alliances as rated by the therapist and lower rates of retention (Wintersteen, Mensinger, & Diamond, 2005). Additionally, among adults, a meta-analysis found that clients tended to view therapists of their own race/ ethnicity more positively (Cabral & Smith, 2011). There is also evidence that teachers' relationships with their students may vary based on whether they are the same ethnicity as their students or a different ethnicity than their students. In a study

of kindergartners, when black children had a non-Hispanic white teacher they received higher scores on assessments of their externalizing behavior problems than when they had a black teacher (Bates & Glick, 2013). Similarly, a study of preschoolers and kindergartners found that when there was an ethnic match between the teacher and the child, teachers rated their relationships with the children more positively than when there was not ethnic match (Saft & Pianta, 2001). In regards to the CBCL, prior research has found a different factor structure when examining the measurement equivalence of the CBCL by income and ethnicity (Gross et al., 2006; Konold, Hamre, Pianta, 2003) leading to researchers cautioning the interpretation of results from the CBCL in low income and ethnically diverse samples (Konold et al., 2003). These studies suggest that there may be a rater bias for non-ethnically matched pairs, such that in non-ethnically matched pairs, parents may rate the child's behavior problems as higher. However, due to a paucity of research examining an ethnic match between the caregiver and child in foster care populations and the correlational nature of the current study, we cannot infer whether non-ethnically matched child-caregiver pairs report more externalizing behavior problems for the child due to a bias or whether there are positive effects of being placed in an ethnically matched child-caregiver pair. Future research should focus on further evaluating this issue.

As has been found in several prior studies, children in kinship homes had lower externalizing behavior scores than children in non-kinship homes (Cheung et al., 2011, Hegar & Rosenthal, 2011, Keller et al., 2011; Vanschoonlandt et al., 2013; Winkour et al., 2014). Because of the correlational nature of the study, directionality cannot be inferred. Recent research has suggested that differences in behavior problems between children entering kinship care and non-kinship care can be explained by the characteristics of the child (e.g., more behavior problems) and not necessarily the characteristics of the current placement (Font, 2015). Kinship caregivers have more information about the child than non-kinship caregivers pre-placement. Therefore, there may be a selection bias where children with more behavior problems are ending up in non-kinship homes because kinship caregivers select not to take them. Moreover, children with the highest level of behavior problems may be placed in restrictive foster care placements. There may also be a reporting bias for non-kinship caregivers. Non-kinship caregivers have been found to overestimate their child's externalizing behavior problems in comparison to the child's teachers (Shore, Sim, Le Prohn, & Keller, 2002). In particular, it may be beneficial to equip non-kinship parents with extra training and skills to manage the child's behavior problems, which may result in parents feeling better prepared, which in turn may decrease any reporting biases and/or differences in child behavior problems between kinship and non-kinship placements.

Parent stress also emerged as an important predictor of both internalizing and externalizing behavior problems for the child. As mentioned earlier, prior research suggests that there may be a bidirectional relationship between parenting stress and the child's externalizing behavior problems (Baker et al., 2003). Furthermore, in a recent study of children diagnosed with autism, researchers found some evidence for a bidirectional relationship between parent stress and the child's internalizing and externalizing behavior problems (Zaidman et al., 2014). In the current study foster parents are rating their foster children's behavior and therefore, this result may suggest that parents of children with high levels of behavior problems feel more stressed, as prior research in foster populations has found that parents of

children with more behavior problems are more likely to be stressed (Vanderfaellie et al., 2012; Vanschoollandt et al., 2013). More longitudinal research is needed to assess the nature of the bidirectional relationship between stress and behavior problems in a foster care population, but results from this study suggest that greater parenting stress is associated with higher levels of child externalizing and internalizing behavior problems.

