Academic Achievement Among a Sample of Youth in Foster Care: The Role of School Connectedness

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Abstract

Research shows that youth in foster care experience poor academic performance and disciplinary actions in school more frequently than do non-foster care youth. The purpose of this cross-sectional study was to further examine youth in foster care and the relationship between individual/intrapersonal factors (future orientation and school connectedness) and exosystem factors (number of placement and school moves) and academic performance (grades) and disciplinary referrals among 363 youth (9–11 years of age; males=52.9%). Controlling for key variables, hierarchical linear regression analysis was utilized to understand how well students' school connectedness, future outlook, number of placement changes, and number of school moves predicted academic and disciplinary outcomes. Beyond the variance explained by control variables, school connectedness made a significant contribution to this model. Results are discussed in the context of implementing interventions that foster school connectedness among this vulnerable population.

Keywords

foster care; achievement; placement mobility

Introduction

For all youth, being academically successful plays a significant role in shaping independence and positive life prospects upon entering adulthood (Sullivan et al., 2010). It is well-documented that those who graduate from high school have greater employment opportunities, higher-paying jobs, better health, and decreased participation in criminal activity compared to those without a high school diploma (Campbell, 2015; Hass &

Graydon, 2009; Lee et al., 2016). Research has shown, however, that the educational well-being of youth in foster care is far inferior in comparison to their peers (Benbenishty et al., 2018).

Academic Achievement Among Youth in Foster Care

The disparity in the achievement of youth in foster care is apparent in a variety of studies. Pears et al. (2011), for example, found that of their foster care sample, 54% of the youth fell in the at-risk range in the area of phonological awareness upon entering kindergarten. This is significant, as phonological awareness skills are the greatest predictors of later reading skills, thus highlighting the deficits that youth in foster care face even before enrolling in kindergarten (Pears et al., 2011). The average 17- to 18-year-old in the foster care system is reported to be reading at a seventh-grade level, while only 44% of these students are reading at a high school level (Courtney et al., 2004). Youth in foster care are more likely to perform lower on state assessments and on average miss twice the amount of school within one academic calendar year compared to their biologically reared counterparts (Blankenship, 2018; Krier et al., 2018). Scherr (2007) found that 33% of students in foster care have failed a grade or have been retained in school.

While it is challenging to calculate the exact number of foster care youth who receive special education services due to frequent mobility (Berardi & Morton, 2017), it is estimated that about 30 to 50% of youth in foster care receive special education services (Palmieri & La Salle, 2017; Powers et al., 2012). In comparison, about 11.5% of biologically-reared youth receive special education services (Palmieri & La Salle, 2017). Although it is possible that this percentage reflects the accurate need for services for these youth, it is more likely that this population is receiving these services due to gaps in instruction from school mobility (Palmieri & La Salle, 2017; Scherr, 2007). In addition, Zetlin (2006) addresses this high rate of special education identification by stating that it is common for schools to lack sufficient educational supports and services to accommodate students who are at risk of failure, or who are struggling academically. As a result, school districts often over-identify these students as needing special education in order to provide them with more intensive services (Zetlin, 2006).

Given these statistics, it is unsurprising that only 65% of youth in foster care graduate high school by 21 years of age, compared to the national graduation rate of 84% (National Center for Education Statistics, 2018; National Youth in Transition Database Data Brief #5, 2016). Further, between 30–45% of youth with a foster care history attend college and only 3–10% earn a bachelor's degree (Pecora et al., 2003). In comparison, in 2017 in the U.S., 46% of 25- to 29-year-olds earned at least an associate degree and 36% earned at least a bachelor's degree (U.S. Department of Education, 2018). These statistics highlight the difficulties that youth in foster care experience in their academic careers, demonstrating the dire need for intervention to improve their academic success.

Disciplinary Referrals Among Youth in Foster Care

School disciplinary referrals, such as detentions and suspensions, can be problematic, as they often lead to lost classroom instruction and increase the risk of grade repetition,

defiance, and dropping out of high school (Kothari et al., 2018). Research has shown that youth in foster care experience a disproportionately higher rate of disciplinary referrals compared to biologically-reared youth (Arcia, 2006; Crosby et al., 2015;). Adolescents in foster care are, on average, twice as likely to have had an out-of-school suspension, and are three times as likely to have been expelled compared to non-foster youth (Courtney et al., 2004). Further, a study of 315 youth in foster care in Oregon found that 33.2% experienced a school discipline event in the two-year time period of the study. Of these events, male students of color who were in foster care had the highest rates of school punishment (Kothari et al., 2018). Additionally, students who were suspended from school on a more frequent basis had a higher likelihood of dropping out of school compared to students with fewer suspensions (Arcia, 2006).

