Social Support and Well-Being Among Foster Care Youth: Self-Concept as a Mediator

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SOCIAL SUPPORT AND WELL-BEING AMONG FOSTER CARE YOUTH:
SELF-CONCEPT AS A MEDIATOR

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN CLINICAL PSYCHOLOGY

BY

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ABSTRACT

Youth in the child welfare system frequently undergo a variety of adverse experiences, including maltreatment, living in poverty, placement changes, school changes, and relationship disruptions. As a group, these youth exhibit poorer psychosocial functioning (e.g., elevated rates of mental health difficulties, poorer social and academic competence) than their peers, yet there is also evidence that a number of youth in foster care are functioning relatively well and can be perceived as demonstrating resilience. The present study examined self-concept as a mediator of hypothesized associations between social support and four domains of psychosocial functioning: internalizing problems, externalizing problems, social competence, and academic competence. Cross-lagged panel models were tested via structural equation modeling to evaluate the hypothesized mediational models. Results did not support the hypothesized indirect effects of social support on well-being. Future research should continue to examine the influences of risk and protective factors on psychosocial outcomes for youth in the child welfare system.
CHAPTER ONE
INTRODUCTION

Youth in the child welfare system frequently undergo a variety of adverse experiences, including maltreatment (e.g., U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children’s Bureau, 2015), living in poverty (Barth, Wildfire, & Green, 2006), placement changes (e.g., Rubin, O’Reilly, Luan, & Localio, 2007; Schwartz, 2010), school changes (e.g., Zorc et al., 2013), and relationship disruptions (e.g., Schwartz, 2010). Therefore, it is unsurprising that as a group, these youth exhibit poorer psychosocial functioning than their peers. For instance, high rates of emotional and behavioral problems and psychopathology have been documented within this population (see Kerker & Dore, 2006, Oswald, Heil, & Goldbeck, 2010, and Pecora, White, Jackson, & Wiggins, 2009 for review). Youth in foster care also exhibit poorer functioning in the domains of social (e.g. Clausen, Landsverk, Ganger, Chadwick, & Litrownik, 1998) and academic (see Stone, 2007 and Trout, Hagaman, Casey, Reid, & Epstein, 2008 for review) functioning.

Yet despite these findings, there is also evidence that a number of youth in foster care are functioning relatively well. These individuals can be thought of as demonstrating resilience, or “positive adaptation within the context of significant adversity” (Luthar, Cicchetti, & Becker, 2000, p. 543). In fact, there is evidence that rates of resilience among youth in foster care may approach or exceed 50% in specific domains (Bell, Romano, & Flynn, 2013; Fernandez, 2006).
These contrasting findings of both poor functioning and resilience among foster care youth raise questions regarding the factors that distinguish between those who function well and those who exhibit difficulties.

Various protective factors have been associated with resilience (see Masten, 2006). These include aspects of the community, such as the effectiveness of schools; interpersonal factors, such as relationships with effective parents and prosocial adults; and individual characteristics, including a positive life outlook and positive self-views. The present study will focus on the protective factors of social support and positive self-concept. Both of these factors have been associated with more positive functioning in several domains, including internalizing problems (e.g., Cooley, Wojciak, Farineau, & Mullis, 2015; Legault, Anawati, & Flynn, 2006), externalizing problems (e.g., Cooley et al., 2015; Legault et al., 2006), social competence (e.g., Rhodes, Haight, & Briggs, 1999; Kaufman & Cicchetti, 1989), and academic competence (e.g., Cheung, Lwin, & Jenkins, 2012; Huang, 2011). Additionally, social support is positively related to self-concept (e.g., Farineau, Wojciak, & McWey, 2013). This pattern of findings suggests that self-concept may mediate the relations between social support and well-being, and researchers such as Dekovic and Meeus (1997) have drawn upon similar logic in testing such models.

Several studies have found evidence for self-concept as a mediator of the effect of social support on internalizing problems (e.g., DuBois et al., 2002), externalizing problems (e.g., DuBois et al., 2002) and social competence (e.g., Barber & Erickson, 2001). However, thus far, there is only one known study that has examined a similar mediational model among youth in the foster care system. The results of that study found that negative self-esteem mediated the
association between the quality of adolescents’ relationships with their foster parents and delinquent behaviors (Farineau, 2013).

Although there is evidence for the mediating role of self-concept in studies of social support and well-being in the general population, protective factors may operate differently among youth in foster care (Pears et al., 2012). Consequently, it is important to expand upon Farineau’s (2013) study to determine whether self-concept can account for links between social support and other areas of psychosocial functioning besides delinquency. Moreover, despite some exceptions (e.g., Taussig, 2002), a substantial portion of the research regarding social support within the foster care system has been limited to measuring support from foster caregivers or other parental figures. Additional research incorporating a more diverse range of support sources, such as extended family members, is needed.

The present study addresses these and other limitations of the extant literature by examining self-concept as a mediator of associations between social support (from multiple sources, including foster parents) and four domains of psychosocial functioning: internalizing problems, externalizing problems, social competence, and academic competence. Children and adolescents’ functioning was assessed at three points in time during the first 12 months after they were taken into temporary custody within the child welfare system. Cross-lagged panel models were tested via structural equation modeling to evaluate the hypothesized mediational models. Separate models were evaluated for each domain of well-being and for the different measures of social support (i.e., foster parent support, total social support from other sources), resulting in eight sets of analyses. Thus, this study aims to determine whether findings regarding the mediating role of self-concept among youth in the general population will also emerge within the
high-risk context of a sample of children and adolescents in foster care and to examine multiple sources of social support as predictors of these youth’s well-being.
CHAPTER TWO

RISK AND ADVERSITY AMONG FOSTER CARE YOUTH

Adverse Experiences Among Youth in Foster Care

As of the end of fiscal year 2013, over 400,000 individuals were in foster care in the United States (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children’s Bureau, 2014). The percentages of Native American and African-American youth in the child welfare system are disproportionately high (Hines, Lemon, Wyatt, & Merdinger, 2004). For example, black or African-American individuals accounted for 24% of youth in foster care at the end of fiscal year 2013 (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children’s Bureau, 2014).

Studies of youth in the child welfare system demonstrate that a variety of adverse experiences are common within this population. Perhaps the most notable of these is the children and adolescents’ exposure to maltreatment. The majority of youth in this population enter foster care as a result of experiencing neglect or abuse (Pecora et al., 2009). Data from 47 states in 2013 indicated that neglect is by far the most common form of maltreatment among youth in foster care (68.4%), with the following percentages reported for other forms of maltreatment: 7.1% physical abuse, 1.9% sexual abuse, 1.9% other maltreatment, 1.7% psychological maltreatment, 0.7% medical neglect, and 0.0% unknown (U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth and...
Families, Children’s Bureau, 2015). Nearly one-fifth (18.3%) of youth in foster care experienced at least two forms of maltreatment. Parental alcohol or substance abuse is also common among youth in foster care, with studies reporting prevalence rates between 14 and 30%; moreover, youth in foster care are more likely than those living with their biological parents to experience prenatal exposure to psychotropic drugs, nicotine, or alcohol (see Oswald et al., 2010 for review). Exposure to domestic violence is another common stressor within this population (Oswald et al., 2010). Youth in foster care also experience more significant poverty compared to other youth, with one study finding that approximately half came from families who had difficulty meeting their children’s basic needs when the child welfare investigation was conducted (Barth et al., 2006).

Moreover, youth in foster care experience instability in various areas, including living arrangements, educational contexts, and relationships. Following entry into foster care, youth generally undergo frequent placement changes (Klein, Kufeldt, & Rideout, 2006). Schwartz (2010) frames the experience of removal from one’s home and changes in placement as one of environmental loss. In a study of African-American adolescents placed in foster care, youth experienced an average of just under four placements in approximately 27 months (Schwartz, 2010). Most of the youth were no longer living in their birth homes, and while the adolescents placed with relatives or fictive kin (i.e., in kinship care) did not view this change to be difficult, the majority of those who were in non-relative foster placements found it difficult to move to a new home. Similarly, the majority of adolescents in this study experienced a change in neighborhood between their entry into care and arrival in their current placements, yet only those who were in non-relative foster placements considered such changes to be difficult. A study of a
national sample of youth in foster care has also demonstrated instability with regard to placement, with only 52% of children experiencing a long-lasting placement within the first 45 days after entering foster care and 28% failing to experience a stable placement lasting at least 9 months during their first 18 months in foster care (Rubin et al., 2007). According to Fernandez (2006), these disruptions in living arrangements frequently exacerbate the disadvantage that many foster care youth experience at the time of entry into care.

Frequent changes in educational setting are also common among youth in foster care (Klein et al., 2006). Trout et al.’s (2008) review of youth in out-of-home care corroborates this claim; for example, previous studies have reported an average of approximately two prior school changes among children between the ages of 6 and 12 and a history of attending an average of nearly eight schools among 12- to 18-year-olds. A sample of adolescents in non-relative foster care experienced an average of 4.56 (and as many as 13) school transfers (Schwartz, 2010). A more recent study of 5- to 8-year-old children in foster care reported that children attended an average of 2.7 schools in 2 years, with one-fifth of children attending at least four schools during this period (Zorc et al., 2013).

Finally, disrupted relationships with biological parents, siblings, friends, and foster parents are common among youth in foster care (Schwartz, 2010). Within a sample of adolescents in foster care, nearly all reported decreased contact with their biological mothers following entry into care, and several experienced decreased contact with their fathers; however, most of the adolescents experienced little change in the latter relationship due to limited or absent contact with their fathers prior to entering care (Schwartz, 2010). Most of the adolescents reported that since entering foster care, they had decreased in-person contact with at least one of
their siblings, and the majority of youth were placed separately from one or more of their siblings. Many of the adolescents saw their friends less than they had before they entered foster care, and nearly all had been in multiple placements, resulting in disrupted relationships with substitute caregivers. Overall, youth in non-relative foster placements experienced an average of 4.11 disrupted relationships since entering care, while those in kinship care experienced 2.67. The majority of these disruptions were viewed as losses by the youth (Schwartz, 2010).

As this discussion of relational and environmental losses suggests, youth in the foster care system face various disruptions to their social networks (Perry, 2006). A decline in social support may account for the association between threats to relationship networks and psychological difficulties (Perry, 2006). Indeed, adolescents in foster care were less likely to report that their biological parents or current caregivers cared about them a lot relative to other adolescents’ reports regarding their biological parents (Perry, 2006). Similar findings emerged for friendships. Stronger relationships with substitute caregivers and with biological parents and siblings were associated with fewer psychological symptoms, suggesting the key role of social support within this population (Perry, 2006).

**Negative Outcomes Among Youth in Foster Care**

As the previous review illustrates, exposure to adversity is typical of the foster care population. Thus, it is not surprising that numerous research studies have demonstrated that compared to their peers in the general population, youth in the child welfare system exhibit poorer psychosocial functioning. These findings emerge across multiple domains, including mental health and behavioral problems, social competence, and academic performance.
Mental Health and Behavioral Problems

Research has demonstrated that youth in the child welfare system exhibit elevated rates of mental health and behavioral problems relative to their peers. Such problems are apparent at early ages; in one study, foster children in kindergarten and first grade with a history of maltreatment exhibited poorer social-emotional competence (i.e., emotion regulation, behavior regulation, and prosocial behaviors) relative to a comparison sample of children matched for socioeconomic status (SES) and age who had not experienced maltreatment (Pears, Fisher, Bruce, Kim, & Yoerger, 2010). Likewise, up to 40% of foster children under the age of 6 exhibit significant behavioral difficulties, compared to 3 to 6% of preschool children in the general population (see Stahmer et al., 2005 for review). However, the association between foster care placement following maltreatment and behavior problems prior to beginning kindergarten was significant among girls but not boys (Leve, Fisher, & DeGarmo, 2007).

Previous reviews of the literature have presented compelling evidence of high rates of psychopathology and emotional and behavioral problems among older children and adolescents in foster care as well (Kerker & Dore, 2006; Oswald et al., 2010; Pecora et al., 2009). For example, studies reviewed by Kerker and Dore (2006) have reported rates of “significant mental health problems” as high as 80% among children at entry to foster care compared to estimates of 16 to 22% among samples of youth from the general population (p. 139). Other studies have found varying rates of psychiatric disorders, with studies of foster youth ranging from infancy to age 18 reporting rates of 32% and 44% and a study of children ages 6 to 12 reporting a prevalence rate of 80% (see Oswald et al., 2010 for review).
Studies examining foster youth’s scores on measures of emotional and behavioral problems such as the Child Behavior Checklist and the Strengths and Difficulties Questionnaire have found evidence of disproportionate numbers of children falling outside the normative range (see Oswald et al., 2010 and Pecora et al., 2009 for review). Similarly, a study of all children in foster care in Kentucky at a single point in time indicated that 44% had an “identified emotional need,” with rates ranging from approximately 8% of children under the age of 1 to 62% of children between the ages of 5 and 12 (Sullivan & van Zyl, 2008, p. 781).

Social Competence

Difficulties in peer relations have also been reported among foster children (see Leve et al., 2007 for review). As in the domain of mental health, deficits in foster youth’s social competence appear early in the course of development. As previously noted, kindergarteners and first-graders in foster care exhibited poorer competence than their peers with no history of maltreatment on a composite measure of social-emotional competence, which included an assessment of prosocial behaviors (Pears et al., 2010). Notably, however, among kindergarteners, the association between foster care placement following maltreatment and poorer peer relations was significant only among girls (Leve et al., 2007).

There is also evidence of poorer social competence among foster youth spanning a wider age range. A study of foster children between the ages of 4 and 17 reported scores on a measure of social problems that were, on average, approximately one standard deviation above the mean for that measure; across three groups of youth, approximately one-quarter had borderline problems in this area, while 10 to 20% had scores in the clinical range (Clausen et al., 1998). Similarly, average social competence scores were more than one standard deviation below the
mean, with approximately one-third of children falling in the borderline range and approximately one-fifth to one-quarter scoring in the clinical range (Clausen et al., 1998).

**Academic Functioning**

Previous research has demonstrated that youth involved in the child welfare system exhibit wide-ranging difficulties in academic functioning. Reviews of the literature in this area have found evidence of poorer outcomes across various measures, including high rates of achievement test scores ranging from low to low-average, below-average or poor academic and cognitive skills, and below-grade-level performance (Stone, 2007; Trout et al., 2008). These deficits in academic performance emerge early, as one study found that kindergarten and first-grade students in foster care had poorer academic competence than their peers from comparable socioeconomic backgrounds (Pears et al., 2010).

Consistent with findings of lower academic performance, prior research indicates that youth in out-of-home care are more likely than their peers to repeat a grade, with retention rates ranging from 35 to 57% across studies (see Trout et al., 2008). Youth in foster care also have elevated rates of involvement in special education (see Stone, 2007 and Trout et al., 2008 for review). Evidence of increased suspension and expulsion rates suggests that youth’s difficulties at school are not merely academic, but behavioral as well (see Stone, 2007 and Trout et al., 2008 for review).

Youth in the child welfare system experience more distal impairments in academic functioning as well. Youth in the foster care system have lower high school graduation rates and are more likely than other youth to drop out of high school, with reported graduation rates as low as 30% and drop-out rates as high as 40% (see Stone, 2007 and Trout et al., 2008 for review).
However, there is some evidence that when compared to demographically similar or impoverished samples, youth who have been in foster care are no less likely to earn high school degrees, suggesting that child welfare system involvement may not be a unique risk factor for poor educational outcomes (see Stone, 2007). Other research, however, seems to provide evidence of increased risk among former foster children as they progress to more advanced levels of education. In their study of students at a public university, Day, Dworsky, and Feng (2013) found that particularly among students who were not in good academic standing, youth with a history of foster care involvement were slower to graduate from college compared to first-generation, low-income students who had not been in foster care.
CHAPTER THREE
RESILIENCE AND PROTECTIVE FACTORS AMONG FOSTER CARE YOUTH

Resilience Among Youth in Foster Care

As the preceding discussion indicates, poor functioning in the domains of mental health and behavior problems, social competence, and academic outcomes is not uncommon among youth involved in the child welfare system. Yet despite these findings, as described below, a parallel body of literature highlights those children and adolescents in foster care who are functioning well in spite of their exposure to adversity and are thus considered to be resilient.

Resilience can be defined as “a dynamic process encompassing positive adaptation within the context of significant adversity” (Luthar et al., p. 543). In other words, it necessitates (1) that an individual experience substantial adversity or threat to his or her development or functioning and (2) that this person demonstrate positive functioning in spite of such adversity (Luthar et al., 2000; Masten, 2001, 2006). Studies of maltreated youth have often conceptualized resilience as either success in developmental tasks salient to the individual’s age or low levels of internalizing and externalizing problems (Bell et al., 2013). For children, measures of resilience typically correspond to the domains of emotional and behavioral competence, academic achievement, and social competence (Walsh, Dawson, & Mattingly, 2010). Notably, to be considered resilient in the face of severe adversity, youth must function in the normative range, rather than excel in a given area (Luthar et al., 2000).
Domains of Resilience

With the aforementioned criteria in mind, studies of the prevalence of resilience among youth in the child welfare system can be examined. Findings regarding mental health and behavioral functioning, social competence, and academic functioning will be reviewed. Though previously reported rates of resilience among maltreated youth have varied considerably (as discussed by Bell et al., 2013), there is evidence of substantial numbers of children and adolescents who exhibit resilience within specific domains.