The focal sibling's (i.e., the child in the home closest in age to the foster child) externalizing behavior problems emerged as a significant predictor of internalizing behavior problems. Past research has found that aggression among siblings predicts increases in a child's internalizing behavior and mental health distress (Fagan & Najman, 2003; Tucker, Finkelhor, Turner, & Shattuck, 2013). These results may lend support to extending intervention programs, such as Siblings are Special, which promotes positive sibling relationships to target behavior problems, to foster care populations (Feinberg et al., 2013). The relationship between the focal sibling's externalizing behavior and the child's internalizing behavior was stronger for children in kinship care compared to children in non-kinship care. Interestingly, the focal sibling's relation to the foster child (i.e., whether they were a biological sibling or not a biological sibling) did not moderate the relation between the focal sibling's externalizing problems and the child's internalizing problems. This suggests that biological differences in sibling relationships are not resulting in a differential association. Instead results indicate that something about the family environment in kinship vs. non-kinship care is creating a differential association between the focal sibling's externalizing behavior problems and the focal child's internalizing problems. There may be greater environmental risk in kinship homes, as some research has suggested that non-kinship parents are less stressed than kinship parents despite having children that have more behavior problems (Timmer, Sedlar, & Urquiza, 2004). Moreover, non-kinship parents generally live in safer neighborhoods and have a higher income than kinship parents (Stacks & Partridge, 2011). More research is needed to elucidate the specific aspects of the kinship home environment that may be contributing to this relationship.

Contrary to predictions, the child history predictors, as a set, did not emerge as a significant predictor of behavior problems. However, one individual child history predictor emerged as significant, as more group home placements was associated with higher externalizing behavior problems, which is consistent with findings from other studies (Newton et al., 2000; Simmel, 2007). Reason for removal as an indicator of maltreatment did not significantly predict internalizing or externalizing behavior problems. One possible explanation for this may be because various forms of maltreatment impact the child's behavior problems equally. For example, one study examining maltreatment subtypes found that no specific type of maltreatment was associated with cognitive functioning, such as nonverbal IQ scores or academic achievement (Petrenko et al., 2012). Therefore, the type of maltreatment the child experiences may not lead to differences in certain domains because maltreatment in general negatively impacts the child's well being (Petrenko et al., 2012). Another possibility, is that the reason for removal variable used in this study did not accurately assess children's actual maltreatment experiences, and therefore, was not significantly associated with either type of behavior problem.

The current study underscores the importance of the current foster home context when assessing the child's behavior problems, specifically the importance of the focal sibling's behavior problems, the foster parent's stress, and certain demographic characteristics such as a parent-child ethnic match and kinship care status. This may be particularly true for internalizing behavior problems, where foster parent stress and focal sibling behavior problems were the only significant predictors. In some homes there may be a high risk environment where the foster child's and sibling's behavior problems and the foster parent's stress are greater. Studies have shown that disruptive behavior problems, such as substance abuse, can be perpetuated in the home through a contagion framework over and above genetic relatedness (Rende, Slomkowski, Lloyd-Richardson, & Niaura, 2005). One study of low income, rural families found that there is a bidirectional relationship between father perpetuated intimate partner violence and maternal aggression towards the child and that these forms of aggression contributed to child's behavior problems, suggesting that overall family environment contributes to the child's behavior (Gustafsson, Barnett, Towe-Goodman, Mills-Koonce, & Cox, 2014). More research is needed to examine the relationships between foster parent, sibling, and child behavior in foster homes. Additionally, results from this study suggest that kinship home status may moderate these associations, such that the family environment may differentially contribute to a child's behavior problems if the child is in a kinship compared to a non-kinship home.

The results from the current study suggest that foster and kinship families may benefit from interventions that target several parenting behaviors and family processes, including parenting strategies for managing child externalizing behavior problems, approaches for helping parents to deal with children with internalizing behavior problems, parenting techniques for promoting positive sibling/peer interactions, and strategies for helping foster and kinship parents manage stress. As an example, the KEEP foster parent training program, which utilizes a parent management training approach, has been found to increase use of specific parenting strategies that led to decreases in child behavior problems (Chamberlain, et al., 2008). In addition, the intervention has been found to decrease parental stress associated with child behavior problems and to reduce the behavior problems of other children in same home who were not the focus of the intervention (Price et al., 2015). Parent management training approaches may be enhanced when combined with programs that promote positive sibling relationships, such as the Siblings are Special program (Feinberg et al., 2013). Combined, these interventions programs would address multiple aspects of the home environment and potentially lead to greater reductions in child behavior problems, contribute to more positive family interactions, and even help to reduce parental stress levels.