There are a number of factors that contribute to this disproportionate rate of discipline among youth in foster care. The majority of youth enter foster care due to abuse, neglect, or homelessness, and many of these youth have been exposed to violence, which is typically conceptualized as a trauma exposure. These experiences can lead to emotional and behavioral difficulties, including depression, anxiety, and posttraumatic stress disorder (Day et al., 2017). In fact, almost half of the students in foster care who receive special education services are eligible due to emotional or behavioral impairments (Morton, 2015). Traumatic experiences impact every individual differently (Souers & Hall, 2016). Some may exhibit more internalizing symptoms and become stagnated or even immobilized by anxiety, which can be misconstrued as defiant behaviors (Souers & Hall, 2016), while others experience more externalizing behaviors, such as aggression (Day et al., 2017; Smithgall et al., 2013), which are typically perceived as defiant. These behaviors frequently lead to detention or suspensions (Baroni et al., 2016; Smithgall et al., 2013), and is one explanation as to why youth in foster care experience discipline more frequently than their biologically-reared counterparts (Berardi & Morton, 2017). Since disciplinary referrals in and of themselves are related to undesired life outcomes (Kothari et al., 2018), they are important to study alongside academic achievement.

Ecological Theory

The previously mentioned challenges that youth in foster care experience illustrates a need to examine the strongest predictors of academic success and positive school behaviors among this group. In conceptualizing how to best explain variance in both academic achievement and behavioral difficulties/disciplinary referrals, an ecological framework is useful, as there are multiple layers and contexts in which children grow and are influenced. According to Urie Bronfenbrenner's ecological model (Bronfenbrenner, 1994), human development throughout the lifespan is shaped by the interactions of various systems that influence an individual's life.

Beyond one's own intrapersonal factors contributing to his/her outcomes, Bronfenbrenner identified external systems as having five separate layers: the microsystem (direct influences on youth, e.g., family, peers, school), the mesosystem (interactions between the individual's microsystems, e.g., parent-teacher communication), the exosystem (indirect influences of forces outside of one's mesosystem, e.g., parent's job/workplace), and the macrosystem

(cultural values, customs, or laws that impact the other systems). The final layer, the chronosystem, refers to the effect of age/time on an individual's development.

Conceptualized as concentric rings with factors most internal to an individual (intrapersonal variables) at the center, with each external system layered as one moves outward from the center, this framework has been used to guide the variable selection for this study, which will be reviewed next. Intrapersonal factors were of focus, as they are inevitably influential on one's behavior and outcomes, and are particularly likely to be involved in determining one's level of resilience. We also targeted factors within the exosystem, as there are factors at that level that are beyond the control of children but that have a strong systemic impact as well, which is likely to be especially salient in youth in foster care.

Intrapersonal Factors

The previously mentioned challenges that youth in foster care experience illustrates a need to examine the factors most strongly associated with academic success and disciplinary referrals. Several intrapersonal variables have been identified as protective factors, which may improve a student's chances of school success. In particular, this study focused on the intrapersonal protective factors of school connectedness and students' orientation toward the future. Although students' self-reported responses on these two variables may be shaped by relationships, interactions, and other factors at various levels of one's ecology (e.g., microsystem, mesosystem, etc.), they are conceptualized here as uniquely the self-reported feelings and attitudes of the individual youth and thus falling with the intrapersonal domain at the very center of the model.

School Connectedness—School connectedness can be broadly defined, but generally includes the degree of support in student-teacher relationships, relationships with peers, opportunities to be involved in school, and feelings of belonging (Bond et al., 2007; Goodenow & Grady, 1993; Libbey, 2004). Indeed, there has been much overlap between various definitions of constructs that are measuring similar if not identical variables, such as school belonging, school engagement, school attachment, and school identification (Allen et al., 2018; Palmieri & La Salle, 2017; Slaten et al., 2016; Somers & Gizzi, 2001).

Given the importance noted in key psychological and developmental theories of "belonging" (e.g., Baumeister & Leary, 1995; Maslow, 1943), it is unsurprising that school connectedness has been identified as an important factor in reducing adolescent risk behavior (Dornbusch et al., 2001) and in promoting good mental health (Bond et al., 2007) and academic success (Slaten et al., 2016). Additional research has indicated that students with strong school connectedness report higher levels of academic achievement, and are more likely to complete secondary school (Bond et al., 2007). For example, one study of at-risk biologically-reared sixth-graders found that those with stronger feelings of school connectedness were more likely to earn higher grades, suggesting that school connectedness might serve as a protective factor for academic success (Niehaus et al., 2012). Further, Tian et al. (2016) found that among a group of 890 biologically reared elementary students in southern China, school belonging was a significant predictor of satisfaction and positive affect while in school. Literature has also shown a strong association between this construct

and students' emotional and behavioral outcomes for non-foster care youth (Law et al., 2013; Li & Lerner, 2011; Marraccini & Brier, 2017).