**Mental health and behavioral functioning.** A study of 5- to 9-year-old Canadian children in out-of-home care reported that approximately half of children (55% of boys and 45% of girls) demonstrated resilience with regard to conduct problems, as operationalized by scores in the normative range (Bell et al., 2013). Within this same sample, even higher numbers of children had scores within the normative range for emotional problems (71% of girls and 66% of boys). A longitudinal study of a nationally representative sample of youth between the ages of 8 and 16 with child welfare involvement (though not necessarily substantiated maltreatment or foster care involvement) reported somewhat lower, but still notable, rates of resilience (Jaffee & Gallop, 2007). At each of three time points over a 36-month period, between 40 and 48% of youth in this sample exhibited resilience as determined by normative scores across multiple measures of psychopathology; 51% scored in the normative range at one or two of the time points. Finally, among 2- to 15-year-old Australian youth in long-term foster care, 44% of children had no more than one concentration problem (e.g., difficulty persisting in an activity for longer than a few minutes, impulsivity) during an initial interview (Fernandez, 2006). This proportion increased to 60% of youth at a subsequent assessment, suggesting improvement in
functioning over time. Despite this suggestion of an overall decrease in concentration problems, for many children, positive mental health does not appear to be highly consistent over time; though resilience in a given domain at the initial assessment predicted later resilience within Jaffee and Gallop’s (2007) sample, only 19% of youth exhibited positive mental health outcomes across all three time points.

**Social competence.** Within the studies reviewed above, the prevalence of resilience with regard to social functioning appears to be rather comparable to that of resilience in the domains of mental health and behavior problems. Bell et al. (2013) reported normative levels of prosocial behaviors among 61% of girls and 55% of boys in their sample, while Jaffee and Gallop (2007) found that rates of adequate social competence among the youth in their sample ranged from 46 to 49%, with 64% demonstrating resilience at one or two points in time. As was the case for mental health outcomes, stability of resilience was rather low, with only 14% of youth consistently demonstrating social competence across all time points (Jaffee & Gallop, 2007).

Among the youth in long-term foster care, caregivers reported that 60% of children made friends easily, with 42% of boys and 61% of girls identified as having many or a few friends (Fernandez, 2006). Caregivers subsequently indicated that 58% of these children had demonstrated improvement with regard to friendships during the past 18 months. Moreover, youth’s self-reports indicated that 61% possessed between nine and 12 out of 16 relationship-building abilities and skills (e.g., including others or sharing, consideration of others’ feelings; Fernandez, 2006).

**Academic functioning.** Rates of resilience in this area appear to be similar to those reported for the previous two domains. At each of three time points, between 37 and 44% of
Jaffee and Gallop’s (2007) sample scored in the average range or higher on tests of reading and math achievement. Over a third of youth (35%) had scores that were average or higher at one or two time points, while 22% of youth were considered resilient in this domain across all three assessments. Reports from the caregivers of the Australian youth in long-term foster care indicated that the majority of these children and adolescents were performing well or moderately in school, with 48% performing very well (Fernandez, 2006).

**Resilience across multiple domains.** In addition to examining the prevalence of resilience within individual domains, research has also examined the likelihood of youth simultaneously exhibiting resilience across multiple areas of functioning. Among children in foster care, rates of resilience in multiple areas were quite low, with between 8 and 10% of children demonstrating resilience in three domains (i.e., academic performance, peer relations, and either prosocial behavior, emotional problems, or conduct problems) and 6% of boys and 8% of girls exhibiting resilience in all five areas (Bell et al., 2013). Similarly low rates were reported among the aforementioned sample of youth with any contact with child welfare services. Within this group, between 11 and 14% of children were considered to be resilient in all three domains (i.e., mental health, social competence, and academic achievement) at a given point in time, while substantially more children and adolescents (between 26 and 33%) were resilient in two areas (Jaffee & Gallop, 2007). Very few of these youth (2%) were resilient across all three domains at each assessment point. Nonetheless, it is notable that at each of the three time points, most children (72 to 80%) were resilient in at least one domain. Overall, these findings are consistent with Luthar et al.’s (2000) claim that positive functioning in one domain does not ensure resilience in other domains.
Protective Factors Contributing to Resilience

In conjunction with high rates of negative functioning among youth in foster care, the findings of resilience among this population raise questions regarding the factors that contribute to such discrepant outcomes. Previous studies point to a number of factors that have repeatedly been shown to coincide with or predict resilience (Masten, 2006). Masten (2006) organizes these protective factors into three categories: community, relationships and parenting, and individual differences.

In Masten’s (2006) framework, community characteristics associated with resilience include the quality of the community (e.g., safety), socioeconomic benefits, effective schools, and relations with organizations such as religious groups. Though these factors are undoubtedly important to consider, particularly given the mobility of foster children with regard to neighborhood (Schwartz, 2010) discussed previously, protective factors at the community level are not a focus of the present study.

Regarding relationships and parenting, a range of relationship types appear to be relevant to resilience. Protective factors in this area include a strong relationship with at least one effective parent, the quality of parenting (e.g., demonstrating affection, establishing rules), relationships with prosocial adults (e.g., teachers, kin), and relationships with competent and prosocial peers (see Masten, 2006). According to Masten (2006), “[a] close relationship with a caring and competent adult is widely considered the most important and general protective factor in human development” (p. 6).

Finally, children and adolescents’ personal attributes appear to contribute to resilience. Protective factors include the ability to self-regulate, intelligence, a positive view of oneself and
one’s abilities (i.e., self-worth and self-efficacy), appealing qualities (e.g., social and academic skills), and a positive view of life (e.g., hopefulness, faith; see Masten, 2006). Although the preceding review indicates that there are numerous aspects of youth and their environments that are associated with resilience, the present study focuses on social support and positive self-concept; thus, the existing literature on these two protective factors will be reviewed further.

**Social support.** Social support is a multifaceted construct that can manifest in various forms, including instrumental support (concrete assistance), informational support (the provision of guidance or advice), esteem or appraisal support (reinforcement of a person’s perceived competence and value), and emotional support (the provision of comfort and care; Sterrett, Jones, McKee, & Kincaid, 2011). Though these constructs differ somewhat from one another, the following review will treat social support as an overarching concept rather than attending to specific forms of support. Cross-sectional and longitudinal studies demonstrate that social support is associated with more positive outcomes for children and adolescents, both in the general population and among youth involved in the child welfare system.

**Social support and youth outcomes in the general population.** Within the general population, social support appears to be related to a variety of areas of child and adolescent functioning, including internalizing problems, externalizing problems, social competence, academic competence, and self-concept. Findings in each of these areas will be discussed.

**Internalizing problems.** The results of a meta-analysis indicate that social support is positively, albeit rather weakly, associated with psychological adjustment (i.e., happiness, depression, anxiety) among children and adolescents (mean weighted effect size of $r = .199$; Chu, Saucier, & Hafner, 2010). Individual studies provide more specific support for this finding.
Among 6- to 12-year-old children (some of whom were in foster care) with incarcerated mothers, self-reports of total social support from the children’s mothers, friends, and teachers were negatively associated with self-reported internalizing problems (Hagen, Myers, & Mackintosh, 2005). Likewise, support from parents, close friends, classmates, and teachers jointly accounted for a significant amount of variance in parents’ reports of middle school students’ internalizing problems, though none of the individual sources of support explained a significant amount of the variance (Rueger, Malecki, & Demaray, 2008). Similarly, children and adolescents’ total perceived social support from these four sources was negatively correlated with parents’ reports of internalizing problems, and youth classified as having low total social support had more internalizing problems than youth with average or high levels of social support (Demaray & Malecki, 2002a). Moreover, when assessed separately, support from parents, classmates, and teachers were each negatively correlated with internalizing problems (Demaray & Malecki, 2002a).

Higher perceived total social support from parents, close friends, school, classmates, and teachers was also associated with more positive outcomes on a self-report measure of clinical maladjustment (i.e., anxiety, locus of control, social stress, atypicality, and somatization) within a sample of urban, predominantly Hispanic, middle school students considered to be at risk on the basis of income, minority status, and poor school-wide academic performance (Demaray & Malecki, 2002b). When sources of support were examined separately within this population, only support from parents and classmates was significantly associated with this outcome (Demaray & Malecki, 2002b). Similarly, among predominantly African-American, urban adolescents receiving mental health treatment, perceived support from parents was negatively
associated with internalizing problems (Youngstrom, Weist, & Albus, 2003); similar findings emerged in relation to urban, African-American adolescents’ reports of internalizing problems and the quality of their relationships with their parents (Grant et al., 2000). In addition to these cross-sectional findings, longitudinal research found that for middle school students, youth’s perceptions of support from parents predicted self-reported clinical maladjustment 1 year later, after controlling for previous levels of clinical maladjustment (Demaray, Malecki, Davidson, Hodgson, & Rebus, 2005).

Within the literature on social support and youth psychosocial outcomes, there are a number of studies of “supportive non-parental adults (SNPAs),” which a review by Sterrett et al. (2011) defines as adults who provide adolescents with social support and are more than 20 years old (p. 285). These relationships are part of the typical development of youth and can involve both relatives and non-relatives (see Sterrett et al., 2011 for review). Like the support derived from parents, peers, and the school environment described above, relationships with SNPAs are also associated with lower levels of emotional problems (primarily depressive symptoms), in both cross-sectional and longitudinal research, although findings are somewhat mixed (see Sterrett et al., 2011 for review). In particular, studies of African-American adolescents’ perceived social support from adult relatives (i.e., kinship support) have not found a significant association with depressive symptoms (Taylor, 1996; Taylor, Casten, & Flickinger, 1993).

Similar to the research on SNPAs, other studies have also examined associations between social support and specific internalizing symptoms, including depression and anxiety, although findings differ somewhat. In one cross-sectional study, middle school students’ reports of combined support from parents, close friends, classmates, and teachers accounted for a
significant amount of variance in parent-reported symptoms of depression but not anxiety or somatization; support from classmates was significantly negatively associated with depressive symptoms (Rueger et al., 2008). In another sample of middle school students, combined social support from parents, close friends, classmates, teachers, and school was associated with girls’ symptoms of anxiety and depression both at a single point in time and over a period of several months; for boys, associations between depressive symptoms and social support were present both cross-sectionally and longitudinally, while only a cross-sectional association was evident for anxiety symptoms (Rueger, Malecki, & Demaray, 2010). When all sources of support were examined simultaneously, parental support was significantly negatively associated with outcomes for both boys and girls, predicting concurrent and longitudinal symptoms of depression and concurrent anxiety symptoms for both genders.

There is also evidence that among adolescent girls, deficits in social support from parents predicted the onset of major depression and increased depressive symptoms, but initial major depression and depressive symptoms did not predict decreased parental support (Stice, Ragan, & Randall, 2004). The opposite pattern of results was found for peer support (Stice et al., 2004). However, another study found that in models examining parental support and control, adolescents’ reports of paternal, but not maternal, social support predicted self-reported depressive symptoms 1 year later, although support from each parent was correlated with depressive symptoms in separate analyses (Hunter, Barber, & Stolz, 2015). Thus, despite some conflicting findings and differing methodologies, it appears that social support from a variety of sources may be relevant to youth’s experiences of internalizing problems.
Externalizing problems. Like internalizing problems, externalizing problems appear to be associated with social support from a variety of sources. Meta-analytic findings suggest that the association between social support and conduct problems (mean weighted effect size of $r = .141$) is significantly weaker than the effect for psychological adjustment (Chu et al., 2010). For children with incarcerated mothers, self-reports of total social support from mothers, friends, and teachers were negatively associated with externalizing problems (Hagen et al., 2005). Likewise, children and adolescents’ reports of total social support and of separate sources of support from parents, close friends, teachers, and classmates were each negatively correlated with parental reports of externalizing problems; youth who reported low levels of total social support exhibited more externalizing problems than those with average or high levels of perceived support (Demaray & Malecki, 2002a). Similar results were found among middle school students, with total support (from the four sources assessed in the previous study) accounting for a significant amount of the variation in parent-reported externalizing problems and support from classmates emerging as a unique negative predictor of such behaviors (Rueger et al., 2008). When specific externalizing problems were examined separately, the four sources of support combined to explain significant amounts of variance in aggression, hyperactivity, and conduct problems, with support from classmates uniquely predicting lower levels of each of these types of problems (Rueger et al., 2008). There is also some evidence that a negative association between parental support or the quality of adolescents’ relationships with their parents and externalizing problems is present among urban, African-American (or predominantly African-American) youth (Grant et al., 2000; Youngstrom et al., 2003).
In longitudinal research, adolescents’ reports of support from both their mothers and fathers were negatively correlated with self-reported antisocial behaviors 1 year later (Hunter et al., 2015). Parental support and frequency of contact with adults in the community also predicted lower levels of adolescents’ antisocial behavior 2 years and 1 year later, respectively (Barber & Erickson, 2001).

Finally, though findings are somewhat mixed, there is evidence that relationships with SNPAs are associated with lower levels of conduct problems, sexual activity, and substance abuse (see Sterrett et al., 2011 for review). For example, among African-American adolescents, kinship support is associated with lower levels of problematic behaviors (Taylor, 1996), particularly among youth from single-parent homes (Taylor et al., 1993).

Social competence. While the preceding discussion suggests that social support is associated with lower levels of psychological difficulties among youth, within a risk and resilience framework, it is also important to consider how social support may relate to youth’s positive functioning. According to the results of a meta-analysis, the association between social support and social adjustment (mean weighted effect size of $r = .212$) is comparable to that of social support and psychological adjustment (Chu et al., 2010). Similar to the findings for internalizing problems, at-risk middle school students’ perceptions of their social relationships and peer friendships were positively associated with their self-reported support from close friends, classmates, and parents and with total social support from these three sources in addition to teachers and school (Demaray & Malecki, 2002b). Another study found comparable results for youth’s, teachers’, and parents’ reports of children and adolescents’ social skills (i.e., a composite measure of assertion, cooperation, empathy, and self-control), although school support
was not assessed, and there were additional positive correlations between reports of social skills and perceived support from teachers (Demaray & Malecki, 2002a). Furthermore, ratings of social skills differed across groups of youth with varying levels of perceived social support (Demaray & Malecki, 2002a). When multiple sources of support (i.e., parent, close friend, teacher, and classmate) were examined simultaneously among middle school students, they explained a significant amount of variance in adolescents’ social skills, but support from classmates was the only significant individual source of support (Rueger et al., 2008).

Longitudinal research provides further evidence of links between social support and social competence. Studies of adolescent social initiative (i.e., the extent to which individuals initiate social contact; Barber & Erickson, 2001; Hunter et al., 2015) have indicated that maternal and paternal support were both directly related to social initiative 1 year later (Hunter et al., 2015), while parental support was directly and indirectly related to involvement in group activities (e.g., clubs) 2 years later, although the specific patterns of effects differed by age (Barber & Erickson, 2001). The quality of youth’s peer relationships, the frequency of their contact with adults in the community, and their perceptions of their teachers’ involvement with their academic performance were associated with their social initiative 1 year later, although effects differed by age (Barber & Erickson, 2001). Additional evidence of the relevance of non-familial relationships to youth’s social competence comes from an Israeli study in which youth’s, but not mentors’, reports of closeness at the end of the mentoring relationship were correlated with teachers’ reports of youth’s improved social functioning over the course of approximately eight months (Goldner & Mayseless, 2009).
**Academic competence.** Like social competence, academic performance is another area of positive functioning that appears to be associated with social support. However, in a meta-analysis, the mean weighted effect size for this outcome ($r = .105$) was significantly lower than those for nearly all other well-being outcomes (Chu et al., 2010). Consistent with this finding, a study of children and adolescents found that youth’s total perceived support, but not individual support sources, was significantly yet weakly correlated with teachers’ reports of academic competence (i.e., perceived academic performance, motivation, classroom behavior, intellectual functioning, and parental encouragement; Demaray & Malecki, 2002a). Moreover, contrary to the findings for the other areas of functioning discussed above, academic competence did not differ across groups of youth with low, average, and high levels of perceived support (Demaray & Malecki, 2002a).

Other studies suggest that the relations between social support and academic competence depend on youth characteristics or the presence of other protective factors. Among urban, predominantly Latino, middle school students, adolescents’ total and subject-area grade-point averages (GPAs) were significantly positively correlated with perceived social support only among students of lower SES (i.e., those receiving free or reduced lunch; Malecki & Demaray, 2006). Social support from parents, close friends, classmates, teachers, and the school were each positively associated with total GPA, but for parent and classmate support, SES and social support interacted such that the association between SES and GPA was significant only for students with low levels of support from these sources (Malecki & Demaray, 2006). In other words, social support appeared to have a protective-stabilizing influence (Malecki & Demaray, 2006). Given the elevated levels of poverty among youth who are placed in foster care (Barth et
al., 2006), the findings regarding the moderating effect of social support may have important implications for this population. In a sample of African-American sixth-graders, support from teachers was only positively associated with students’ GPAs when parental involvement in school was also high (Gutman & Midgley, 2000).