Consistent with prior work (Goemans, van Geel, & Vedder, 2015), length of time in the home was not associated with decreased behavior problems. This may underscore the importance of intervention services for foster families, as this may be one way to assist caregiver in improving children's mental health functioning while in care.

4.1 Directions for Future Research

In this study the associations between a set of child history and contextual predictors and internalizing and externalizing behavior problems were examined. Additional research is necessary to more fully understand the direction and magnitude of these associations. Using longitudinal methods, the bidirectional relation between parent stress and the child's behavior problems and the relation between the sibling's externalizing behavior problems and the child's internalizing behavior problems could be assessed. Furthermore, further research efforts should focus on understanding the underlying mechanisms that explain the potential impact of kinship home status and parent-child ethnic match on the child's externalizing behavior problems. Meta-analyses, such as Winkour et al., 2014, have found that children in non-kinship care experience worse outcomes than those in kinship care, but researchers are just beginning to understand why this is the case (e.g., Font, 2015).

Continued research on the relation between behavior problems in various sibling groups within foster and kinship care would benefit from examining the potential role of shared genetic history between biological siblings. Researchers have found that there may be a genetic contribution to the development of behavior problems (Comings, 1997). Therefore, the greater the level of kinship between children, the more likely the potential similarity on behavioral outcomes. Biological siblings could be similar in levels of behavior problems due to shared genetic history, similar family histories, shared current social environmental processes (e.g., lack of parental monitoring), or even to reciprocal behavior exchanges between siblings. However, to understand the contributions of each of these factors, each would need to be assessed and their potential contributions analyzed in the same statistical models. Lastly, future research would also benefit from the use of multiple informants and measures of the child's behavior problems from different contexts of the child's life (i.e., school, day care, etc.).

4.2 Limitations

The data generated in this study was correlational in nature and therefore, direction and causal links between the predictors and behavior problems cannot be inferred. Moreover, a multivariate data analytic approach was not used and therefore, the cumulative effect of the predictors on the dependent variables is unknown. Data from this study were collected from a single child welfare population in San Diego County with elementary school aged children and therefore results may not generalize to other welfare populations or other age groups. Parents were also the only informants of behavior problems, which only allows for one source of information. Additionally, to be eligible for this study, children were required to have been in the home for one month and therefore, the results may not generalize to children in temporary placements or who have just been placed in a foster home. Maltreatment was measured by reason for removal from the home as documented in administrative files, which served as a proxy measure of maltreatment and may not accurately represent children's maltreatment experiences. In the current study, our data collection was limited in the scope of the demographic variables, such that data on the focal sibling's ethnicity was missing. Lastly, we examined a limited number of predictor variables and future work would benefit from examining parenting variables, such as harsh discipline,

and the interaction of parenting variables with child and sibling factors on the behavior problems of children in care.

4.3 Conclusion

Results from this study suggest that children with higher levels of externalizing behavior problems, who have parents with greater parenting stress and sibling's with higher externalizing behavior scores, are at a greater risk for more internalizing behavior problems. Kinship home status moderated the association between the sibling's externalizing behavior and the child's internalizing behavior, such that the sibling's externalizing behavior was a stronger predictor of the child's internalizing behavior if the child was in a kinship compared to a non-kinship home. Children with higher levels of internalizing behavior problems, who have more prior group home placements, are in a non-kinship home, are not an ethnic match with their parent, and have parent's with higher stress are at a greater risk for elevated externalizing behavior problems. Overall, results suggest that for children in non-temporary foster placements, contextual factors may play an important role in the severity of the child's behavior problems and these contextual factors may differentially impact the child's behavior problems if the child is in a kinship compared to a non-kinship home. This has important implications for interventions, in particular it may be beneficial for interventions to focus on targeting reductions in the behavior problems of multiple children in the home and providing parents with stress coping skills. Additionally, it may be beneficial for social welfare systems to further consider the potential benefits of kinship care and ethnically matched parent-child pairs. This study adds to the current literature on foster child behavior problems by identifying unique predictors of children's behavior problems that have not been examined before, such as an ethnic match between the parent and child and the role of the sibling's behavior problems, and presenting findings that suggest that for children in longer term foster care, contextual factors may be more important predictors of children's internal and externalizing behavior problems.