It has been documented that children involved in the foster care system are more likely to have low school engagement, and when these youth experience numerous school changes, they are less likely to develop supportive relationships with school staff and peers (Tilbury et al., 2014). Similarly, Pears et al. (2013) found that youth in foster care had lower levels of connection to school compared to their biologically reared counterparts. Further, participation in extra-curricular school activities can aid in feelings of school belonging. Yet, Martin and Jackson (2002) stated that youth in foster care reported limited opportunities to engage in these activities.

In the quest to discover the intersection of factors that help to predict school belonging, the role of future outlook has also been examined. For example, Tilbury et al. (2014) found that youth in foster care with specific career goals felt more connected to their school environment. When the youth in this sample felt academically successful, it evoked a sense of pride and positive emotions about school, which contributed to the youths' overall school connectedness. Due to psychological theories highlighting the importance of belonging to well-being and previous literature suggesting that school connectedness is a predictor of academic success for students in general, this was included as a key variable in the study.

Future Orientation—Indeed, future orientation, or one's beliefs that they are able to achieve their goals, is important to assess in and of itself, and not just for its contribution to belonging/connectedness alone. These expectations influence motivation and planning of life goals (Sulimani-Aidan, 2017) and are likely important for many critical outcome variables. For example, youths' expectations for future educational attainment (years of school/level of schooling) by age 15 are associated with higher educational achievement (Adelabu, 2008; Ou & Reynolds, 2008). In addition, future occupational outlook has been found to predict occupational attainment (Rudolph et al., 2018). There is also evidence that future orientation is also connected to more immediate behaviors and outcomes, including academics (Carvalho & Novo, 2015), engagement in school (King, 2016), social-emotional functioning (Hamilton et al., 2015), and even risk behavior (Cabrera et al., 2009; Somers & Gizzi, 2001).

Although it has been demonstrated that future orientation plays a significant role in determining an individual's success (Carvalho, 2015), little research has been conducted specifically with youth in foster care (Van Audenhove & Vander Laenen, 2015) and the findings that do exist are somewhat inconsistent. In a study of Belgian youth in foster care, for example, Van Audenhove and Vander Laenen (2015) found that only about one-quarter of the sample had positive expectations for their future. On the other hand, in a sample of Israeli-youth on the verge of transitioning out of foster care, Sulimani-Aidan and Benbenishty (2011) found that the majority of the sample also felt more optimistic about their futures than the researchers initially anticipated, although their optimism varied by topic (relationships, high school completion, occupational attainment, etc.). Lastly, in a study of Israeli youth in foster care, those with optimistic future expectations reported higher

educational attainment and economic status one year after leaving foster care (Sulimani-Aidan, 2015).

Due to the lack of research pertaining specifically to youth in foster care (Van Audenhove & Vander Laenen, 2015) for the associations between the variables of interest in this study, we must also draw on the literature among those not in foster care. Specifically, as noted above, there are several studies that have demonstrated the important relationship between young adults' future outlooks and their later achievements. As there is limited research on the future orientation of youth in foster care, these parallel studies show that future orientation is important for achievement and mental health. As a result, examining the future orientation of youth in foster care, and how it impacts their educational attainment, may provide important information about predictors of success in school.

Exosystem Factors

In addition to intrapersonal factors, youth in foster care are often considered to be "at-risk" for poor outcomes due to a variety of adverse circumstances that occur in their environment. According to Bronfenbrenner's ecological framework, the exosystem is reflected in the interplay between two different events or settings that indirectly influence an individual's development, even though the individual does not have direct control over it, such as a parent's workplace or environment at home (Bronfenbrenner, 1994). When considering predictors of academic and school behaviors among youth in foster care, there are many studies about the associations between microsystem and mesosystem variables and students' academic success and school behavior (O'Malley et al., 2015; Pecora, 2012; Rios & Rocco, 2014). Therefore, this study focuses on the exosystemic variables of placement and school stability.

Placement and School Instability—Youth in foster care commonly experience placement changes, which is associated with lower academic achievement over time (Clemens et al., 2018; Pecora, 2012). Students who frequently move homes have a greater likelihood of dropping out of school, and this risk rises as the number of residential transitions increases (Herrenkohl et al., 2003). In addition, school instability of youth in foster care is highly correlated with placement instability, as students with unstable placement histories have the highest rates of school changes (Zorc et al., 2013). Pears et al. (2015) found that youth in foster care were over three times more likely to move schools than was the general population of students, and these moves were mainly the result of changes in foster placement. These students were also more likely to move across districts and typically experienced these school moves during the academic school year.