Among suburban middle school students, parental support was the only source of support that significantly and positively predicted GPA at the end of the school year for both boys and girls (Rueger et al., 2010). Other longitudinal evidence suggests that social support and academic performance may be only indirectly related. In a study of a suburban, predominantly white and middle-class sample, sixth-graders’ reports of support from parents, peers and teachers were each significantly positively correlated with their GPAs in seventh grade (Wentzel, 1998). When all forms of social support were examined together, however, no single source of support was significantly related to GPA. Nonetheless, because students’ motivation towards school was related both to social support and to subsequent GPA, Wentzel (1998) determined that support from teachers and parents was indirectly linked to academic performance. Wentzel (1998) also calls for further research to assess associations between support and other components of motivation, including expectations of one’s performance and perceived efficacy. Such studies may clarify mediators of associations between social support and academic performance.

Finally, multiple studies focusing on support from non-parental adults suggest that these individuals may also contribute to youth’s positive academic functioning. Overall, a review by Sterrett et al. (2011) found that SNPAs’ support was positively associated with academic achievement in both cross-sectional and longitudinal studies. Consistent with this conclusion, Israeli youth’s perceptions of closeness in their relationships with their mentors were positively
correlated with their reports of these relationships’ contributions to their learning (Goldner & Mayseless, 2009). Mentors’ reports of closeness were correlated with teachers’ reports of improvements in youth’s academic functioning over an 8-month period, although this association was not significant when controlling for other variables. Additionally, kinship support was positively associated with GPA among African-American adolescents (Taylor, 1996).

Another study of 11- to 13-year-olds attending a low-income school in New Zealand found that both the presence of a relationship with an important non-parental adult and youth’s perceptions of warmth in such relationships were positively correlated with performance on multiple standardized tests of achievement; both of these variables continued to predict achievement even when controlling for ethnicity and warmth from parents and peers (Farruggia, Bullen, & Davidson, 2012). Additionally, the results suggest that relationship quality (i.e., warmth) may be more relevant to academic achievement than simply having a relationship with an important non-parental adult (Farruggia et al., 2012). Contrary to Rueger et al.’s (2010) findings that only parental support uniquely predicted GPA, neither parental nor peer support predicted GPA in this study, suggesting the importance of examining relationships with non-parental adults. Furthermore, the effect of relationship warmth on achievement did not differ for relatives and non-relatives; thus, it may be permissible to combine these two types of non-parental adults when examining youth’s social support. Noting that relationships with caregivers are important contributors to positive functioning, Farruggia et al. (2012) suggest that non-parental adults may fill caregiving roles and that warmth in these relationships may be a means by which they contribute to better achievement. Given that youth in foster care are typically
separated from their primary caregivers, relationships with non-parental adults may be particularly relevant in this population (Milan & Pinderhughes, 2000).

Although there appears to be clear evidence for positive associations between social support and academic achievement, findings are mixed with regard to the relevance of different sources of support. Moreover, Sterrett et al.’s (2011) review of the literature on SNPAs indicates that some studies did not find a significant relation between social support and academic performance. The authors note that most research in this area is cross-sectional, which points to the need for longitudinal studies.

**Self-Esteem and self-concept.** Although self-esteem and self-concept can be considered protective factors, they can also be viewed as other aspects of positive youth functioning associated with social support. In fact, in a meta-analysis of social support and well-being, the weighted mean effect size for self-concept (i.e., perceived competence, self-esteem, or internal locus of control; $r = .265$) was significantly larger than that of nearly every other aspect of well-being (Chu et al., 2010).

Cross-sectional studies produced somewhat mixed findings regarding the associations between self-concept and specific sources of social support. One study of children and adolescents found significant positive correlations between self-reported self-concept and perceived support from all sources assessed (i.e., parent, close friend, teacher, and classmate), as well as between self-concept and total perceived support (Demaray & Malecki, 2002a). Moreover, self-concept differed across groups of students classified as having high, average, or low perceived support such that groups with greater perceived support had higher self-concept. Likewise, seventh- and eighth-grade students’ self-esteem was positively correlated with both
boys’ and girls’ reports of social support from all sources assessed, including parents, close friends, teachers, classmates, and school (Rueger et al., 2010). When all sources of support were examined simultaneously, they accounted for a significant amount of the variance in both boys’ and girls’ self-esteem, although parental support was the only individual category that was significantly associated with self-esteem across genders (Rueger et al., 2010).

In other studies, correlations between social support and self-esteem were more limited to specific relationships in youth’s lives. In a sample of German 11- and 12-year-olds, general self-worth was positively correlated with reports of social support from mothers, fathers, and from each adolescent’s classmate with the highest support rating, but not with support from the highest-rated grandparent, other adult, sibling, or non-school peer for each youth (van Aken & Asendorpf, 1997). When adolescents were grouped according to their ratings of social support in each of these categories, those without a supportive mother, those without a supportive father, and those without at least one supportive classmate had lower reported self-worth than adolescents who reported having a more supportive individual in these categories. The relation between social support and self-worth was stronger for mothers and fathers than for classmates (van Aken & Asendorpf, 1997). A study of at-risk middle school students found even greater specificity in the links between self-esteem and social support, as only total social support (from parents, close friends, teachers, classmates, and school) and parental support were significantly associated with self-esteem (Demaray & Malecki, 2002b). Perceived support from parents has also been positively associated with self-esteem among mostly African-American, urban adolescents (Youngstrom et al., 2003).
Longitudinal findings generally support those of cross-sectional studies. Adolescents’ reports of support from their mothers and fathers were both positively correlated with reported self-esteem and negatively correlated with reported self-derogation the following year (Hunter et al., 2015), and reports of support from both parents combined were also positively associated with self-esteem over a 2-year period (Barber & Erickson, 2001). Perceptions of teachers’ involvement with adolescents’ school performance and the quality of peer relationships both predicted self-esteem 1 year later (Barber & Erickson 2001), although these findings are somewhat inconsistent with those of a study in which all but one source of support (i.e., parents, close friends, classmates, and school, but not teachers) was significantly positively correlated with both boys’ and girls’ self-esteem several months later (Rueger et al., 2010). Consistent with the cross-sectional findings, all sources of support combined accounted for a significant amount of variance in both genders’ self-esteem, and parental support was the only source of support that uniquely predicted self-esteem for both males and females (Rueger et al., 2010).

Finally, studies of SNPAs indicate that these relationships are associated with higher self-esteem (see Sterrett et al., 2011 for review). In both cross-sectional and longitudinal studies, youth’s relationships with non-parental adults, including teachers and family members, were positively associated with self-esteem, although some findings do not support this relation (see Sterrett et al., 2011 for review). Moreover, there is cross-sectional and longitudinal evidence of a positive association between social support and adolescents’ academic self-concept (see Sterrett et al., 2011 for review). Thus, it appears that social support may be associated not only with youth’s global views of themselves but with their perceptions of their competence in specific domains as well. A study of children and adolescents in grades 3 through 12, though not focusing
on SNPAs, supports this conclusion, as social support from parents, close friends, classmates, and teachers were all significantly related not only to global self-concept (i.e., social competence, academic competence, and self-image) but to each of these subscales as well (Demaray, Malecki, Rueger, Brown, & Summers, 2009).

**Social support and youth outcomes in the foster care population.** As the preceding review indicates, social support is associated with more positive psychosocial functioning among children and adolescents across a variety of domains. Pears et al. (2012) note that protective factors may operate differently in the foster care context versus the general population, suggesting the importance of examining foster care youth’s experiences of social support. Moreover, within the foster care system, children and adolescents experience a unique relationship with a foster parent or substitute caregiver, who may serve as another source of social support and act as a protective factor. Like the SNPAs described previously, these individuals may be either relatives or non-relatives, depending on the child or adolescent’s placement type (e.g., traditional foster care, kinship care). Citing Rutter’s work indicating that disproportionately positive outcomes may result from the accumulation of protective factors, Fernandez (2006) suggests that foster parents are capable of contributing to children’s self-efficacy and self-esteem through enhancing protective factors. Caseworkers’ and children’s ratings of cohesion in relationships between children and their foster families suggest that these relationships, particularly those with the foster mother, are generally positive and point to the importance of relationships between children and foster mothers (Fernandez, 2006). Qualitative research involving interviews with caseworkers also highlights the relevance of social support and relationships with foster parents to foster care youth’s well-being (Bell & Romano, 2015).
Thus, foster parents should be examined as a potential source of social support for youth in substitute care. The following review will demonstrate associations between social support and various areas of psychosocial functioning among youth in foster care, with many of the findings pertaining to support from foster parents.

Internalizing problems. Cross-sectional data suggest that among adolescents in long-term foster care, youth’s perceptions of how much their primary caregivers care about them and how close they are to their primary caregivers are associated with lower reports of internalizing behaviors both from the caregivers and from the adolescents themselves (Cooley et al., 2015). Similar findings emerged in studies of specific internalizing problems. Among adolescents ages 14 to 17 in Canada, youth’s reports of the quality of their relationships with their female caregivers predicted lower levels of self-reported emotional distress and anxiety after controlling for demographic factors and prior negative life events (Legault et al., 2006). Caregivers’ reports of nurturant parenting were not significantly related to anxiety and emotional distress, and relationships with male caregivers were not assessed. Another study of Canadian adolescents ages 12 to 15 also suggests the significance of foster youth’s relationships with their female caregivers (Guibord, Bell, Romano, & Rouillard, 2011). More positive perceptions of youth’s relationships with their female caregivers were associated with a lower likelihood of reporting elevated depressive symptoms and with an increased likelihood of reporting no mental health problems versus experiencing both depressive symptoms and substance use. Neither the quality of relationships with male caregivers nor youth’s reports of nurturing from foster parents was significantly associated with experiencing elevated depressive symptoms. Contrary to the evidence supporting positive associations between social support and mental health, among 5- to
9-year-olds in Canada, foster parents’ reports of their positive parenting behaviors were associated with higher levels of caregiver-reported emotional problems (Bell et al., 2013). The authors suggest that this finding may be the result of measuring the frequency, rather than the quality, of interactions between foster parents and children.

The negative finding from Bell et al. (2013) notwithstanding, a longitudinal study of foster children’s risk behaviors contributes additional evidence suggesting a possible protective influence of social support on internalizing problems. Specifically, 7- to 12-year-old foster children’s reports of support from classmates were negatively associated with their reports of self-injurious behavior and suicide attempts and plans an average of 5 years later (Taussig, 2002). This relationship remained significant after controlling for a number of other variables; however, no other sources of support (i.e., close friends, parents, teachers) were significantly associated with self-injury or suicidality. Notably, due to the infrequent nature of problems related to self-injury and suicidality among the African-American participants, the measure of these behaviors was not valid for these youth (Taussig & Talmi, 2001). Furthermore, in another study, positive aspects of foster youth’s relationships with their siblings were unrelated to depressive symptoms an average of nearly 15 months later (Linares, Li, Shrout, Brody, & Pettit, 2007).

Externalizing problems. Like the literature on internalizing problems, studies of both overall externalizing behaviors and more specific behaviors within this category suggest that social support may protect against these difficulties. In cross-sectional research, adolescents in long-term foster care’s perceptions of their relationships with their primary caregivers were significantly negatively associated with caregivers’, but not youth’s, reports of externalizing
behaviors, even after controlling for adolescents’ genders and the caregiver’s relationship to the youth (Cooley et al., 2015). Among 14- to 17-year-olds, adolescents’ reports of the quality of their relationships with their female caregivers and caregivers’ reports of nurturant parenting were negatively correlated with self-reported physical aggression, although only relationship quality was significant in a hierarchical regression analysis (Legault et al., 2006). A similar effect did not emerge among younger children, however, as foster parents’ reports of their positive parenting behaviors and children’s conduct problems were not significantly related (Bell et al., 2013). In the study described above that examined substance use and depression among adolescents, although higher-quality relationships between adolescents and their female caregivers were associated with a greater chance of experiencing neither substance use nor elevated depressive symptoms, none of the variables reflecting support from caregivers (i.e., quality of relationship with female caregiver, quality of relationship with male caregiver, nurturing parenting) was associated with substance use alone (Guibord et al., 2011).

Although the findings from cross-sectional studies are somewhat mixed, longitudinal evidence further supports the link between social support and lower levels of externalizing problems. Positive aspects of foster youth’s relationships with their siblings predicted lower conduct and behavior problems approximately 15 months later (Linares et al., 2007). Additionally, support from parents and teachers was negatively correlated with reports of past-year sexual behaviors approximately five years later (Taussig, 2002). These associations were no longer significant when demographic, maltreatment, and other child variables were controlled for; however, negative associations between support from classmates and both delinquency and total risk behaviors (i.e., self-injury and suicidality, substance use, sexual behaviors, and
delinquency) emerged in these hierarchical analyses (Taussig, 2002). Additional longitudinal research conducted only with girls during the period of transition from elementary school to middle school found that experiencing more supportive relationships with the mother figures to whom the girls felt closest predicted lower levels of self-reported relational and overt aggression towards peers (Pears et al., 2012). Together, these results suggest that while social support appears to be related to overall externalizing problems, the relevance of social support to youth outcomes may differ across specific categories of problematic behaviors.

*Social competence.* A small number of studies regarding children and adolescents’ social functioning produced inconsistent findings regarding the possible benefits of social support for foster youth’s competence in this domain. A cross-sectional study of children ages 5 to 9 did not find a significant relation between caregivers’ reports of their positive parenting behaviors and children’s prosocial behaviors (Bell et al., 2013). Likewise, adolescent girls’ reports of support from the mother figure to whom they each felt closest were not significantly related to their experiences of relational and overt aggression from peers during the transition to middle school (Pears et al., 2012), and youth’s positive relationships with their siblings were not associated with subsequent self-reports of loneliness and peer relationships (Linares et al., 2007).

Contrary to these null findings, a study of 10- to 15-year-olds enrolled in a mentoring program for an average of 12 months suggests that such relationships can have a positive effect on relationships with peers (Rhodes et al., 1999). At the conclusion of the 18-month study, caregivers of foster children who participated in the program were more likely than parents of non-foster children to note improvements in their child’s social skills. Youth’s reports also indicated that the mentoring program positively influenced their social functioning. Specifically,
foster children who participated in the mentoring program reported increases in both self-esteem enhancement support and prosocial support from peers, whereas foster children assigned to waitlists reported declines in both of these areas. None of the other aspects of youth’s friendships were significantly related to their involvement in mentoring. When foster children were examined separately depending on whether or not they were placed with relatives, those in kinship care reported increases in both prosocial and self-esteem enhancement support after participating in the mentoring program, while those in non-relative foster care experienced decreases in both areas. Nonetheless, the results of this study suggest that these declines in peer relationships of foster children in non-relative placements were smaller when they participated in the mentoring program than when they did not.

*Academic competence.* As in the domain of social competence, the literature pertaining to the association between social support and academic competence among youth in foster care is rather limited, although findings are relatively consistent across studies. A qualitative study of females ages 13 to 20 provides preliminary evidence for the role of natural mentors (i.e., influential or reliable non-parental adults who were a minimum of 21 years old), including foster mothers and an extended relative, in contributing to better academic performance (Greeson & Bowen, 2008). Ferguson and Wolkow’s (2012) review of qualitative studies also indicates the relevance of social support for positive academic functioning among youth in foster care. Quantitative research likewise points to the importance of social support for positive academic functioning. Among 10- to 15-year-olds, youth’s reports of their caregivers’ academic support, including help with homework and problems at school and encouragement of positive school performance, were positively associated with academic functioning (Cheung et al., 2012). A
longitudinal study found that girls who reported having more supportive relationships with their closest mother figures experienced larger gains in academic competence as they transitioned from elementary school to middle school (Pears et al., 2012).

Self-Esteem and self-concept. Several studies suggest that as in the general population, social support is linked to more positive views of the self among children and adolescents in foster care. A qualitative study examining adults’ perceptions of their foster parents’ influence on their self-esteem provided support for a dual-influence model in which support in specific domains and general social support both influence self-esteem (Luke & Coyne, 2008). Specifically, the former foster youth’s reports indicated the importance of general support and of support in the areas of behavioral conduct, athletic competence, social acceptance, and scholastic competence for promoting positive self-esteem.

Quantitative research provides some additional evidence of a positive association between social support and self-esteem. In cross-sectional research, caregivers’ reports of nurturant parenting and 14- to 17-year-olds’ reports of the quality of their relationships with their female caregivers were both positively correlated with adolescents’ general self-esteem (Legault et al., 2006). Similar results emerged in a study of 11- to 16-year-olds in long-term foster care, in which adolescents’ reports of closeness to their primary caregivers—but not to their biological mothers—were associated with more positive self-esteem (Farineau et al., 2013). The significant association between self-esteem and youth’s relationships with their caregivers remained significant when closeness to mothers, peers, and caregivers were examined simultaneously after controlling for demographic variables and placement type. Though these findings suggest that relationships with current caregivers may be relatively more important than relationships with
biological parents in promoting positive self-esteem among youth in foster care, Farineau et al. (2013) note that the measures of closeness were not consistent across each type of relationship, and measurement issues may have interfered with the identification of a significant effect for relationships with biological mothers.