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Highlights

- Children in foster care display elevated levels of behavior problems.
- Child history and contextual factors were examined as predictors of these problems.
- Current context explained a significant amount of variance in behavior problems.
- Child history factors did not explain a significant amount of variance.
- Kinship care status moderated the effect of sibling behavior on child behavior.

Figure 1.

The interaction between kinship care status and focal sibling externalizing behavior on child internalizing problems, controlling for sibling status, the child's externalizing problems and parent stress. Kin= Kinship care, Non-Kin= Non-kinship care. Focal sibling externalizing problems and child internalizing problems were measured using CBCL raw scores. The focal sibling was the child closest in age to the focal child.

Table 1**Demographic data**

Focal Child		
Mean		
<i>Age in years</i>		7.57 (2.39)
Percent		
<i>Male</i>		51.6%
<i>Ethnic Match with the Parent</i>		54.3%
Foster Parent		
Mean		
<i>Age in years</i>		45.44 (10.49)
<i>Months been a foster parent</i>		42.06 (58.83)
Percent		
<i>Male</i>		7.5%
<i>English Speakers</i>		63.9%
<i>Hispanic, Latino, or Spanish</i>		59.1%
<i>With a Spouse</i>		58.6%
Focal Sibling		
Mean		
<i>Age</i>		8.2 (3.95)
Percent		
<i>Male</i>		49.8%
Focal Child's		
<i>Ethnicity</i>		
Caucasian		14.4%
African American		17.7%
American Indian/Alaska Native/ Asian		2.4%
Hispanic		48.9%
Mixed Ethnicity		16.5%
Foster Parent's		
<i>Ethnicity</i>		
Caucasian		36.3%
African American		16.5%
American Indian/ Alaska Native/ Asian		3.9%
Hispanic		41.1%
Mixed Ethnicity		2.1%

Table 2
Descriptive statistics

Variable	M or Frequencies (%)	SD
Internalizing problems (<i>N</i> = 310)	7.79	6.85
Externalizing problems (<i>N</i> = 310)	12.60	10.59
Contextual Variables		
Kinship home status (<i>N</i> = 310)	Kin (47.7%, <i>N</i> = 148) Non-Kin (52.3%, <i>N</i> = 162)	
Presence of a bio sibling (<i>N</i> = 310)	Yes (74.8%, <i>N</i> = 232) No (25.2%, <i>N</i> = 78)	
Focal sibling status (<i>N</i> = 310)	Bio sibling (42.3%, <i>N</i> = 131) Non-bio sibling (57.7%, <i>N</i> = 179)	
Number of months child has been in the home (<i>N</i> = 310)	12.57	18.08
Number of children in the home (<i>N</i> = 310)	3.54	1.44
Focal sibling externalizing problems (<i>N</i> = 308)	8.46	8.37
Parenting stress (<i>N</i> = 309)	1.98	0.83
Child History Variables		
Child placement history (<i>N</i> = 310)		
Group home	0.95	1.04
Regular home	2.68	1.89
Prior removals from home (<i>N</i> = 310)		
Neglect	1.57	2.08
Physical abuse	0.34	0.99
Sexual abuse	0.13	0.51
Emotional abuse	0.41	1.05

Note. Presence of a bio sibling (1 = biological sibling present in home, -1 = no biological sibling present). The focal sibling was the child closest in age to foster child in the home and therefore, may or may not have been related to the foster child. Focal sibling status refers to whether the focal sibling was a biological or non-biological sibling to the focal child. Internalizing problems are the CBCL internalizing subscale raw scores; externalizing problems are the CBCL externalizing subscale raw scores.