A study of Colorado youth in the foster care system found that when a foster care placement and school transition co-occurred, the students' academic growth significantly decreased in reading, writing, and math. On average, the students' reading scores declined by 3.7 percentile points, writing reduced by 3.0 percentile points, and math declined by 3.5 percentile points, and this academic decline continued to impact these students' achievement in the following year (Clemens et al., 2018). Further, Mihalec-Adkins et al. (2020) found

that placement security contributed to positive future orientation for youth in foster care, which was associated with higher levels of school engagement.

Similarly, there is a cyclical relationship between placement/school instability and internalizing and externalizing behaviors. Research has shown that volatile placement histories among youth in foster care contribute to the development of internalizing and externalizing behaviors. In addition, externalizing behaviors were also found to be a strong predictor of placement changes (Newton et al., 2000). According to Rubin et al. (2007), behavioral problems likely increase the number of school absences and exacerbate the risk of poor academic achievement. Overall, placement and school instability are bi-directionally related to internalizing and externalizing behaviors, which has been shown to increase the risk of poor school performance, and these dynamics are likely cyclical, though directionality and causation have not been established.

Additional Correlates of Academic Achievement and School Discipline Rates

In addition to the factors noted above, there are other factors known to be associated with success in school for all students, and thus they were included in the current study. For example, data has shown that youth who receive special education services are more likely to experience academic difficulties compared to youth who do not receive this support (Naccarato et al., 2010; Scherr, 2007). Moreover, repeating a grade has been associated with poorer academic achievement (Courtney et al., 2004).

There have also been racial differences in these outcomes. For example, African American youth have disproportionately received in-school detentions and suspensions in comparison to white counterparts. Among a sample of 306 Virginia high school students, Heilbrun et al. (2015) found that African American students experienced almost twice the amount of suspension compared to Caucasian students. African American students were also found to be more likely to experience suspensions due to disruptiveness that interfered with the learning environment while Caucasian students were more likely to be suspended for more serious behaviors, including the use of alcohol or illicit substances (Heilbrun et al., 2015). Additionally, Losen and Skiba (2010) found that 28% of male African American middle school students were suspended in comparison to only 10% of male Caucasian counterparts. Regarding academic achievement, among a sample of 752 schools across the United States, 10th grade Caucasian students scored in the 55th percentile, on average, on test scores while African American students scored, on average, at the 28th percentile on the same measures (Rowley & Wright, 2011).

There are gender differences in these variables that are important to consider as well. For example, male students are more likely to experience school punishment compared to female students (Kothari et al., 2018). The intersection of gender with race, and additionally with foster care status, also cannot be ignored. Male students of color who are in foster care had the highest rates of school punishment (Kothari et al., 2018). These data highlight the discrepancy in academic achievement among African American and Caucasian students. Due to prior literature such as this that demonstrates variations by race and gender, they were included in this study.

Purpose of the Current Study

As demonstrated in the above literature review, various factors have been associated with the academic performance and overall academic success of youth in foster care, which has critical implications for their future success. The purpose of the current study was to analyze the following questions: 1) How well do the selected individual/intrapersonal factors (future orientation and school connectedness) and exosystem factors (number of placement and school moves) predict academic performance (through school grades) and 2) How well do the same individual/intrapersonal factors and exosystem factors predict disciplinary referrals? Across both purposes, we hypothesized that academic performance was the result of a combination of multiple individual/intrapersonal and exosystem factors that contributed unique and combined explanations of variance in academic achievement for youth in foster care. Specific to both purposes 1 and 2, we hypothesized that youth in foster care with higher levels of these positive intrapersonal factors and fewer negative exosystemic factors would experience greater academic success, as demonstrated by higher grades and less likelihood of disciplinary referrals.

Method

Participants

The sample included 363 pre-adolescent children and their caregivers from a large, urban Western city in the USA. The participants consisted of 52.9% boys and the average age was 9.8 years ($SD = .90$). The participants' racial/ethnic composition (non-exclusive categories) was 51.6% Caucasian, 51.2% Hispanic, and 26% African American. Within this sample, 55.4% (n = 201) were living with a relative or friend of the family, 40.5% (n = 147) were living with a foster/adoptive family, and 4.1% (n = 15) were living in a residential treatment center.

Participants were recruited for a randomized controlled trial of an intervention for maltreated children (aged 9–11) in foster care known as Fostering Healthy Futures (FHF), a 9-month mentoring and skills group program (Taussig et al., 2007). Participants were enrolled from 2007–2011 and were eligible for participation in the study if (1) they experienced a new episode of out-of-home care due to maltreatment by court order within the preceding year, (2) they still resided in foster care at the time of the baseline interview, and (3) their cognitive functioning was sufficient to comprehend the interview questions. There were 402 eligible children from the four participating counties; 363 participated in the baseline interview for a 90.3% recruitment rate. Cross-sectional, baseline (pre-randomization) data were used in this study.