Contrary to these findings in favor of a positive association between social support and self-esteem, other studies yielded mixed or null results. Girls’ reports of their relationships with the mother figures to whom they felt closest were unrelated to their perceptions of their competence at school (Pears et al., 2012). Finally, a study of adults who had been in foster care and had a mental or physical impairment indicated that current self-esteem was significantly positively associated with participants’ beliefs that their foster parents had been helpful to them while they were in care, but reports of having someone who loved them while they were in foster care and of having a close relationship with an adult throughout the majority of their childhoods were not related to self-esteem (Anctil, McCubbin, O’Brien, & Pecora, 2007). These findings may suggest that instrumental support (i.e., helpfulness) may have longer-term effects on the self-esteem of foster care youth relative to emotional or esteem/appraisal support.

**Self-esteem and self-concept.** As previously discussed, self-esteem and self-concept can be considered both correlates of social support that are indicative of positive youth outcomes as well as protective factors that are associated with adaptive functioning in a range of other domains. Literature examining associations of self-esteem and self-concept with the psychosocial functioning of children and adolescents in the general population and in the child welfare system will be reviewed. Prior to examining these relations, however, it is necessary to
consider some issues related to the conceptualizations and definitions of terms pertaining to views of the self.

One area of inconsistency in the literature concerns the meaning of “self-esteem” as opposed to “self-concept.” These terms have sometimes been distinguished by the notion that self-concept refers to cognitive or descriptive views of the self, while self-esteem refers to affective or evaluative views, yet this distinction lacks empirical evidence to support it (see Craven & Marsh, 2008, Marsh & Craven, 2006, Marsh & Martin, 2011, and Swann, Chang-Schneider, & McClarty, 2007 for review). Rather, Swann et al. (2007) suggest that both concepts be included in a category of views of the self, with each term encompassing both cognitions and emotions. This view of self-concept as both descriptive (e.g., perceiving oneself as happy) and evaluative (e.g., perceiving oneself as good at something) has widespread support (Marsh & Martin, 2011).

Another important issue concerns the conceptualization of self-concept or self-esteem as unidimensional (involving a global view of the self) or as multidimensional (with views of the self separated into domains such as social or intellectual competence; see, for example, Marsh & Martin, 2011 and Sowislo & Orth, 2013 for review). Though self-concept has previously been viewed as a unidimensional or general construct (Craven & Marsh, 2008), Marsh and Craven (2006) argue that this view lacks empirical support. Rather, Craven and Marsh (2008) claim that self-concept is in fact a hierarchical, multidimensional construct. In keeping with this conclusion, Marsh and his colleagues (Craven & Marsh, 2008; Marsh & Craven, 2006; Marsh & Martin, 2011) discuss a multidimensional model of self-concept introduced by Shavelson, Hubner, and Stanton in 1976, in which a global form of self-concept known as self-esteem serves as the
highest level of the model, and specific domains of self-concept, which can be further divided into more specific components, are at lower levels of the hierarchy. Additional support for this multidimensional view of self-concept comes from studies of the factor structure of the Self-Perception Profile for Children (SPPC; Harter, 1985), which is the most commonly used measure of youth self-esteem (Muris, Meesters, & Fijen, 2003). This measure consists of five domains of self-concept, as well as a scale reflecting global self-worth. The global self-worth scale consists of separate items that measure the respondent’s assessment of his or her overall worth and is not simply the sum of scores on the other scales (Harter, 1999). Studies of the psychometric properties of the SPPC (e.g., Muris et al., 2003; Shevlin, Adamson, & Collins, 2003) have found support for the measure’s five factors.

Accepting the view that self-concept is a multidimensional construct requires making a decision as to how to measure this construct when examining its associations with children and adolescents’ functioning. According to Swann et al. (2007), measures of global self-esteem are insufficient for this task. Instead, they promote the use of the specificity matching principle, which calls for the use of global measures of self-concept to predict global outcomes (e.g., a combination of multiple outcomes) and specific measures of self-concept when measuring more narrowly defined outcomes (e.g., perceived mathematics ability predicting actual competence in mathematics). Following this principle, Sowislo and Orth (2013) argue for the use of global measures of self-concept when examining the association between self-esteem and psychological adjustment, claiming that aspects of psychological adjustment (e.g., depression) are global constructs comprising multiple symptoms. Although Marsh and Craven (2006; Craven & Marsh, 2008) argue that a unidimensional approach to self-concept is not sufficient for research
regarding mental health, Sowislo and Orth (2013) offer both practical and theoretical arguments for emphasizing global measures of self-esteem in relation to psychological adjustment (i.e., Most research on this topic has utilized global measures; theories involving psychological adjustment and self-esteem typically involve global self-concept). Thus, in order to abide by the specificity matching principle, the following review will emphasize global measures of self-concept in relation to internalizing and externalizing problems and domain-specific measures in regard to social and academic competence.

**Associations between self-esteem and self-concept and youth outcomes in the general population.** Similar to the findings for social support, self-esteem and self-concept have been associated with children and adolescents’ internalizing and externalizing problems and social and academic competence.

**Internalizing problems.** Numerous studies demonstrate negative associations between self-esteem and internalizing problems in diverse groups of youth. In a cross-sectional study of a predominantly white sample of adolescents in grades 7 through 9, global self-esteem was negatively associated with self- and parent reports (but not teacher reports) of internalizing problems, even when controlling for demographic variables (DuBois, Bull, Sherman, & Roberts, 1998). Other cross-sectional studies examined the narrower outcomes of depression and anxiety. Among Dutch secondary school students, symptoms of anxiety and depression were both negatively correlated with global self-esteem; these relations remained when controlling for demographic variables while examining global self-esteem in conjunction with implicit and contingent self-esteem (Bos, Huijding, Muris, Vogel, & Biesheuvel, 2010). Similarly, self-reports of self-esteem and depressive symptoms were strongly negatively correlated in a
predominantly Caucasian, middle-class sample of adolescents, leading the authors to conclude that self-esteem may protect against depression (Dumont & Provost, 1999). Furthermore, when adolescents were divided into groups based on their reports of depressive symptoms and daily hassles, those with high levels of depressive symptoms had lower self-esteem compared to the groups with few depressive symptoms (Dumont & Provost, 1999). The negative association between self-esteem and depressive symptoms also emerged among African-American adolescents and remained significant when controlling for demographic variables and violence exposure (Fitzpatrick, Piko, Wright, & LaGory, 2005). In contrast to the other studies discussed thus far, self-esteem was not significantly related to measures of depressive symptoms, affective problems, somatic problems, or anxiety in a sample of Dutch adolescents (ages 13 to 19), although the related construct of self-efficacy was related to each of these outcomes (Muris, Mayer, Reinders, & Wesenhagen, 2011).

Longitudinal studies offer further clarification of the associations between self-concept and internalizing problems. In a sample of mostly white adolescents in grades 7 through 9, global self-esteem predicted self-reports (but not parent or teacher reports) of internalizing problems 1 year later but did not predict changes in internalizing problems during this time period (DuBois, Felner, Brand, & George, 1999).

As in cross-sectional studies, much of the research on self-esteem and internalizing problems has examined the more specific outcomes of depression and anxiety. A meta-analysis of longitudinal studies of depression and self-esteem found a stronger vulnerability effect (i.e., self-esteem negatively predicting depression) compared to a scar effect (i.e., depression negatively predicting self-esteem; Sowislo & Orth, 2013). Age did not moderate this finding, and
the vulnerability effect emerged in studies of children as well as those involving adults and adolescents (Sowislo & Orth, 2013). A meta-analysis also revealed a vulnerability effect in the relation between self-esteem and anxiety, though this effect was comparable in magnitude to the scar effect for anxiety and self-esteem (Sowislo & Orth, 2013). Taken together, these findings offer compelling evidence of longitudinal relations in which self-esteem predicts later levels of anxiety and depression.

Several other studies provide further support for Sowislo and Orth’s (2013) findings. In a study examining associations of adversity and victimization (including maltreatment) with self-esteem and depressive symptoms among predominantly white 11- to 18-year-olds, self-esteem was negatively correlated with depressive symptoms 2 years later (Turner, Finkelhor, & Ormrod, 2010). Moreover, changes in self-esteem over a 2-year period negatively predicted depressive symptoms (Turner et al., 2010). Similar to their results for overall internalizing problems, DuBois et al. (1999) found that global self-esteem was negatively correlated with symptoms of anxiety and depression over the period from sixth grade to eighth grade. Again, global self-esteem did not predict changes in these symptoms. Moreover, children’s combined reports of their self-concept across five different domains predicted their depressive symptoms over a period of several months; these results were consistent for each school year from grades 3 through 6 (Cole, Jacquez, & Maschman, 2001). A meta-analysis demonstrated that children and adolescents who participated in interventions to improve self-esteem or self-concept also experienced improvements on measures such as those assessing anxiety or depression, though children with combined internalizing and externalizing problems did not demonstrate benefits in this area (Haney & Durlak, 1998).
Finally, studies examining self-esteem and internalizing problems in African-American youth have yielded mixed results. Among high school students identified as being at risk of dropping out of school, those whose depressive symptoms were high throughout high school experienced lower self-esteem compared to students with low, increasing, or decreasing levels of depressive symptoms (Repetto, Caldwell, & Zimmerman, 2004). In a slightly younger sample of predominantly low-income adolescents, girls’ reports of self-esteem in seventh grade were negatively correlated with their symptoms of anxiety and depression 1 year later, while boys’ self-esteem was correlated with subsequent symptoms of depression but not anxiety (Mandara, Gaylord-Harden, Richards, & Ragsdale, 2009). Self-esteem in seventh grade did not predict changes in symptoms for either gender, but for girls, increased self-esteem was associated with an increase in depression after controlling for racial identity. Nonetheless, the authors claim that this does not mean that self-esteem is negative for African-American adolescents, as this construct was negatively correlated with depressive symptoms among both girls and boys. Thus, despite some inconsistencies across prior studies, the literature suggests that there is a longitudinal relationship in which negative self-esteem is associated with subsequent internalizing problems, indicating that higher self-esteem may protect against such difficulties.

*Externalizing problems.* Whereas the preceding discussion points to a well-established negative association between self-esteem and internalizing problems, there has been controversy surrounding the nature of associations between self-esteem and externalizing problems (see, for example, Bos et al., 2010 and Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005 for review). Nonetheless, there is some evidence from cross-sectional and longitudinal studies in support of an association between higher self-esteem and fewer externalizing problems.
Cross-sectional studies have examined links between general externalizing problems as well as more specific components of these behaviors. Among predominantly white students in grades 7 through 9, global self-esteem was negatively associated with self- and parent (but not teacher) reports of externalizing problems; the association remained significant only for self-reported externalizing behaviors after controlling for demographics (DuBois et al., 1998). Self-esteem has also been negatively associated with combined adolescent and parent reports of delinquency and aggression (though self-esteem was not directly linked to these outcomes; Barnow, Lucht, & Freyberger, 2005) and with adolescents’ reports of antisocial behavior (Barber & Erickson, 2001) and disruptive behavior (even after controlling for demographic variables and including contingent and implicit self-esteem in the regression model; Bos et al., 2010). There is evidence that delinquency is negatively correlated with self-esteem regardless of whether adolescents or teachers provide information regarding self-esteem; academic achievement and supportive parenting do not account for this association (Donnellan et al., 2005).

Contrary to these findings, another study found that self-esteem and conduct problems were negatively correlated among children in third and fourth grades but not among those in sixth and seventh grades (Barry, Frick, & Killian, 2003). Self-esteem was also not associated with adolescents’ substance use (Bos et al., 2010; Muris et al., 2011). Furthermore, although one study found that a measure of self-esteem across multiple domains was positively correlated with disruptive behavior, this association did not emerge when self-efficacy was considered as well, nor did self-esteem predict other measures of externalizing behaviors (Muris et al., 2011).

Though these cross-sectional studies yielded mixed results regarding self-esteem and externalizing problems, longitudinal research offers support for a beneficial effect of self-esteem
with regard to externalizing problems. In a sample of adolescents in grades 7 through 9, self-esteem was negatively associated with self-reports (but not parent or teacher reports) of externalizing problems 1 year later, although self-esteem did not predict changes in these behaviors (DuBois et al., 1999). Similar findings emerged in a sample of adolescents in New Zealand, with youth’s self-esteem at age 11 demonstrating a negative association with their externalizing problems at age 13 (Donnellan et al., 2005). However, Robinson, Garber, and Hilsman (1995) found that predominantly Caucasian sixth-graders’ perceived self-worth did not predict their self-reported externalizing problems in seventh grade when prior levels of externalizing behaviors, comorbid depressive symptoms, attributional style, and stressors were also taken into account. Findings from a meta-analysis indicated that interventions intended to improve self-concept or self-esteem were associated with improvements in children and adolescents’ behavior (Haney & Durlak, 1998).

Studies of more specific aspects of externalizing behaviors have also produced mixed findings. Sixth-graders’ reports of global self-esteem were negatively associated with their self-reported delinquency 2 years later, but substance use and teacher reports of problematic behaviors were not significantly related to global self-esteem (DuBois et al., 1999). Initial levels of global self-esteem did not predict changes in any of these outcomes over the 2-year period. Moreover, Taylor, Davis-Kean, and Malanchuk (2007) did not find an association between mostly black or African-American seventh-grade students’ self-esteem and the likelihood of being disciplined at school for aggressive behavior. In a sample of adolescents consisting of approximately equal numbers of Caucasian and African-American youth and individuals from low-income and non-low-income families, global self-esteem was directly negatively related to
stealing but only indirectly related to other externalizing behaviors, including fighting, alcohol use, and smoking (DuBois & Silverthorn, 2004).

**Social competence.** A third area in which more positive self-concept is associated with more adaptive functioning is social competence. Researchers have suggested that positive representations of relationships may facilitate the establishment of good relationships, whereas negative self-views may interfere with social functioning (Rudolph, Hammen, & Burge, 1995), for example, by leading children to behave in ways that result in rejection or isolation (Caldwell, Rudolph, Troop-Gordon, & Kim, 2004). Though much of the research examining self-concept and social functioning is cross-sectional, there is some longitudinal research that demonstrates positive associations between self-concept and social competence over time.

Although there is cross-sectional evidence that general self-esteem is associated with children and adolescents’ social functioning (e.g., Ray & Elliott, 2006), to be consistent with the specificity matching principle, only studies involving measures of social self-concept will be reviewed. One study found that Dutch adolescents’ combined reports of social and friendship competence were positively correlated with their reports of the quality of their peer relationships and their involvement with peers; these associations were not accounted for by measures of child-rearing (Dekovic & Meeus, 1997). Among German adolescents, self-reports of acceptance were negatively correlated with classmates’ reports of rejection and positively correlated with their reports of acceptance (Jonkmann, Trautwein, & Lüdtke, 2009). Similarly, reports of perceived social acceptance from Canadian children in grades 3 through 5 were associated with measures of social functioning based on peers’ reports, including positive correlations with
social preference and quantity of affiliative relationships and negative correlations with victimization by peers and withdrawal (Boivin & Hymel, 1997).

The link between social self-concept and social competence has also been identified among urban, black, middle school students, as adolescents’ social self-concepts were positively correlated with their own and with their parents’ reports of social competence, though self-concept and teacher-reported social competence were not significantly related (Comer, Haynes, Hamilton-Lee, Boger, & Rollock, 1987). Notably, a regression analysis indicated that although social self-concept significantly predicted adolescents’ self-reported social competence, several other domains of self-concept were stronger predictors (Comer et al., 1987). Finally, although children and adolescents’ reported self-perceptions in regard to peer relationships were not related to their behavior in a laboratory conflict task with an unfamiliar peer, they were significantly associated with teachers’ assessments of peer rejections such that youth with more positive self-perceptions experienced less rejection from peers (Rudolph et al., 1995). Moreover, children and adolescents whose teachers classified them as exhibiting the most positive social functioning reported more positive self-perceptions compared to those youth whose teachers identified them as being disliked, neglected, or average (Rudolph et al., 1995).

Results from a limited number of longitudinal studies support these associations between social self-concept and social competence. Among mostly white students in grades 3 through 7, self-reports of perceived social competence in relation to peers were negatively associated with classmates’ reports of peer victimization but were not related to classmates’ reports of social skills several months later (Egan & Perry, 1998). The cross-sectional associations between perceived social competence and social skills were significant and positive at each time point,
however. Further support for the relevance of self-concept to subsequent social functioning comes from the finding that when multiple measures of self-concept were examined in conjunction with one another, perceived social competence predicted victimization several months later even after controlling for demographic variables, prior levels of victimization, and other risk variables (e.g., internalizing problems). Moreover, perceived social competence moderated the effects of some of these risk variables on victimization, suggesting a possible protective function for self-concept (Egan & Perry, 1998). Finally, in a sample of predominantly white or African-American students in grades 5 and 6, teachers’ reports of social disengagement (i.e., social withdrawal, social helplessness, and lack of prosocial behavior) mediated the association between youth’s negative self-perceptions (including social self-competence and self-worth and perceived control regarding success in peer relationships) and peer stress 1 year later (Caldwell et al., 2004). These findings support a stress-generation model, in which youth contribute to their negative social experiences as a result of their poor views of themselves (Caldwell et al., 2004). Though both Egan and Perry (1998) and Caldwell et al. (2004) also found evidence that problematic peer interactions predict subsequent negative perceptions of oneself, their work nonetheless supports a model in which self-concept may contribute to social competence.