Table 3

Bivariate correlations

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
(1) Internalizing problems	—													
(2) Externalizing problems	.61**	—												
Contextual Factors														
(3) Number of kids in the home	.02	.07	—											
(4) Parent stress	.46**	.40**	.05	—										
(5) Sibling externalizing	.38**	.28**	-.06	.24**	—									
(6) Number of months child has been in the home	-.14*	-.14*	-.08	-.04	.01	—								
Child History Factors														
(7) Group placements	.09	.17**	-.01	-.01	.01	-.18**	—							
(8) Regular placements	-.02	.02	-.12*	.01	.02	.08	.36**	—						
(9) Neglect removals	-.03	.04	-.01	.04	.01	.01	.25**	.39**	—					
(10) Physical abuse removals	.03	.04	-.02	-.06	.05	-.12*	.15*	.12*	.42**	—				
(11) Sexual abuse removals	.05	-.01	.04	-.11	.03	-.05	.08	-.04	-.15*	-.07	—			
(12) Emotional abuse removals	.09	.09	-.09	.06	-.04	-.06	.07	.10	-.22*	-.11*	-.02	—		
Control variables														
(13) Foster parent education	.18**	.19**	-.17**	.17**	-.03	.15**	.13*	.42**	.10	-.02	-.01	.13*	—	
(14) Foster parent age	-.08	-.06	-.12*	.02	.14**	-.02	-.05	-.07	-.03	-.08	-.02	.01	-.10	—
(15) Foster child age	.06	-.04	-.04	.04	.10	.19**	.18**	-.05	.12*	.07	-.03	-.10	-.04	.09

Note.

* $p < .05$.

** $p < .01$.

Internalizing problems are the CBCL internalizing subscale raw scores, externalizing problems are the CBCL externalizing subscale raw scores for the focal sibling and focal child. The focal sibling was the child closest in age to the focal child in the home.

Table 4
Child history and contextual factors predicting internalizing problems

Predictor	β	F, F	R^2	R^2
Step 1- Control Variables		$F(2, 303) = 96.23, p < .001$	.39	
Parent education	.08			
Child externalizing problems	.60**			
Step 2- Child History Variables		$F(3, 297) = 0.76, p = .61,$		.01
Child's group home placements	-.01			
Child's regular home placements	-.01			
Neglect removals	-.07			
Physical abuse removals	.05			
Emotional abuse removals	.01			
Sexual abuse removals	.05			
Step 3- Contextual Variables		$F(6, 291) = 8.63, p < .001$		.09
Kinship home status	.01			
Focal sibling externalizing problems	.20**			
Parent's stress	.23**			
Presence of a bio sibling	-.02			
Number of children in the home	-.01			
Months in home	-.06			

Note.

*
 $p < .05$,

**
 $p < .01$.

β = Standardized regression coefficient. Kinship home status (1 = kinship home, -1 = non-kinship home). Presence of a bio sibling (1= biological sibling present in home, -1= no biological sibling present). The focal sibling was the child closest in age to foster child in the home and therefore, may or may not have been related to the foster child.

Table 5
Child history and contextual factors predicting externalizing problems

Predictor	β	F, F	R^2	R^2
Step 1- Control Variables		$F(3, 298) = 65.45, p < .001$	.40	
Parent education	.05			
Child internalizing problems	.61**			
Ethnic match	-.10*			
Step 2- Child History Variables		$F(6, 292) = 1.37, p = .23,$	.02	
Child's group home placements	.11*			
Child's regular home placements	-.04			
Neglect removals	.05			
Physical abuse removals	-.03			
Emotional abuse removals	.04			
Sexual abuse removals	-.04			
Step 3- Contextual Variables		$F(6, 286) = 3.34, p = .006$	.04	
Kinship home status	-.12**			
Focal sibling externalizing problems	.05			
Parent's stress	.16**			
Presence of a bio sibling	-.02			
Number of children in the home	.06			
Months in home	-.02			

Note.

*
 $p < .05,$

**
 $p < .01.$

β = standardized regression coefficient. Ethnic match (1 = ethnic match between parent and child, -1 = No ethnic match between parent and child). Kinship home status (1 = kinship home, -1 = non-kinship home). Bio sibling presence (1 = Biological sibling present in home, -1 = no biological sibling present). The focal sibling was the child closest in age to foster child in the home and therefore, may or may not have been related to the foster child.