Measures

Demographic Variables—The demographic variables of interest in this study included gender (0 = Female and 1 = Male), whether or not the participant had ever experienced grade retention (0 = No and 1 = Yes; missing data=2.5%), and whether or not the participant reported having received any special help at school (0 = No and 1 = Yes; missing data=3.0%), which could have been through special education or through interventions aimed at students struggling academically but not in special education--the goal was to

control approximately for some level of learning needs. The following racial/ethnic categories were non-exclusive: Hispanic or Latino (n=168); American Indian or Alaska Native (n=131); African American (n=88); Caucasian (n=173); and other ethnicity (n=40). These data were provided by caregivers, except for data on receiving special help in school, which was collected directly from the participants. For race/ethnicity, the missing variables ranged from 5.2% to 12.4%.

Predictor/Independent Variables—School connectedness and future orientation were included as predictor/independent variables at the intrapersonal level. At the exosystem level, number of placement changes and number of school moves were included as predictors/independent variables.

School Connectedness.: Students' school connectedness was measured with the Psychological Sense of School Membership (PSSM) total scale, which is an eight-item, Likert-type scale that asked students to rate various statements about their school experience (e.g., "I feel like a real part of my school," "People at my school notice when I'm good at something," "Most teachers at my school are interested in me"). Responses were on the following three-point scale: "not at all true", "somewhat true", and "very true", which were coded as "1", "2", or "3". The scores were then averaged across the eight items and higher scores reflected a greater level of connectedness to school. Prior research has found this instrument to have consistent support as a unidimensional construct across multiple cultural groups (e.g., Wagle et al., 2018) and good reliability (alpha=.88; Goodenow, 1993). Among the current sample, the internal consistency reliability coefficient (Cronbach's alpha) was .75. Data were missing for 5.5% of the participants.

Future Orientation.: Future orientation was measured using a 10-item, Likert-type scale, which asked students about the likelihood that they would experience various future accomplishments (e.g., graduating high school, going to college, getting a job that pays well). Responses included "low chance," "medium chance," and "high chance," coded as "0", "1", or "2". The scores were then averaged across the 10 items and higher scores reflected a more positive orientation toward the future. These questions were obtained from the Adolescent Risk Behavior Survey (ARBS; Taussig, 2002; available from the author), which is a combination of three separate valid and reliable scales of adolescent risk behaviors, with alphas between .70 and .82 for various subscales (American School Health Association, 1989; Huizinga et al., 1990; Jessor et al., 1991). Among the current sample, the internal consistency reliability coefficient (Cronbach's alpha) was .77. Data were missing for 5.5% of the participants.

Exosystem Factors.: Participants' number of placement changes were measured by a single item that asked interviewers to calculate and report how many times the child had moved between homes during the current episode of out-of-home care. In order to calculate this, interviewers created a chronological log with the participants of their living placements during their current episode of out-of-home care and then counted the number of living situations during that episode. Next, participants' school stability was measured by a single item that asked how many school moves the child had experienced during the current

episode of out-of-home care after having them create a log of school changes. Again, the episode of out-of-home care had to begin within the prior year. Data were missing for 3.3% of the participants for both variables.

Dependent Measures—Two dependent variables were measured--academic achievement and disciplinary referrals.

<u>**Academic Achievement.:**</u> Academic achievement was measured by combining four individual survey items into one variable that asked students to indicate how well they performed in each of four school subjects, using their judgment about how their student compared to typical peers: English/Reading, History/Social Science, Math, and Science. Survey response options for each subject ranged from 0 to 3 (failing, below average, average, above average). The grades were averaged to create an overall "GPA." There were very little missing data (missing data = 1.7%), but for any subject grade that was missing, the average of each participant's available grades was substituted to compute an average score.

<u>**Disciplinary Referrals.:**</u> A measure of detention was a single item that asked if the participant had ever received detention or in-school suspension. Similarly, a single item was used to assess whether the participant had ever been suspended from school or was not allowed to go to school for a period of time. The two variables were then combined into a single measure of disciplinary referrals, with a 0 indicating that the student did not receive a detention or suspension and 1 indicating that the student received a detention and/or a suspension. Data were missing for 2.5% of the participants.

Procedure

This study was approved by the university's Institutional Review Board, and informed consent and assent were obtained from all participants. Youth and their current caregivers were interviewed by separate interviewers, typically in their homes. All questions were read aloud by interviewers. Children and caregivers were each paid $40.00 for their participation. All researchers were fully trained in the study protocol, per the IRB as approved. Data were stored in locked file cabinets in the researchers' office space.