**Academic competence.** Finally, studies provide substantial evidence of a positive association between academic self-concept and academic functioning. Although there is some evidence that higher global self-esteem is associated with more positive academic functioning (e.g., DuBois et al., 1999), this review will emphasize studies utilizing measures of self-concept that are specific to the school domain. Reviews by Marsh and colleagues (Craven & Marsh,
present evidence in favor of a Reciprocal Effects Model (REM), in which academic self-concept and academic achievement each influence the other. In a meta-analysis of longitudinal studies (with mean ages ranging from 5 to 20 years at the initial assessment), Huang (2011) identified further support for the reciprocal effects of academic self-concept and achievement. The mean effect sizes for self-concept predicting later achievement were medium to large, and path analyses were consistent with an effect in this direction. The REM has been replicated across a variety of national and cultural settings (see Craven & Marsh, 2008, Marsh & Craven, 2006, and Marsh & Martin, 2011 for review) and has been identified as early as second grade (Guay, Marsh, & Boivin, 2003). More recently, a study of German youth found that academic self-concept predicted improvements in academic achievement between fifth and sixth grades but not between sixth and eighth grades, suggesting that the influence of academic self-concept may differ in relation to school transitions or may not persist over longer intervals (Preckel, Niepel, Schneider, & Brunner, 2013). Nonetheless, the various replications of the REM support both a self-enhancement model, in which academic self-concept influences achievement, and a skill development model, in which academic self-concept results from achievement (see, for example, Marsh & Martin, 2011).

**Associations between self-esteem and self-concept and youth outcomes in child welfare.** In a qualitative study of child welfare workers’ views of resilience, self-esteem emerged as an example of a child characteristic that may promote adaptive functioning among youth in foster care (Bell & Romano, 2015). As in the general population, more positive views of the self have been associated with better outcomes among youth in the child welfare system. However, because the literature in this area is limited, studies of maltreated youth who are not placed in
foster care will also be discussed. Furthermore, contrary to the specificity matching principle, there will be some discussion of results in which the self-concept and outcome domains do not match.

**Internalizing problems.** Two cross-sectional studies of internalizing problems among youth in the foster care system have produced apparently contradictory results. In a Canadian sample of 14- to 17-year-olds, general self-esteem was negatively correlated with a measure of self-reported emotional distress and anxiety (Legault et al., 2006). This association remained significant after controlling for a variety of interpersonal and demographic variables as well as negative life events. In contrast, in an Iranian sample of adolescents in residential foster care, self-esteem and internalizing problems were not significantly related, although self-esteem did interact with protective factors to predict internalizing problems (Aguilar-Vafaie, Roshani, Hassanabadi, Masoudian, & Afruz, 2011). Notably, many of the adolescents in the latter study were in foster care for reasons unrelated to maltreatment (e.g., parental death), suggesting that this sample may not be comparable to that studied by Legault et al. (2006).

Results of longitudinal studies provide more consistent support for an association between higher self-esteem and fewer internalizing problems. In a racially/ethnically diverse sample of 9- to 13-year-olds from low-income families, children and adolescents’ representations of themselves (measured by a composite of global self-worth, perceived social acceptance, self-efficacy, and beliefs regarding the positive nature of their futures) were negatively correlated with their non-relative foster mothers’ reports of their internalizing behaviors several weeks later, approximately one month after arriving in the foster home (approximately two months after entering foster care; Milan & Pinderhughes, 2000). Positive views of the self have also
demonstrated longer-term associations with internalizing problems. Among Croatian youth in care, more positive self-image (i.e., self-esteem and self-perception) and higher self-esteem were associated with decreased depressive symptoms 5 years later (Bulat, 2010). These associations were significant after controlling for several other variables, including gender, age, and age of entry into care. Finally, 7- to 12-year-olds’ self-perceptions in the domain of behavioral conduct were negatively correlated with their combined reports of suicide plans and attempts and self-injurious behavior approximately five years later, but no other measures of self-concept, including global self-worth, were related to these outcomes (Taussig, 2002). When other variables were taken into account, an additional association emerged such that higher levels of perceived social acceptance were associated with greater levels of suicidality and self-injury 5 years later. However, as previously noted, the measure of these behaviors was not valid for African-American youth (Taussig & Talmi, 2001).

*Externalizing problems.* Research regarding self-esteem and externalizing problems among youth in foster care has also produced some inconsistent findings. In cross-sectional research, Canadian adolescents’ self-esteem was negatively correlated with self-reported aggression (Legault et al., 2006). Self-esteem remained a significant predictor of lower aggressive behavior after controlling for negative life events and demographic and interpersonal variables. Higher levels of self-esteem were also associated with less self-reported delinquency within a nationally representative sample of adolescents in foster care (Farineau, 2013). However, for Iranian adolescents, higher levels of self-esteem were not associated with fewer caregiver-reported externalizing behaviors (Aguilar-Vafaie et al., 2011). As noted above, this discrepancy may be due in part to differences between these samples.
The results of longitudinal studies of self-esteem and externalizing behaviors are also mixed. Reports of self-concept from children and adolescents in foster care were associated with their self-reported risk behaviors approximately five years later, although the specific patterns of associations differed across domains of self-concept (Taussig, 2002). After controlling for other variables, including demographic characteristics and prior levels of behavior problems, global self-worth was positively associated with substance use. Self-concept related to behavioral conduct was negatively associated with substance use, delinquency, risky sexual behaviors, and total risk behaviors (i.e., the three preceding categories in addition to the measure of suicidality and self-injurious behavior described above). Perceived social acceptance was likewise related to each of these categories of risk behaviors, but in the opposite direction. Perceived self-concept regarding appearance was negatively associated only with sexual behaviors, while perceived scholastic and athletic competence were both unrelated to reported risk behaviors. Taussig (2002) notes that the findings for behavioral conduct are not surprising, as they indicate that behavioral problems at one point in time predict subsequent problematic behaviors. Moreover, the link between children and adolescents’ perceptions of their behavior and their later reports of actual behaviors is consistent with the specificity matching principle. Though the findings for social acceptance do not reflect the concept of specificity matching, positive associations between perceived social acceptance and risk behaviors may reflect relationships with deviant peers (Taussig, 2002). Additional cross-sectional analyses, however, indicated that while self-esteem was significantly negatively correlated with sexual behaviors, delinquency, substance use, and a total measure of these risk behaviors for the whole sample and for white adolescents, self-esteem was not related to Hispanic adolescents’ reports of sexual behaviors, nor was it
related to any of the measures of risk behaviors in African-American youth (Taussig & Talmi, 2001). Thus, it appears that associations between self-concept and risk factors differ not only across domains of self-perception but also across ethnic and racial groups.

Among girls in foster care, perceived competence in the school domain at the end of elementary school was not related to aggression towards peers either 1 or 2 years later, nor was it related to changes in this behavior over time (Pears et al., 2012). Given the specificity of associations between outcomes and particular areas of self-concept (see, for example, Marsh & Craven, 2006 for review), it is unsurprising that girls’ views of their competence at school were unrelated to the non-academic outcome of aggression. This finding is also consistent with Taussig’s (2002) results indicating that perceived competence at school did not predict any form of risk behavior. Furthermore, a combined measure of perceived social acceptance, global self-worth, beliefs about the future, and self-efficacy was not related to foster mothers’ ratings of externalizing behaviors several weeks later (Milan & Pinderhughes, 2000).

**Social competence.** Contrary to the body of literature involving youth from the general population, there is a lack of evidence of a positive link between self-concept and adaptive social functioning among youth in foster care. Consistent with the other findings from the Iranian sample of adolescents in foster care, general self-esteem was unrelated to caregivers’ reports of prosocial behavior (Aguilar-Vafaie et al., 2011). Longitudinal research also failed to demonstrate a protective role for positive self-concept, with a study of girls finding that those with higher perceived competence at school experienced smaller decreases in aggression from their peers (Pears et al., 2012).
Though these studies suggest that positive self-concept does not promote social competence among youth in foster care, there is limited cross-sectional support for an association between these constructs drawn from studies that included both children who were maltreated but were not placed in foster care and matched samples of children who had not experienced maltreatment. In a sample of mostly Caucasian children living in lower SES, predominantly single-parent families, camp counselors’ assessments of children’s self-esteem were negatively correlated with the counselors’ ratings of children’s aggressive and withdrawn behaviors and with peers’ sociometric ratings of the children as aggressive and disruptive (i.e., being least liked among peers, being disruptive, and being a fighter; Kaufman & Cicchetti, 1989). Additionally, self-esteem was positively correlated with counselors’ ratings of prosocial behavior and with peers’ ratings of children’s leadership and prosocial characteristics (i.e., being cooperative, being most liked among peers, and being a leader; Kaufman & Cicchetti, 1989). The magnitude of the correlations was not significantly different among the maltreated versus non-maltreated children. Similarly, among mostly Caucasian children who were living in neighborhoods of low to moderate SES and the majority of whom lived with single mothers, children’s perceptions of their social acceptance were positively correlated with both their own and their mothers’ reports of their social skills (Kinard, 1999). More consistent with the findings for youth in foster care, however, self-esteem was not significantly associated with camp counselors’ reports of prosocial behavior in a sample of racially and ethnically diverse (but predominantly African-American) children and early adolescents (Kim & Cicchetti, 2004).

*Academic competence.* Finally, in contrast to the well-established association between self-concept and academic performance among youth in the general population, studies
addressing this relation among maltreated youth or those in foster care are quite limited, with only one known study in each of these populations. Among girls in foster care, there was a significant and positive concurrent correlation between school-related self-competence and combined teacher and caregiver reports of academic competence at the end of elementary school (Pears et al., 2012). Though this finding is consistent with the evidence from studies conducted in the general population, the associations between perceived self-competence at school and academic performance 1 and 2 years later were only marginally significant, and school-related self-competence was not related to girls’ trajectories of academic functioning (Pears et al., 2012). Furthermore, among maltreated 8- to 11-year-olds, children’s perceptions of their competence at school were associated with poorer academic outcomes measured within 6 months of children’s reports, as perceived competence was positively related to involvement in special education or repeating a grade and negatively (although not significantly) associated with GPA (Barnett, Vondra, & Shonk, 1996). Thus, while further research is needed to clarify the role of self-concept in predicting academic outcomes among youth in foster care, the extant literature does not appear to support a protective function for self-concept in the academic domain.

**Self-Concept as a Mediator of Social Support’s Effects on Well-Being**

The literature reviewed thus far demonstrates evidence that both higher social support and more positive self-concept are associated with an overlapping set of psychosocial outcomes among children and adolescents, including fewer internalizing and externalizing problems and greater social and academic competence. Moreover, social support has been associated with subsequent levels of self-concept. Together, these findings raise the possibility that self-concept serves as a mediator through which social support exerts its influence on other aspects of
functioning. Researchers (e.g., Dekovic & Meeus, 1997) have drawn upon similar logic in examining the potential mediating role of self-esteem and have called for studies in this area in order to clarify the means by which social support affects well-being (Yarcheski, Mahon, & Yarcheski, 2001). Moreover, the associations among interpersonal relationships, self-concept, and mental health may be relevant to the long-term functioning of youth in foster care (Farineau et al., 2013).

Several cross-sectional studies have tested the role of self-concept as a mediator between social support and psychosocial functioning. Among urban students in seventh and eighth grades, global self-esteem mediated the association between self-reported social support and well-being (i.e., social, mental or psychological, and physical functioning), although there was still a significant direct effect between social support and well-being (Yarcheski et al., 2001). Additional studies expand upon these results by examining more specific outcomes.

Moran and DuBois (2002) compared models reflecting three different theoretical explanations (i.e., self-worth theory, coping theory, and sociometer theory) of associations between social support, self-esteem, and behavior problems. The explanation derived from self-worth theory suggests that when adolescents are unsuccessful or rejected in a normative developmental context, they may view themselves negatively and engage in behaviors such as delinquency and aggression in order to improve their self-concept (Moran & DuBois, 2002). The model suggests that social support is positively associated with self-esteem, which then predicts lower levels of behavior problems, but does not include a direct link between social support and behavior. Coping theory, however, is concerned with youth having a sufficient set of resources for managing stress, which can include both interpersonal (e.g., social support) and intrapersonal
(e.g., self-esteem) resources (see Moran & DuBois, 2002 for review). Consequently, this theory suggests that social support can contribute to lower levels of behavior problems both indirectly, through self-esteem, and directly. A third model based on sociometer theory suggests that social support is positively linked to self-esteem and directly negatively linked to behavior problems, but it does not include a pathway between self-esteem and behavior problems, thereby excluding the possibility that self-esteem mediates the effect of social support on behavior (Moran & DuBois, 2002). According to sociometer theory, self-esteem merely functions as a means of evaluating social experiences, whereas social support can influence behavior if youth respond to perceived rejection by engaging in negative behaviors (see Moran & DuBois, 2002 for review).

Using cross-sectional, self-reported data from a sample of students in grades 5 through 8 with approximately equal numbers of white and African-American and low-income and non-low-income students, Moran and DuBois (2002) found that a slightly modified version of the model based on coping theory fit their data the best. In this model, higher combined social support from family members, friends, and school personnel was both directly and indirectly (through self-esteem in the combined family, peer, and school domains) linked to lower levels of delinquent and aggressive behaviors. This model also included a positive association between peer-related self-esteem and these behavior problems. Notably, the direct link between social support and behavior problems was significant for the seventh- and eighth-graders but not for the younger adolescents, suggesting that self-worth theory may provide a better explanation than coping theory for the effect of social support on delinquency and aggression in younger individuals. For the older adolescents, however, it appears that the benefits of social support are not limited to increasing self-esteem (Moran & DuBois, 2002).
Self-esteem has also been examined as a mediator of associations between social support and internalizing problems, specifically symptoms of depression and anxiety. Using data averaged across seventh and eighth grades from urban, African-American adolescents, Gaylord-Harden, Ragsdale, Mandara, Richards, and Petersen (2007) found that for girls, combined social support from peers and family was both directly and indirectly, via self-esteem, linked to symptoms of anxiety and depression in models examining both self-esteem and ethnic identity as possible mediators. For boys, social support was directly associated with fewer depressive symptoms and higher self-esteem, but self-esteem was not significantly related to depressive symptoms; therefore, self-esteem did not mediate the effect of social support on boys’ depressive symptoms (Gaylord-Harden et al., 2007). There was also no evidence that self-esteem mediated the effect of social support on anxiety among boys. Self-esteem also emerged as a mediator between perceived maternal and paternal support and depressed mood among predominantly Caucasian adolescents in ninth and 10th grades (Plunkett, Henry, Robinson, Behnke, & Falcon, 2007). For girls, paternal support was also directly linked to lower levels of depressed mood.

A third domain in which self-concept appears to act as a mediator is social functioning. Among Dutch adolescents, self-concept fully mediated the effects of maternal, but not paternal, child-rearing style on involvement with peers and partially mediated the effects of both paternal and maternal child-rearing styles on the quality of youth’s relationships with peers (Dekovic & Meeus, 1997). These findings suggest that parents directly influence social relationships through mechanisms such as modeling of interaction style in addition to indirectly affecting peer relationships through self-concept (Dekovic & Meeus, 1997). Notably, higher peer involvement
was associated with poorer parent-adolescent relationships and lower general self-worth but higher social self-worth.

Though these cross-sectional studies offer preliminary evidence in support of a mediational role for self-concept, as Moran and DuBois (2002) discuss in relation to their study, they cannot determine the direction of effects among the various constructs. A small number of studies, however, appear to confirm the proposed direction of effects, in which self-esteem influences subsequent levels of the outcome of interest (e.g., internalizing problems). In a sample of youth in grades 5 through 8 with approximately equal numbers of low-income versus non-low-income and African-American versus white individuals, self-esteem mediated the effect of social support from family members, school personnel, and peers on both internalizing and externalizing behaviors over a period of 18 months (DuBois et al., 2002). Social support positively predicted self-esteem, which was negatively related to both internalizing and externalizing problems. For the most part, results were consistent in demonstrating mediation for self-report and parent-report data and in analyses utilizing youth reports of social support and self-esteem and parent reports of internalizing and externalizing problems or vice versa. Contrary to Moran and DuBois’ (2002) cross-sectional findings, direct effects of social support on internalizing and externalizing problems were typically not significant, and findings did not differ by age (DuBois et al., 2002). Additionally, support from parents appears to be indirectly (via self-esteem) associated with adolescents’ social initiative 2 years later, although this finding did not emerge for the younger adolescents in the sample (Barber & Erickson, 2001). Moreover, in another study based on the same sample of adolescents, there was no indication that self-esteem mediated associations between maternal and paternal support and depressive symptoms
and initiation of social interactions 1 year later when other aspects of parenting were examined simultaneously (Hunter et al., 2015).