Results

Descriptive statistics for all variables are included in Table 1. These data show that the majority of the sample reported average to above-average grades, had experienced between one to two placement changes and experienced less than one school move within this current episode of out-of-home care. About half of the sample reported receiving special help in school and a disciplinary referral, and less than a quarter of the sample experienced grade retention. The future orientation variable had slight skewness in the positive direction. However, the variable was already on only a three-point scale and was therefore left as is for analyses. Further, the majority of these students reported high levels of both future orientation (M=1.70, SD=.29, Range=.05–2) and school connectedness (M=2.43, SD=.40, Range=1–3). This is similar to a sample of 2,567 eighth grade public school students in a

study by Shochet et al. (2006). In preparation for regression analyses, linearity was tested and it was within normal limits, and thus normality was assumed.

Correlations among variables are included in Table 2. There was a low and positive correlation between disciplinary referrals and African American students and a negative weak correlation between disciplinary referrals and Caucasian students. There was a low but positive correlation between gender and both placement changes and disciplinary referrals, such that males were more likely to have experienced placement changes and disciplinary referrals compared to the females in this sample. Students who received special help in school earned lower grades and experienced more disciplinary referrals. As expected, future orientation and school connectedness were positively correlated, but students with more school moves scored slightly lower on the future orientation scale. Further, future orientation was associated with slightly higher academic achievement, and school connectedness was also correlated with higher academic achievement to a slightly stronger degree. Lastly, students who experienced a greater frequency of placement changes also experienced a slightly higher rate of school moves.

Academic Achievement

A hierarchical linear regression analysis was run with average grades as the dependent variable. Gender, receiving special help in school, and grade retention were entered as the first set of predictor variables focusing on demographics. No significant correlations were found between the race categories and academic achievement, and thus, race was not included in the regression analysis at step 1. School connectedness and future orientation were included as the predictors at step two and placement changes and the number of school moves were included at step three. At step one, the demographic variables accounted for 4% of the variance and special help in school made a significant contribution (R^2=.04, F=5.04, df=3, 318, p<.01). Students who received special help in school demonstrated slightly lower achievement scores (B=−.19; p<.001). Beyond the variance explained at step one, special help in school and school connectedness made a significant contribution to this model, explaining 18% of the variance in average grades at step two (R^2=.18, F=14.88, df=5, 316, p<.001; B=−.16, p<.01; B=.41; p<.001). Future orientation was not significant, despite that it was significantly associated at the bivariate level. At step three, with the addition of placement changes and school moves, the model was still significant in explaining variance in academic achievement (R^2=.18, F=10.81, df=7, 314, p<.001), although the two exosystem predictors did not significantly contribute above and beyond the step-two variables. Receiving special help at school and school connectedness remained significant through this final step (B=−.16, p<.01; B=.41, p<.001). See Table 3.

Disciplinary Referrals

Due to no significant zero-order associations identified between disciplinary referrals and the intrapersonal and exosystem variables, a regression analysis was not conducted.

Discussion

The purpose of this study was to examine how individual/intrapersonal and exosystemic factors were associated with academic performance and disciplinary referrals among youth in foster care. We hypothesized that more positive intrapersonal and exosystemic factors would be associated with greater academic success in youth in foster care, as demonstrated by higher grades and lower rates of disciplinary referrals. Also, based on the literature, we anticipated a negative correlation between the number of placement changes/school moves and academic performance. Lastly, we expected to see lower rates of disciplinary referrals among participants who demonstrated stronger feelings of school connectedness.

A review of the descriptive statistics suggests that this is a population in dire need of support. Many students in this sample have received special help in school, almost half reported experiencing a disciplinary referral, and one in five has had to repeat a grade, all of which are higher than typical rates (National Center for Education Statistics, 2018; U.S. Department of Education, 2016; Warren et al., 2014). Further, the majority of this population has experienced between one to two placement changes in their most recent episode of out-of-home care. A review of the bivariate correlations indicates that students who experience placement changes are more likely to also experience school moves. Additionally, students in this sample who experienced more school moves also rated themselves lower on orientation toward the future. Although this was a weak correlation, it is still concerning, as previous literature has identified future orientation as impacting academic success (Carvalho, 2015).

Further review of bivariate correlations indicated that boys from this sample were more likely to have experienced both disciplinary referrals and placement changes. The boys in this sample who received special help in school were also more likely to have experienced disciplinary referrals, while none of these associations were significant for girls. According to Welsh & Little (2018), this is a common phenomenon. However, it is nonetheless another indication that we must recognize that these disparities have occurred in the past so that we can proactively engage in effective preventive efforts and so that different strategies may be needed to intervene with boys to maximize their success. Additionally, African American students in this sample were more likely to experience a disciplinary referral than were Caucasian students. These findings align with other research highlighting the disproportionate number of African American students experiencing school discipline and must be addressed within our society (Heilbrun et al., 2015). Finally, the connection between future orientation and school connectedness is important, suggesting that, although this is correlational, it may be wise for the school context to explicitly accelerate its role in encouraging and helping frame these youths' future goals and implementing interventions to promote a connection to school.

An examination of the primary study purpose of predicting academic achievement indicated that the intrapersonal variable of school connectedness significantly explained variance in academic achievement, while future orientation did not uniquely contribute. Students who reported higher feelings of school connectedness demonstrated better grades. The majority of the participants had a relatively positive future outlook and strong feelings of school

connectedness. A closer look at the score distribution shows that there was little variability in the connectedness scores. However, the fact that the association was significant, even though there was low variability, may provide even more confidence in that association, at least for academic achievement. This strengthens the aforementioned findings at the bivariate level, confirming the importance of being connected at school for these youth. It was also noteworthy that, although intended as a control variable, receiving special help at school emerged as a consistently significant contributor to lower academic achievement, which will be important to explore further to better understand when in development this association surfaces, as it has implications for intervention type and timing.

The exosystem factors of placement changes and school moves did not explain variance in these youths' academic achievement. This latter finding was unexpected because other studies have found that students who frequently moved between schools and placements were less likely to receive adequate instruction, and were at an increased risk of poor academic performance (Pecora, 2012; Herrenkohl et al., 2003; Pears et al., 2015). However, the temporal order of these data may have played a role in this outcome, as students reported their current academic grades as well as their most recent placement and school moves. It is possible that placement and/or school moves that occurred in previous school years, especially if there were many moves, had more of an impact on the students' current grades.

In examining factors associated with disciplinary referrals, results revealed no significant zero-order associations between disciplinary referrals and the intrapersonal and exosystem variables. However, based on the bivariate associations, findings are consistent with prior literature that boys were more likely to receive disciplinary referrals. Receiving special help in school, which may approximate special education status, was also related to receiving disciplinary referrals. This is also consistent with prior literature. It is possible that students who struggle academically, thus requiring additional support, may engage in some behaviors that distract from the learning environment in order to cope with the stress of the work. In addition, some of these students may have been receiving special help in school due to the presence of an emotional impairment. Students in foster care also tend to come from lower socioeconomic backgrounds and due to lack of resources, there is a disproportionate number of lower SES students who fall behind in school and need additional assistance (Naccarato et al., 2010). However, the exact reasons these students were receiving additional support in school is unclear and is a limitation in this study. These results highlight the cyclical nature of these youths' experiences. Students who were already struggling academically were more likely to receive a disciplinary referral, leading to loss of instructional time and potential further disengagement from school (Crosby et al., 2018). Because disciplinary referrals are associated with less classroom instruction, more defiant behavior, and a greater likelihood of dropping out (e.g., Kothari et al., 2018), it is critical to continue to explore these dynamics in order to improve our educational efforts with vulnerable youth.

Limitations and Directions for Future Research

The cross-sectional nature of this study is a limitation. The number of placement changes and school changes during the current episode of foster care (an average of 6 months) were relatively low, which may contribute to the lack of association with either achievement or

disciplinary referrals. They were also measured in terms of whether they had occurred in this current episode of out-of-home care, which does not take into account previous placement and school changes. This is a limitation of our available data. Because a complete history of placement and school changes was not utilized, it limits the ability to understand how these exosystem factors may contribute prospectively to academic outcomes.

Additionally, the measure of disciplinary experiences asked whether these experiences *ever* occurred, which also limits the ability to examine temporal sequence. The dichotomous nature of the detention and suspension data does not reflect the full complexity of the degree of behavioral difficulty. Similarly, although grades in elementary school are not typically assessed with letter or numerical grades, the measurement of academic achievement could be improved by anchoring the qualitative descriptors (failing, below average, average, above average) to something quantitative. In this case, the respondents were prompted to judge how they compared to typical peers, which involves some subjectivity. Grades in this study were also taken at one point in time and not necessarily global representations of overall academic success. However, of focus here was current academic performance, which does tend to be fairly stable for most youth. Further, as stated above, it is unclear why the students in this sample were receiving special help in school.

Another limitation might be the distributions of some variables. For example, about half of the participants had never had any disciplinary referrals, the majority of the sample experienced less than two placement changes, and about half received special help in school and experienced a school move. Further, the majority of the sample did not repeat a grade, and most students reported fairly high future orientation.

Future research can utilize methodology and ask questions that will improve on all of these areas of limitation, including better measurement of disciplinary referrals and school moves to further understand at what thresholds those occurrences become not only unhelpful but detrimental. We also need a more expanded measurement of special help, the extent and timing of that help, how receptive the youth is to the support, and the youth's overall experience and rate of growth in response to the services. In fact, one of the most urgent studies that could be done is to examine the impact of higher quality prevention and intervention efforts with youth in care. Specifically, we know that there is disproportionate placement in special education for youth in care (Palmieri & La Salle, 2017; Powers et al., 2012) and if schools provided more strategic resources to youth in care, long before the tendency to rely on special education as the mechanism for allocating resources (Zetlin, 2006), might the youth actually fare well and never require the special education label?