In addition to findings regarding youth in the general population, two studies demonstrate that self-esteem also functions as a mediator between relationships and well-being outcomes among maltreated youth and those in foster care. Cross-sectional data from adolescents in foster care indicated that negative self-esteem mediated the effect of the quality of adolescents’ relationships with their foster parents on delinquent behaviors; however, this was not the case for relationships with biological mothers, which were not associated with delinquency (Farineau, 2013). Conversely, longitudinal research involving both maltreated children and adolescents and a demographically similar group that had not experienced maltreatment did point to a mediating role for self-esteem in regard to mother-child relationships (Kim & Cicchetti, 2004). Specifically, secure mother-child relationships (as determined by self-report) were indirectly linked to camp counselors’ reports of lower levels of concurrent internalizing symptoms and subsequent externalizing and internalizing symptoms. These associations were fully mediated by self-esteem and did not differ based on whether or not children and adolescents had experienced maltreatment.

**Limitations of Prior Research**

As the above review illustrates, the existing literature generally supports the conclusion that social support is negatively associated with emotional and behavioral difficulties and positively associated with social and academic competence, with self-concept acting as a mechanism that accounts for these relations. Nonetheless, there are a number of limitations evident in prior research.
Perhaps the most notable limitation is the relative absence of studies examining the associations of self-concept with psychosocial functioning in youth in foster care, both as an independent variable and in the context of mediating the effect of social support. Although there is evidence of self-concept’s role as a mediator between social support and well-being among children and adolescents in the general population, there needs to be further study of this topic within the unique context of the foster care system. Evidence regarding the consistency in the role of social support across different populations is mixed, with one study reporting differences in patterns of social support for older youth in foster care versus non-foster care youth but no differences in the effects of social support (Farruggia, Greenberger, Chen, & Heckhausen, 2006) and another study finding differences in the effects of support on well-being for birth children versus foster children within the same home (Denuwelaere & Bracke, 2007). Furthermore, negative environmental contexts seem to moderate the effect of self-esteem on psychosocial functioning, with self-esteem taking on particular importance under adverse circumstances (see DuBois & Tevendale, 1999 for review). Given the stressful circumstances of youth in the foster care system and the lack of clarity surrounding the influence of social support on well-being within foster families (Denuwelaere & Bracke, 2007), it is possible that the protective effects of social support and self-esteem may differ in this population relative to non-foster care youth (see Pears et al., 2012), indicating the need to test these associations directly. Moran and DuBois (2002) have also recommended that their models be tested in populations with more variation in self-esteem, social support, and behavior problems, which may make the foster care setting an ideal context for such analyses. Moreover, much of the research involving youth in foster care
cited throughout this review was conducted outside the United States, which raises questions about the degree to which these findings apply to foster care youth within the United States.

Additionally, studies of youth in foster care need to incorporate a broader range of potential sources of support. Although there are some exceptions (e.g., Taussig, 2002), much of the literature in this area has been limited to assessments of youth’s relationships with their foster caregivers or other parental figures. However, several considerations point to the importance of considering multiple support sources. Specifically, there is evidence of disrupted relationships (e.g., Schwartz, 2010) and limited support among youth in foster care (Bulat, 2010), along with findings of differential effects of relationships with foster caregivers versus biological mothers (Farineau et al., 2013). Moreover, there appear to be benefits of having more than one positive relationship (Bell & Romano, 2015; Klein et al., 2006) and of having social support from multiple domains (Perry, 2006). Klein et al.’s (2006) discussion of possible deficiencies in primary attachment relationships contributing to the significance of other relationships, as well as difficulties in attachment with foster parents due to placement instability, also suggests the value of examining the function of social support both from foster parents and from other sources.

In addition to the dearth of studies evaluating self-concept as a mediator between social support and well-being in the child welfare population, studies on this topic involving youth in the general population are limited as well. Much of the existing literature focuses on mental health difficulties rather than areas of competence, and DuBois et al. (2002) have called for research examining the effects of social support and self-esteem on positive outcomes. Furthermore, from a methodological perspective, many of the aforementioned studies testing
mediation by self-concept employed cross-sectional or “half-longitudinal” designs (i.e., designs in which the mediator and either the independent or dependent variable are measured concurrently), which typically do not accurately reflect longitudinal mediation (Cole & Maxwell, 2003, p. 562). Finally, Fernandez (2006) noted a lack of research that incorporates the perspectives of multiple parties in the foster care system. Although a number of the studies described above included multiple reporters, there should be continued efforts in this area.

The Present Study

The present study examines self-concept as a mediator of associations between social support and four domains of psychosocial functioning (internalizing problems, externalizing problems, social competence, and academic competence) during the first year of children and adolescents’ placement in substitute care within the child welfare system. Thus, the study expands upon research in the general population to further understanding of the influence of specific protective factors within the high-risk context of foster care, where youth are likely to experience significant adversity.

Examining the associations between social support, self-concept, and well-being within this specific population is important for a number of reasons. As previously discussed, protective factors may operate differently in the context of foster care (Pears et al., 2012). Additionally, there is evidence of social support having different effects for foster children compared to birth children (Denuwelaere & Bracke, 2007) and of self-esteem becoming particularly important under adverse circumstances (see DuBois & Tevendale, 1999 for review), such as those found among youth in foster care. Finally, youth in foster care have distinctive social experiences. Not only do they face disruptions in their social networks (Perry, 2006) including separations from
their primary caregivers that may increase the relevance of relationships with non-parental adults (Milan & Pinderhughes, 2000), they also experience a relationship with a substitute caregiver that is unique to the foster care system. Together, these factors suggest that applying findings regarding social support, self-concept, and well-being from research within the general population to youth in foster care without specifically studying this population is not sufficient.

This study is grounded in a framework of risk and resilience and examines the role of protective factors in promoting more adaptive outcomes for foster care youth. However, in contrast to the studies of resilience reviewed above, resilience was not treated as a categorical outcome. Rather, youth’s functioning in each area was measured continuously. This avoids the problem of establishing a criterion for determining resilience (e.g., average functioning; Luthar et al., 2000) and facilitates an examination of the primary questions of the current study, namely how social support and self-concept influence well-being in a continuous fashion, as opposed to explicitly classifying individuals as resilient or not. In order to distinguish between the effects of social support from foster parents versus other support sources, both foster parent support and total support from relatives, fictive kin, and community supports 16 years of age or older were examined in separate analyses. Furthermore, following the specificity matching principle, different dimensions of self-concept were examined depending on the outcome being assessed (e.g., perceived social acceptance predicting social competence).

**Hypotheses**

The present study will test the following hypotheses:

1a. Foster parent social support at time 1 will be indirectly associated with fewer internalizing problems at time 3. This association will be mediated by global self-worth at
time 2, which will be positively associated with social support and negatively associated with internalizing problems.

1b. Total social support at time 1 (from individuals ages 16 or older, other than the foster parent) will be indirectly associated with fewer internalizing problems at time 3. This association will be mediated by global self-worth at time 2, which will be positively associated with social support and negatively associated with internalizing problems.

2a. Foster parent social support at time 1 will be indirectly associated with fewer externalizing problems at time 3. This association will be mediated by global self-worth at time 2, which will be positively associated with social support and negatively associated with externalizing problems.

2b. Total social support at time 1 will be indirectly associated with fewer externalizing problems at time 3. This association will be mediated by global self-worth at time 2, which will be positively associated with social support and negatively associated with externalizing problems.

3a. Foster parent social support at time 1 will be indirectly associated with greater social competence at time 3. This association will be mediated by perceived social acceptance at time 2, which will be positively associated with both social support and social competence.

3b. Total social support at time 1 will be indirectly associated with greater social competence at time 3. This association will be mediated by perceived social acceptance at time 2, which will be positively associated with both social support and social competence.

4a. Foster parent social support at time 1 will be indirectly associated with greater school competence at time 3. This association will be mediated by perceived scholastic competence
at time 2, which will be positively associated with both social support and school competence.

4b. Total social support at time 1 will be indirectly associated with greater school competence at time 3. This association will be mediated by perceived scholastic competence at time 2, which will be positively associated with both social support and school competence.
CHAPTER FOUR

METHOD

Participants

Participants included 102 children and adolescents who were newly placed in substitute care under the temporary custody of the Illinois Department of Children and Family Services. Children were between the ages of 7 and 13 (\( M = 10.72, SD = 1.81 \)) at the time of entry into temporary custody; all participants were at least 8 years old at the time of data collection for the present study. The sample was 53.9% female. The majority of participants (57.8%) were African-American, while 20.6% were Latino, 12.7% were multiracial, and 8.8% were Caucasian. Children entered care for a variety of reasons, including neglect (77.5%), physical abuse (27.5%), sexual abuse (15.7%), and dependency (4.9%).

Substitute caregivers (i.e., foster parents, kinship caregivers) or staff from youth’s congregate care placements (e.g., residential treatment centers) also participated in this study. At time 1, 22.5% of participants had traditional (i.e., not relatives or fictive kin) foster parents. The next most common category of caregiver or staff was maternal grandmothers (19.6%), followed by “other” (10.8%), which could include both staff and non-relative fictive kin placements such as a sibling’s family member. Data identifying the type of substitute caregiver or staff were unavailable for 6.9% of participants. At time 2, data were missing for 5.9% of participants. The most common categories of caregivers or staff remained traditional foster parent (26.5%), maternal grandmother (20.6%), and other (7.8%). At time 3, the most common categories were
again traditional foster parent (32.4%), maternal grandmother (18.6%), and other (10.8%), with data missing for 2.0% of participants. Various other types of substitute caregivers (all of whom were considered kinship placements) were represented in the sample, including maternal and paternal relatives and godparents.

**Measures**

**Demographic Information**

Demographic data were collected via electronic file review of the Illinois Department of Children and Family Services (DCFS) Statewide Automated Child Welfare Information System (SACWIS) database.

**Social Support**

Children and adolescents completed the Network of Relationships Inventory-Social Provisions Version (NRI-SPV; Furman & Buhrmester, 1985). This measure draws upon Weiss’ (1974) theory of social provisions (i.e., types of social support; Furman & Buhrmester, 1985). The NRI-SPV includes a support factor, which consists of three-item scales assessing companionship, instrumental aid, intimate disclosure, nurturance, affection, reassurance of worth, and reliable alliance. Additional scales of the NRI-SPV were not used in the present study. Participants were asked to complete the NRI-SPV for their foster parent (whether a relative or non-relative caregiver), mother, father (if they had a relationship with him), a close friend, and other important individuals who were older than the child (e.g., extended family members, siblings, teachers), for a total of up to six individuals. During subsequent assessments, participants were asked to rate the same individuals. In the case of a change in foster placement, they also rated the new caregiver, allowing for up to seven individuals to be rated.
Items composing the support factor were rated on a 5-point scale ranging from 1 (“Little or None”) to 5 (“The Most”). Support scores for each individual selected were determined by calculating the mean of all items included on this factor. Participants were excluded if they were missing responses for more than 30% of the items. Total support scores were then determined by calculating the sum of the support scores for each participant’s relationships with their biological parents and other individuals 16 years of age and older; friends and foster parents were not included in these analyses. Mean internal consistency values for the support scales ranged from $\alpha = 0.80$ to 0.88 (Clark-Lempers, Lempers, & Ho, 1991). A revised version of this measure demonstrated sufficient evidence of a support factor as well as adequate internal reliability ($\alpha = 0.94$) in a racially/ethnically diverse sample of maltreated and non-maltreated adolescents (Hostinar, Cicchetti, & Rogosch, 2014). In the current study, Cronbach’s alpha for foster parent social support ranged from .87 to .93 across the three time points. For individuals other than foster parents, Cronbach’s alphas ranged from .93 to .96 at both time 1 and time 2 and from .91 to .96 at time 3.

**Self-Concept**

Children and adolescents completed the Self-Perception Profile for Children (SPPC; Harter, 1985). This measure includes six-item scales assessing self-perception in the areas of scholastic competence, social acceptance, athletic competence, physical appearance, and behavioral conduct, in addition to a scale assessing global self-worth. For each item, the child chooses which of two statements better describes him or her (e.g., “Some kids are very happy being the way they are” versus “Other kids wish they were different”). The child then rates the selected statement as “Really true for me” or “Sort of true for me,” resulting in a 4-point scale in
which higher ratings indicate more positive views of the self. The global self-worth, social acceptance, and scholastic competence scales were used in this study. Mean scores were calculated for each of these scales. Participants were excluded if they were missing responses for more than 30% of the items on a given scale. The global self-worth, social acceptance, and scholastic competence scales have shown adequate test-rest reliability (intraclass correlations ranging from 0.84 to 0.86; Muris et al., 2003). There is also support for the five specific domains of self-perception and for the validity of the SPPC (e.g., Muris et al., 2003). Among children and adolescents in an urban, low-income school district, Cronbach’s alphas ranged from 0.67 to 0.83 for global self-worth, from 0.46 to 0.73 for social acceptance, and from 0.76 to 0.81 for scholastic competence across various ethnic/racial groups (Michaels, Barr, Roosa, & Knight, 2007). In the current study, Cronbach’s alphas for the three time points ranged from .78 to .81 for global self-worth, from .74 to .77 for social acceptance, and from .74 to .80 for scholastic competence.

Well-Being

Foster caregivers or staff at congregate care settings completed the Child Behavior Checklist for Ages 6 to 18 (CBCL; Achenbach & Rescorla, 2001) to assess children and adolescents’ internalizing problems, externalizing problems, social competence, and school competence. The CBCL can be completed by foster parents and by staff members in institutional settings such as residential treatment centers (Achenbach & Rescorla, 2001; Albrecht, Veerman, Damen, & Kroes, 2001). This measure has demonstrated content, construct, and criterion-related validity (Achenbach & Rescorla, 2001). In studies conducted in 31 societies, Cronbach’s alpha
ranged from 0.72 to 0.88 for internalizing problems and from 0.80 to 0.91 for externalizing problems (Rescorla et al., 2007).

The internalizing scale consists of 32 items and encompasses the anxious/depressed, withdrawn/depressed, and somatic complaints syndrome scales. The externalizing scale includes 35 items assessing rule-breaking behavior and aggressive behavior. Respondents rate each item on a 3-point scale (0 = “Not True (as far as you know),” 1 = “Somewhat or Sometimes True,” 2 = “Very True or Often True”) based on the child or adolescent’s behavior during the previous 6 months. Items were summed to calculate total internalizing and externalizing scores, with higher scores indicating more behavior problems. The internalizing and externalizing scales have demonstrated adequate test-retest reliability ($r = 0.91$ and 0.92, respectively) and internal consistency ($\alpha = 0.90$ and 0.94, respectively; Achenbach & Rescorla, 2001). In the present study, internal consistency across the three time points ranged from $\alpha = .87$ to $\alpha = .88$ for the internalizing scale and from $\alpha = .94$ to $\alpha = .95$ for the externalizing scale.

The social competence scale consists of items assessing the number of organizations (e.g., clubs) in which a child or adolescent is involved, the amount that he or she participates in each organization compared to peers, the number of close friends the youth has and the frequency with which he or she spends time with friends outside of school hours, how well the child or adolescent gets along with siblings and other children and how well he or she behaves with his or her parents, and how well he or she plays and works alone. Item ratings are summed, with higher scores indicating better social competence. This scale has demonstrated adequate test-retest reliability ($r = 0.93$), and Cronbach’s alpha was 0.68 (Achenbach & Rescorla, 2001). Internal consistency values in the current study ranged from $\alpha = .60$ to $\alpha = .65$. 
The school competence scale assesses performance in academic subjects, attendance in a special class or special school or receipt of remedial or special education services, whether or not the child has repeated a grade, and whether or not the child has any academic problems or other problems at school. Total scores are calculated, with higher scores indicating greater competence at school. This scale has demonstrated test-retest reliability of \( r = 0.90 \) and internal consistency of \( \alpha = 0.63 \) (Achenbach & Rescorla, 2001). In the current sample, Cronbach’s alphas ranged from .42 to .60 across the three time points.

Due to the truncated range of \( T \) scores for the competence scales, raw scores were used for each of the four CBCL scales in order to maintain the full range of variability (Achenbach & Rescorla, 2001). Missing data were handled in accordance with the guidelines provided by Achenbach and Rescorla (2001).

**Procedure**

Participants were drawn from a larger study evaluating an intervention to increase the identification and involvement of relatives, fictive kin, and community supports in the lives of youth in the child welfare system upon entry into substitute care. Illinois DCFS provided a list of eligible participants, and contact information for their foster caregivers or congregate care facilities was obtained via the SACWIS database.

Each youth and his or her foster caregiver or a staff member at the congregate care facility was invited to participate in home visits approximately six weeks, six months, and 12 months after the youth entered temporary custody. Youth who returned to the care of their biological parents or other legal guardians prior to any of these time points were not eligible to participate in subsequent home visits. Children and adolescents with intellectual disability or
pervasive developmental disorder were also excluded from participation in this portion of the study. In cases in which a visit could not be completed in person, measures were administered over the phone. Staff members in congregate care settings were also permitted to submit measures by mail. Both youth and caregiver/staff questionnaires were available in English and Spanish.

**Data Analysis**

Descriptive statistics were calculated for demographic variables and for study measures. Through the use of structural equation modeling, cross-lagged panel models were used to test the hypothesized longitudinal mediation models. Such models are intended to evaluate interindividual change on the included variables (Selig & Preacher, 2009). Additionally, they permit stronger inferences regarding the direction of causal effects relative to cross-sectional analyses (Cole & Maxwell, 2003; Selig & Preacher, 2009). Based on Cole and Maxwell’s (2003) and Selig and Preacher’s (2009) recommendations, the models included pathways in which each variable predicted later occurrences of the same variable in order to control for the influence of earlier time points on each predictor’s effect. The disturbance terms on each of the variables were also permitted to covary, in accordance with MacKinnon’s (2008) recommendation.

Analyses were conducted using Mplus (version 7.3; Muthén & Muthén, 1998–2012). Eight sets of models, corresponding to the hypotheses stated above, were tested. Figure 1 displays the generic baseline cross-lagged panel model. Indirect effects were estimated to test the hypothesized mediational models. Based on Bentler’s (1995) recommendations, at least five participants per estimated parameter should be included when testing these models. As the baseline models include 37 estimated parameters, the sample size should be at least 185.
Figure 1. A Cross-Lagged Panel Model with Self-Concept Mediating the Association Between Social Support and Well-Being

Model fit was evaluated using several goodness-of-fit indices. The root mean square error of approximation (RMSEA) and standardized root mean square residual (SRMR) are indices of absolute fit, which compare the current model to perfect fit. Values of 0.08 or less indicate acceptable model fit (Hu & Bentler, 1999). The Tucker-Lewis index (TLI) and comparative fit index (CFI) evaluate incremental fit when assessing whether a modified model represents an improvement relative to a baseline model. TLI and CFI values greater than 0.95 are considered acceptable. Additionally, modification indices were requested for each model to determine whether model fit could be improved by including additional parameters.
CHAPTER FIVE

RESULTS

Descriptive Statistics

Descriptive statistics were calculated for the primary study variables (i.e., foster parent support, total social support, global self-worth, perceived social acceptance, perceived academic competence, internalizing problems, externalizing problems, social competence, and school competence). Table 1 displays descriptive statistics for the full sample at each time point. Due to the expectation that participants who received the family-finding intervention as part of the larger study from which the current sample is drawn may experience benefits in the areas of social support, self-concept, and well-being as a result of increased family and fictive kin involvement, participants from the intervention ($n = 41$) and control ($n = 56$) groups were compared on key variables at time 1. Participants were also compared at time 2 and time 3 after controlling for time 1 values. A third group of participants ($n = 5$) were excluded from these analyses, as these youth resided in a separate county in which all youth received the intervention, resulting in the absence of a control group.

Independent samples $t$-tests were conducted to compare the intervention and control groups on variables at time 1. Youth in the intervention group reported significantly higher perceived social acceptance ($M = 3.02$) compared to youth in the control group ($M = 2.62$), $t(94) = 2.49, p = .015$. Externalizing problems were significantly higher among youth in the control group ($M = 13.80$) than among youth in the intervention group ($M = 8.46$), $t(88) = -2.13, p =
Conversely, school competence was higher among youth in the intervention group ($M = 4.72$) compared to youth in the control group ($M = 4.03$), $t(68) = 2.03, p = .046$. No other significant differences were observed.

Table 1. Descriptive Statistics for Primary Study Variables

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At time 2 and time 3, one-way analyses of covariance (ANCOVAs) were conducted to compare the intervention and control groups on key variables while controlling for time 1 values. The effect of group membership (intervention versus control) on time 3 perceived social acceptance was significant after controlling for time 1 values, $F(1, 92) = 5.74, p = .019$. On
average, youth in the intervention group reported higher perceived social acceptance ($M = 3.15$) compared to youth in the control group ($M = 2.66$). Group membership was not significantly related to any other variables at time 2 or time 3. Due to the overall similarities between groups on key variables and the absence of differences on variables of interest for the mediation pathway (i.e., time 1 social support, time 2 self-concept, and time 3 well-being variables), all participants were combined into a single group for the primary study analyses.

Bivariate correlations were also conducted for all key study variables. Complete results are displayed in Table 2; however, due to the large number of correlations, only the significant results of most relevance are presented here. Each variable (total and foster parent social support, global self-worth, perceived social acceptance, perceived scholastic competence, internalizing problems, externalizing problems, social competence, and school competence) was positively correlated with itself across the three time points. Foster parent social support and total social support were positively correlated within each time point. Positive correlations were observed between the three measures of self-concept. With regard to measures of well-being, positive correlations were observed between internalizing and externalizing problems. Internalizing problems and externalizing problems were negatively correlated with school competence. Only time 2 social competence was significantly (negatively) associated with internalizing problems. Negative correlations were observed between social competence and externalizing problems. Social competence and school competence were significantly positively correlated at time 3, with additional positive correlations observed between these two variables across different time points.

<table>
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<td>-.055</td>
<td>-.205*</td>
<td>-.247*</td>
<td>.256*</td>
<td>.128</td>
</tr>
<tr>
<td>Perceived Scholastic Competence (Time 2)</td>
<td>.028</td>
<td>.061</td>
<td>-.008</td>
<td>.044</td>
<td>.167</td>
</tr>
<tr>
<td>Perceived Scholastic Competence (Time 3)</td>
<td>.006</td>
<td>.000</td>
<td>.043</td>
<td>.093</td>
<td>.066</td>
</tr>
<tr>
<td>Internalizing Problems (Time 1)</td>
<td>-.129</td>
<td>-.072</td>
<td>-.097</td>
<td>.172</td>
<td>.176</td>
</tr>
<tr>
<td>Internalizing Problems (Time 2)</td>
<td>-.049</td>
<td>-.053</td>
<td>-.073</td>
<td>.086</td>
<td>.148</td>
</tr>
<tr>
<td>Internalizing Problems (Time 3)</td>
<td>.030</td>
<td>.155</td>
<td>.038</td>
<td>.115</td>
<td>.151</td>
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<tr>
<td>Externalizing Problems (Time 1)</td>
<td>.104</td>
<td>.083</td>
<td>.005</td>
<td>.240*</td>
<td>.289**</td>
</tr>
<tr>
<td>Externalizing Problems (Time 2)</td>
<td>.124</td>
<td>.031</td>
<td>.085</td>
<td>.103</td>
<td>.071</td>
</tr>
<tr>
<td>Externalizing Problems (Time 3)</td>
<td>.114</td>
<td>.131</td>
<td>.047</td>
<td>.070</td>
<td>-.012</td>
</tr>
<tr>
<td>Social Competence (Time 1)</td>
<td>-.141</td>
<td>-.126</td>
<td>-.061</td>
<td>-.092</td>
<td>-.128</td>
</tr>
<tr>
<td>Social Competence (Time 2)</td>
<td>-.088</td>
<td>.018</td>
<td>.023</td>
<td>-.021</td>
<td>-.053</td>
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<tr>
<td>Social Competence (Time 3)</td>
<td>-.078</td>
<td>.019</td>
<td>-.010</td>
<td>-.033</td>
<td>-.020</td>
</tr>
<tr>
<td>School Competence (Time 1)</td>
<td>-.064</td>
<td>.028</td>
<td>.050</td>
<td>-.124</td>
<td>.021</td>
</tr>
<tr>
<td>School Competence (Time 2)</td>
<td>-.120</td>
<td>-.003</td>
<td>-.113</td>
<td>-.132</td>
<td>-.006</td>
</tr>
<tr>
<td>School Competence (Time 3)</td>
<td>-.236*</td>
<td>-.013</td>
<td>-.059</td>
<td>-.195</td>
<td>.058</td>
</tr>
</tbody>
</table>

Variable | 11 | 12 | 13 | 14 | 15 |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Social Acceptance (Time 2)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Social Acceptance (Time 3)</td>
<td>.596***</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived Scholastic Competence (Time 1)</td>
<td>.232*</td>
<td>.195</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Total social support at time 1 was negatively correlated with school competence at time 3; there were also negative correlations between both time 2 and time 3 total social support and time 1 perceived scholastic competence. However, at time 1, there was a positive correlation between foster parent social support and perceived scholastic competence. Time 1 externalizing problems were positively correlated with foster parent social support at both time 1 and time 2. At time 2 and time 3, global self-worth and externalizing problems were negatively correlated.
Time 2 and time 3 perceived scholastic competence were positively correlated with school competence at time 3.

**Primary Study Analyses**

**Hypothesis 1a**

Hypothesis 1a stated that there would be an indirect effect of foster parent social support at time 1 on internalizing problems at time 3, with global self-worth mediating this association. All fit statistics for the cross-lagged panel model were within acceptable ranges (RMSEA = .04, SRMR = .06, CFI = .98, TLI = .96). No modification indices exceeded the minimum value. The results of this model are displayed in Table 3.

**Table 3. Coefficients for Hypothesis 1a: Foster Parent Social Support and Internalizing Problems**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1→Social Support 2</td>
<td>.475</td>
<td>.093</td>
<td>5.123</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2→Social Support 3</td>
<td>.355</td>
<td>.077</td>
<td>4.617</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 1→Global Self-Worth 2</td>
<td>.390</td>
<td>.078</td>
<td>5.016</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 2→Global Self-Worth 3</td>
<td>.552</td>
<td>.094</td>
<td>5.887</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Internalizing Problems 1→Internalizing Problems 2</td>
<td>.601</td>
<td>.108</td>
<td>5.571</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Internalizing Problems 2→Internalizing Problems 3</td>
<td>.754</td>
<td>.172</td>
<td>4.383</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1→Global Self-Worth 2</td>
<td>-.091</td>
<td>.074</td>
<td>-1.232</td>
<td>.218</td>
</tr>
<tr>
<td>Social Support 2→Global Self-Worth 3</td>
<td>.048</td>
<td>.068</td>
<td>.707</td>
<td>.479</td>
</tr>
<tr>
<td>Global Self-Worth 1→Internalizing Problems 2</td>
<td>-.226</td>
<td>.800</td>
<td>-.282</td>
<td>.778</td>
</tr>
<tr>
<td>Global Self-Worth 2→Internalizing Problems 3</td>
<td>.395</td>
<td>.931</td>
<td>.425</td>
<td>.671</td>
</tr>
<tr>
<td>Social Support 1→Global Self-Worth 2→Internalizing Problems 3 (Indirect Effect)</td>
<td>-.036</td>
<td>.091</td>
<td>-.395</td>
<td>.693</td>
</tr>
</tbody>
</table>

Foster parent social support at time 1 was not significantly associated with global self-worth at time 2, nor was global self-worth at time 2 significantly associated with time 3 internalizing problems. The indirect effect of time 1 social support on time 3 internalizing problems was not significant. Additional downstream effects of time 2 social support on time 3 global self-worth and time 1 global self-worth on time 2 internalizing problems were also not significant. Time 1 social support was significantly associated with social support at time 2. Time 2 and time 3
social support were also significantly associated with each other. These autoregressive effects were also significant for the constructs of global self-worth and internalizing problems.

**Hypothesis 1b**

Hypothesis 1b stated that there would be an indirect effect of total social support at time 1 (from individuals ages 16 or older, other than the foster parent) on internalizing problems at time 3, with global self-worth at time 2 mediating this association. Fit statistics suggested poor model fit. The SRMR (.05), RMSEA (.08), and CFI (.95) were within the acceptable ranges. The TLI (.90) was slightly outside of the acceptable range. A modification index regressing time 2 social support on time 3 social support exceeded the minimum value; however, this parameter was not added, as it would not be logical for a construct measured at a later time point to predict the same construct at an earlier point in time. See Table 4 for results.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1→Social Support 2</td>
<td>.700</td>
<td>.068</td>
<td>10.321</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2→Social Support 3</td>
<td>.713</td>
<td>.067</td>
<td>10.602</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 1→Global Self-Worth 2</td>
<td>.369</td>
<td>.078</td>
<td>4.734</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 2→Global Self-Worth 3</td>
<td>.564</td>
<td>.082</td>
<td>6.920</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Internalizing Problems 1→Internalizing Problems 2</td>
<td>.603</td>
<td>.107</td>
<td>5.665</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Internalizing Problems 2→Internalizing Problems 3</td>
<td>.739</td>
<td>.170</td>
<td>4.334</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1→Global Self-Worth 2</td>
<td>-.011</td>
<td>.013</td>
<td>-.877</td>
<td>.380</td>
</tr>
<tr>
<td>Social Support 2→Global Self-Worth 3</td>
<td>-.005</td>
<td>.012</td>
<td>-.415</td>
<td>.678</td>
</tr>
<tr>
<td>Global Self-Worth 1→Internalizing Problems 2</td>
<td>-.268</td>
<td>.783</td>
<td>-.342</td>
<td>.732</td>
</tr>
<tr>
<td>Global Self-Worth 2→Internalizing Problems 3</td>
<td>.348</td>
<td>.938</td>
<td>.370</td>
<td>.711</td>
</tr>
<tr>
<td>Social Support 1→Global Self-Worth 2→Internalizing Problems 3 (Indirect Effect)</td>
<td>-.004</td>
<td>.010</td>
<td>-.380</td>
<td>.704</td>
</tr>
</tbody>
</table>

Social support at time 1 and global self-worth at time 2 were not significantly associated. Internalizing problems at time 3 and global self-worth at time 2 were also not significantly associated. The indirect effect of time 1 social support on time 3 internalizing problems was not
significant. Additional downstream effects of time 2 social support on time 3 global self-worth and time 1 global self-worth on time 2 internalizing problems were also not significant.

Autoregressive effects were significant for all three constructs.

**Hypothesis 2a**

Hypothesis 2a predicted that foster parent social support at time 1 would have an indirect effect on externalizing problems at time 3, with global self-worth at time 2 mediating this association. Fit statistics were within acceptable ranges (RMSEA = .07, SRMR = .06, CFI = .96), with the exception of the TLI value (.92). There were no modification indices above the minimum value. See Table 5 for results.

Table 5. Coefficients for Hypothesis 2a: Foster Parent Social Support and Externalizing Problems

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Coefficients</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1 → Social Support 2</td>
<td>Coefficients</td>
<td>.461</td>
<td>.093</td>
<td>4.974</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2 → Social Support 3</td>
<td>Coefficients</td>
<td>.362</td>
<td>.077</td>
<td>4.683</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 1 → Global Self-Worth 2</td>
<td>Coefficients</td>
<td>.392</td>
<td>.077</td>
<td>5.075</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 2 → Global Self-Worth 3</td>
<td>Coefficients</td>
<td>.553</td>
<td>.093</td>
<td>5.942</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Externalizing Problems 1 → Externalizing Problems 2</td>
<td>Coefficients</td>
<td>.683</td>
<td>.083</td>
<td>8.226</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Externalizing Problems 2 → Externalizing Problems 3</td>
<td>Coefficients</td>
<td>.531</td>
<td>.114</td>
<td>4.663</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1 → Global Self-Worth 2</td>
<td>Coefficients</td>
<td>-.114</td>
<td>.074</td>
<td>-1.532</td>
<td>.126</td>
</tr>
<tr>
<td>Social Support 2 → Global Self-Worth 3</td>
<td>Coefficients</td>
<td>.020</td>
<td>.069</td>
<td>.291</td>
<td>.771</td>
</tr>
<tr>
<td>Global Self-Worth 1 → Externalizing Problems 2</td>
<td>Coefficients</td>
<td>-.283</td>
<td>1.085</td>
<td>-2.61</td>
<td>.794</td>
</tr>
<tr>
<td>Global Self-Worth 2 → Externalizing Problems 3</td>
<td>Coefficients</td>
<td>-.082</td>
<td>1.104</td>
<td>-0.074</td>
<td>.941</td>
</tr>
<tr>
<td>Social Support 1 → Global Self-Worth 2 → Externalizing Problems 3 (Indirect Effect)</td>
<td>Coefficients</td>
<td>.009</td>
<td>.126</td>
<td>.074</td>
<td>.941</td>
</tr>
</tbody>
</table>

Foster parent social support at time 1 was not significantly associated with global self-worth at time 2. The association between global self-worth at time 2 and externalizing problems at time 3 was also not significant. The indirect effect of time 1 social support on time 3 externalizing problems was not significant. Additional downstream effects of time 2 social support on time 3
global self-worth and time 1 global self-worth on time 2 externalizing problems were also not significant. The autoregressive effects for all three constructs were significant.

**Hypothesis 2b**

Hypothesis 2b predicted that there would be an indirect effect of total social support at time 1 on externalizing problems at time 3, with global self-worth at time 2 mediating this association. The SRMR was within the acceptable range (.06); however, the remaining fit statistics were not within acceptable ranges (RMSEA = .12, CFI = .91, TLI = .82), indicating poor model fit. As in the model for hypothesis 1b, a modification index regressing time 2 social support on time 3 social support exceeded the minimum value but was not added to the model.

Time 1 social support and time 2 global self-worth were not significantly associated. (See Table 6 for results.)