Additionally, although longitudinal research is cumbersome, costly, and takes time to reveal long-sought answers, it would shed important light on what time points are most pivotal for understanding the course of development for these youth. Questions that could be answered regarding the ways in which these variables interact include, but are far from limited to: When does special help matter and when is it too late? What types of special education services are most helpful? Are any types of placement detrimental? And at what time points in development? At what point in development do placement moves have a most negative impact? At what time during development is the intersection of developing more school

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connectedness and belonging most impactful? These and similar research foci will be directly helpful in developing better prevention and intervention efforts, as well as ensuring that key developmental growth periods are not missed. This would help us improve our targeted efforts and school-based supports for youth in foster care.

Summary and Conclusions

In summary, the results of this study suggest that the academic success of youth in foster care is associated with school connectedness, which arose as a significant intrapersonal level contributor above and beyond the other variables, including exosystemic factors that have been known to impact youth. This is also congruent with previous literature which has found correlations between students' positive school perceptions and strong academic performance (Catalano et al., 2004; Crosnoe et al., 2004; Davis, 2006). Given the contributions of school connectedness in these results, one recommendation that may be made from these findings is that schools could implement approaches to cultivate connectedness among youth in this vulnerable population. We know that all youth, and especially youth in foster care, have deep needs for not only food, water, shelter, etc., but belongingness that comes in the form of connectedness to school. In addition to extracurricular activities, the adults in school could be specific targets for such attachments. Both the adults and youth could be part of a necessarily integrated intervention aimed at strengthening relationships and belonging. There are already some programs that have been found to enhance this protective factor, such as the Responsive Classroom program (Brock et al., 2008) and cooperative learning interventions (Hawkins et al., 1988).

In that vein, it is critical that school personnel recognize their potential roles in the successful development of these youth and that they make explicit attempts to connect with youth. Although this may seem intuitive, and indeed there is an emphasis on this in the foster care system, with the many demands on teachers in the school setting for quantitative academic performance in their students, these social, interpersonal, and emotional nuances may become overlooked. Findings such as these reinforce this important notion that we need to improve the time, resources, and energy spent in enhancing these youths' school experience emphasizing the non-academic side of the impact of school on particularly vulnerable youth.

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Table 1

Descriptive Statistics for Study Variables

Variable	N	Percentage
Special Help in School	148	42.00
Grade Retention	67	18.90
Disciplinary Referral	160	45.20

	Mean	Standard Deviation	Range
Future Orientation	1.70	.29	0.50 – 2
School Connectedness	2.43	.40	1 – 3
Number of Placement Changes	1.61	.91	1 – 6
Number of School Moves	0.28	.64	0 – 4
Academic Achievement	2.16	.48	.50 – 3

Table 2

Correlations Among Predictor and Criterion Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Hispanic/Latino	1													
2. American Indian or Alaska Native	.09	1												
3. African American	−.14*	.00	1											
4. Caucasian	−.20***	.05	−.25***	1										
5. Other Ethnicity	−.12*	−.07	−.02	.09	1									
6. Gender	−.08	.02	.09	−.05	−.10	1								
7. Special Help in School	−.02	−.06	−.01	.01	−.09	.01	1							
8. Grade Retention	.01	.00	−.05	−.06	−.08	−.02	.09	1						
9. Future Orientation	.01	−.04	.02	.05	−.03	−.06	−.01	−.02	1					
10. School Connectedness	.06	−.02	.03	.02	−.14*	.01	−.09	−.04	.38***	1				
11. Placement Changes	.01	.05	.07	.02	−.07	.16*	.03	.06	.00	−.00	1			
12. School Moves	−.01	.05	.00	−.03	.05	−.03	.07	.01	−.14**	−.07	.25***	1		
13. Academic Achievement	.04	.07	.06	.04	−.05	−.04	−.19**	−.02	.23***	.37***	−.04	−.04	1	
14. Detention/ Suspension	−.02	.04	.16**	−.14**	−.03	.30***	.16**	.01	−.00	.00	.10	.02	−.10	1

Note.

*
p<.05

**
p<.01

***
p<.001

Table 3

Linear Regression Predicting Academic Achievement

Variable	Step 1	Step 2	Step 3
Gender	.08	.08	.09
Special Help in School	−.19 ***	−.16 **	−.16 **
Grade Retention	−.01	−.01	−.01
Future Orientation		.13	.13
School Connectedness		.41 ***	.41 ***
Placement Changes			−.03
School Moves			−01
R²	.04 **	.18 ***	.18 ***
F	5.04	14.88	10.81
df	3, 318	5, 316	7, 314
R²	--	.14	0

Note. Figures are standardized Beta weights.

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p<.05

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p<.01

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p<.001