**Table 6. Coefficients for Hypothesis 2b: Total Social Support and Externalizing Problems**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1→Social Support 2</td>
<td>.697</td>
<td>.067</td>
<td>10.361</td>
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<td>Social Support 2→Social Support 3</td>
<td>.712</td>
<td>.068</td>
<td>10.521</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 1→Global Self-Worth 2</td>
<td>.368</td>
<td>.078</td>
<td>4.713</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Global Self-Worth 2→Global Self-Worth 3</td>
<td>.564</td>
<td>.082</td>
<td>6.906</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Externalizing Problems 1→Externalizing Problems 2</td>
<td>.670</td>
<td>.089</td>
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<tr>
<td>Externalizing Problems 2→Externalizing Problems 3</td>
<td>.539</td>
<td>.116</td>
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<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1→Global Self-Worth 2</td>
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<td>.012</td>
<td>-.998</td>
<td>.318</td>
</tr>
<tr>
<td>Social Support 2→Global Self-Worth 3</td>
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<td>.012</td>
<td>-.267</td>
<td>.790</td>
</tr>
<tr>
<td>Global Self-Worth 1→Externalizing Problems 2</td>
<td>-.161</td>
<td>1.076</td>
<td>-.149</td>
<td>.881</td>
</tr>
<tr>
<td>Global Self-Worth 2→Externalizing Problems 3</td>
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<td>1.107</td>
<td>-.090</td>
<td>.928</td>
</tr>
<tr>
<td>Social Support 1→Global Self-Worth 2→Externalizing Problems 3 (Indirect Effect)</td>
<td>.001</td>
<td>.014</td>
<td>.089</td>
<td>.929</td>
</tr>
</tbody>
</table>

Time 2 global self-worth was also not significantly related to time 3 externalizing problems. The indirect effect of time 1 social support on time 3 externalizing problems was not significant.

Additional downstream effects of time 2 social support on time 3 global self-worth and time 1
global self-worth on time 2 externalizing problems were also not significant. Autoregressive effects were significant for all three constructs.

**Hypothesis 3a**

Hypothesis 3a stated that foster parent social support at time 1 would have an indirect effect on social competence at time 3. Perceived social acceptance at time 2 was predicted to mediate this association. The RMSEA (.07) and SRMR (.06) values were within the acceptable range. The CFI (.94) and TLI (.89) values were below the acceptable range, indicating poor model fit. No modification indices exceeded the minimum value. Model results are displayed in Table 7.

**Table 7. Coefficients for Hypothesis 3a: Foster Parent Social Support and Social Competence**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1 → Social Support 2</td>
<td>.471</td>
<td>.094</td>
<td>5.016</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2 → Social Support 3</td>
<td>.365</td>
<td>.076</td>
<td>4.790</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Social Acceptance 1 → Perceived Social Acceptance 2</td>
<td>.481</td>
<td>.104</td>
<td>4.640</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Social Acceptance 2 → Perceived Social Acceptance 3</td>
<td>.598</td>
<td>.086</td>
<td>6.962</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Competence 1 → Social Competence 2</td>
<td>.608</td>
<td>.125</td>
<td>4.854</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Competence 2 → Social Competence 3</td>
<td>.455</td>
<td>.113</td>
<td>4.015</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Social Acceptance 2</td>
<td>-.011</td>
<td>.101</td>
<td>-.105</td>
<td>.917</td>
</tr>
<tr>
<td>Social Support 2 → Perceived Social Acceptance 3</td>
<td>.052</td>
<td>.074</td>
<td>.701</td>
<td>.484</td>
</tr>
<tr>
<td>Perceived Social Acceptance 1 → Social Competence 2</td>
<td>.176</td>
<td>.343</td>
<td>.513</td>
<td>.608</td>
</tr>
<tr>
<td>Perceived Social Acceptance 2 → Social Competence 3</td>
<td>.021</td>
<td>.316</td>
<td>.066</td>
<td>.947</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Social Acceptance 2 → Social Competence 3 (Indirect Effect)</td>
<td>.000</td>
<td>.004</td>
<td>-.053</td>
<td>.958</td>
</tr>
</tbody>
</table>

Time 1 social support and time 2 perceived social acceptance were not significantly associated. The effect of time 2 perceived social acceptance on time 3 social competence was also not significant. The indirect effect of time 1 social support on time 3 social competence was not significant. Additional downstream effects of time 2 social support on time 3 perceived social
acceptance and time 1 perceived social acceptance on time 2 social competence were also not significant. Autoregressive effects were significant for all three constructs.

**Hypothesis 3b**

Hypothesis 3b predicted that total social support at time 1 would have an indirect effect on social competence at time 3. Time 2 perceived social acceptance was predicted to mediate this association. Model fit was poor, with all fit statistics except the SRMR (.06) outside the acceptable ranges (RMSEA = .10, CFI = .93, TLI = .87). There were three modification indices that exceeded the minimum value. As in models discussed above, a modification index regressing time 2 social support on time 3 social support exceeded the minimum value. This parameter was again not added to the model. Additional modification indices which exceeded the minimum value recommended correlating the residuals for time 2 and time 3 social support and for time 1 and time 3 social support. However, because unexplained variance in social support at time 1 and time 2 would not necessarily be expected to be associated with unexplained variance in social support at time 3, these modification indices were not added to the model.

Results of this model are displayed in Table 8. Time 1 social support was not significantly associated with time 2 perceived social acceptance. Time 2 perceived social acceptance and time 3 social competence were also not significantly related. The indirect effect of time 1 social support on time 3 social competence was not significant. Additional downstream effects of time 1 perceived social acceptance on time 2 social competence and time 2 social support on time 3 perceived social acceptance were not significant. Autoregressive effects were significant for the three constructs.
Table 8. Coefficients for Hypothesis 3b: Total Social Support and Social Competence

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Coefficients</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1 → Social Support 2</td>
<td>.696</td>
<td>.068</td>
<td>10.294</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2 → Social Support 3</td>
<td>.701</td>
<td>.063</td>
<td>11.171</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Social Acceptance 1 → Perceived Social Acceptance 2</td>
<td>.479</td>
<td>.108</td>
<td>4.450</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Social Acceptance 2 → Perceived Social Acceptance 3</td>
<td>.597</td>
<td>.088</td>
<td>6.793</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Competence 1 → Social Competence 2</td>
<td>.598</td>
<td>.125</td>
<td>4.767</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Competence 2 → Social Competence 3</td>
<td>.476</td>
<td>.115</td>
<td>4.130</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Social Acceptance 2</td>
<td>.003</td>
<td>.013</td>
<td>.268</td>
<td>.789</td>
</tr>
<tr>
<td>Social Support 2 → Perceived Social Acceptance 3</td>
<td>-.015</td>
<td>.012</td>
<td>-1.206</td>
<td>.228</td>
</tr>
<tr>
<td>Perceived Social Acceptance 1 → Social Competence 2</td>
<td>.211</td>
<td>.339</td>
<td>.623</td>
<td>.533</td>
</tr>
<tr>
<td>Perceived Social Acceptance 2 → Social Competence 3</td>
<td>.047</td>
<td>.325</td>
<td>.143</td>
<td>.886</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Social Acceptance 2 → Social Competence 3 (Indirect Effect)</td>
<td>.000</td>
<td>.001</td>
<td>.127</td>
<td>.899</td>
</tr>
</tbody>
</table>

**Hypothesis 4a**

Hypothesis 4a predicted that foster parent social support at time 1 would have an indirect effect on school competence at time 3, with perceived scholastic competence at time 2 mediating this association. The SRMR (.05) and RMSEA (.08) values were within the acceptable range. The CFI (.94) and TLI (.89) values were outside the acceptable range. There were no modification indices above the minimum value. Results of this model are displayed in Table 9.

Time 1 social support and time 2 perceived scholastic competence were not significantly associated. Time 2 perceived scholastic competence and time 3 school competence were also not significantly associated, although this effect was marginally significant. The indirect effect of foster parent social support at time 1 on scholastic competence at time 3 was not significant.

Additional downstream effects of time 2 social support on time 3 perceived scholastic competence and time 1 perceived scholastic competence on time 2 school competence were also not significant. Autoregressive effects were significant for all three constructs.
Table 9. Coefficients for Hypothesis 4a: Foster Parent Social Support and School Competence

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1 → Social Support 2</td>
<td>.477</td>
<td>.094</td>
<td>5.071</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2 → Social Support 3</td>
<td>.361</td>
<td>.075</td>
<td>4.800</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 1 → Perceived Scholastic Competence 2</td>
<td>.482</td>
<td>.107</td>
<td>4.495</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 2 → Perceived Scholastic Competence 3</td>
<td>.622</td>
<td>.076</td>
<td>8.134</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>School Competence 1 → School Competence 2</td>
<td>.564</td>
<td>.065</td>
<td>8.673</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>School Competence 2 → School Competence 3</td>
<td>.845</td>
<td>.107</td>
<td>7.921</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Scholastic Competence 2</td>
<td>-.037</td>
<td>.094</td>
<td>-.397</td>
<td>.691</td>
</tr>
<tr>
<td>Social Support 2 → Perceived Scholastic Competence 3</td>
<td>-.040</td>
<td>.078</td>
<td>-.510</td>
<td>.610</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 1 → School Competence 2</td>
<td>.024</td>
<td>.149</td>
<td>.160</td>
<td>.873</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 2 → School Competence 3</td>
<td>.165</td>
<td>.094</td>
<td>1.747</td>
<td>.081</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Scholastic Competence 2 → School Competence 3 (Indirect Effect)</td>
<td>-.006</td>
<td>.016</td>
<td>-.384</td>
<td>.701</td>
</tr>
</tbody>
</table>

**Hypothesis 4b**

Hypothesis 4b predicted that there would be an indirect effect of total social support at time 1 on school competence at time 3. Perceived scholastic competence at time 2 was expected to mediate this association. The SRMR (.07) value for this model was within the acceptable range. The RMSEA (.13), CFI (.90), and TLI (.80) values were outside the acceptable ranges. No modification indices exceeded the minimum value. See Table 10 for results. Time 1 social support and time 2 perceived scholastic competence were not significantly related. The effect of perceived scholastic competence at time 2 on school competence at time 3 was marginally significant. The indirect effect of time 1 social support on time 3 school competence was not significant. Additional downstream effects of time 2 social support on time 3 perceived scholastic competence and time 1 perceived scholastic competence on time 2 school competence were also not significant. There were significant autoregressive effects for all three constructs.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support 1 → Social Support 2</td>
<td>.704</td>
<td>.068</td>
<td>10.393</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 2 → Social Support 3</td>
<td>.697</td>
<td>.065</td>
<td>10.654</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 1 → Perceived Scholastic Competence 2</td>
<td>.509</td>
<td>.085</td>
<td>5.968</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 2 → Perceived Scholastic Competence 3</td>
<td>.637</td>
<td>.078</td>
<td>8.153</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>School Competence 1 → School Competence 2</td>
<td>.564</td>
<td>.070</td>
<td>8.082</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>School Competence 2 → School Competence 3</td>
<td>.840</td>
<td>.109</td>
<td>7.711</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Scholastic Competence 2</td>
<td>.008</td>
<td>.013</td>
<td>.610</td>
<td>.542</td>
</tr>
<tr>
<td>Social Support 2 → Perceived Scholastic Competence 3</td>
<td>-.006</td>
<td>.015</td>
<td>-.402</td>
<td>.687</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 1 → School Competence 2</td>
<td>.048</td>
<td>.153</td>
<td>.314</td>
<td>.753</td>
</tr>
<tr>
<td>Perceived Scholastic Competence 2 → School Competence 3</td>
<td>.178</td>
<td>.097</td>
<td>1.834</td>
<td>.067</td>
</tr>
<tr>
<td>Social Support 1 → Perceived Scholastic Competence 2 → School Competence 3 (Indirect Effect)</td>
<td>.001</td>
<td>.002</td>
<td>.592</td>
<td>.554</td>
</tr>
</tbody>
</table>

Exploratory Analyses

For each of the models presented above, exploratory analyses were conducted in which an upstream pathway was added to the model. This allowed for a test of an indirect effect in which social support predicted self-concept, with well-being (e.g., internalizing problems) as the mediator. Theoretical support for this modification to the indirect effects tested in the original models comes from literature demonstrating effects in this direction in addition to those in the direction of self-concept predicting well-being (e.g., Caldwell et al., 2004; Craven & Marsh, 2008; Egan & Perry, 1998; Marsh & Craven, 2006; Marsh & Martin, 2011; Sowislo & Orth, 2013). The finding of some significant correlations between self-concept at one time point and well-being at an earlier time point (rather than vice versa) in the present study (e.g., the significant negative correlation between time 2 externalizing problems and time 3 global self-worth) provides additional support for this approach. Due to the exploratory nature of these
analyses, whose goal was to test the significance of the upstream indirect effects, modification indices were not examined. Results indicated that in each of the models, neither the downstream nor the upstream indirect effects were significant. Results for these parameters are displayed in Table 11.

Table 11. Coefficients for Models with Two Indirect Effects

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Estimate</th>
<th>S.E.</th>
<th>Est./S.E.</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foster Parent Social Support 1→Global Self-Worth</td>
<td>-.037</td>
<td>.091</td>
<td>-.409</td>
<td>.682</td>
</tr>
<tr>
<td>2→Internalizing Problems 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foster Parent Social Support 1→Internalizing Problems 2→Global Self-Worth</td>
<td>.000</td>
<td>.003</td>
<td>.023</td>
<td>.982</td>
</tr>
<tr>
<td>Total Social Support 1→Global Self-Worth 2→Internalizing Problems</td>
<td>-.004</td>
<td>.010</td>
<td>-.373</td>
<td>.709</td>
</tr>
<tr>
<td>Total Social Support 1→Internalizing Problems 2→Global Self-Worth</td>
<td>.000</td>
<td>.001</td>
<td>.308</td>
<td>.758</td>
</tr>
<tr>
<td>Foster Parent Social Support 1→Global Self-Worth</td>
<td>-.001</td>
<td>.111</td>
<td>-.010</td>
<td>.992</td>
</tr>
<tr>
<td>2→Externalizing Problems 3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foster Parent Social Support 1→Externalizing Problems 2→Global Self-Worth</td>
<td>.005</td>
<td>.009</td>
<td>.585</td>
<td>.559</td>
</tr>
<tr>
<td>Total Social Support 1→Global Self-Worth 2→Externalizing Problems</td>
<td>.000</td>
<td>.011</td>
<td>.006</td>
<td>.996</td>
</tr>
<tr>
<td>Total Social Support 1→Externalizing Problems 2→Global Self-Worth</td>
<td>.001</td>
<td>.002</td>
<td>.791</td>
<td>.429</td>
</tr>
<tr>
<td>Foster Parent Social Support 1→Perceived Social Acceptance 2→Social Competence 3</td>
<td>.000</td>
<td>.005</td>
<td>-.058</td>
<td>.954</td>
</tr>
<tr>
<td>Foster Parent Social Support 1→Social Competence 2→Perceived Social Acceptance 3</td>
<td>.000</td>
<td>.005</td>
<td>-.040</td>
<td>.968</td>
</tr>
<tr>
<td>Total Social Support 1→Perceived Social Acceptance 2→Social Competence</td>
<td>.000</td>
<td>.001</td>
<td>.125</td>
<td>.901</td>
</tr>
<tr>
<td>Total Social Support 1→Social Competence 2→Perceived Social Acceptance</td>
<td>.000</td>
<td>.001</td>
<td>-.303</td>
<td>.762</td>
</tr>
<tr>
<td>Foster Parent Social Support 1→Perceived Scholastic Competence 2→School Competence 3</td>
<td>-.008</td>
<td>.016</td>
<td>-.522</td>
<td>.602</td>
</tr>
<tr>
<td>Foster Parent Social Support 1→School Competence 2→Perceived Scholastic Competence 3</td>
<td>-.008</td>
<td>.011</td>
<td>-.713</td>
<td>.476</td>
</tr>
<tr>
<td>Total Social Support 1→Perceived Scholastic Competence 2→School Competence 3</td>
<td>.001</td>
<td>.002</td>
<td>.511</td>
<td>.609</td>
</tr>
<tr>
<td>Total Social Support 1→School Competence 2→Perceived Scholastic Competence 3</td>
<td>-.001</td>
<td>.001</td>
<td>-.396</td>
<td>.692</td>
</tr>
</tbody>
</table>
CHAPTER SIX
DISCUSSION

The present study used a risk and resilience framework to examine self-concept as a mediator of associations between social support and four domains of psychosocial functioning (internalizing problems, externalizing problems, social competence, and academic competence) during children and adolescents’ first year of placement in substitute care within the child welfare system. Research on the associations between self-concept and psychosocial functioning among foster care youth is limited, and there are few studies of self-concept as a mediator between social support and well-being, particularly in the child welfare population. Moreover, studies of social support among youth in foster care have typically been limited to children and adolescents’ relationships with their foster caregivers or other parental figures, rather than considering a broader range of sources of support. The present study sought to address these limitations and expand upon previous research by examining the protective factors of social support and self-concept within the unique and high-risk context of foster care. Support from foster parents and total support from other sources were examined separately in order to assess the distinct contributions of these sources of support to children and adolescents’ well-being. Following the specificity matching principle (Swann et al., 2007), multiple measures of self-concept were used in order to more closely match the domains of self-concept with the areas of well-being assessed in this study.
**Primary Study Results**

Broadly, the results of the present study did not support the hypothesized indirect effects of social support on children and adolescents’ well-being. This finding was consistent across all four domains of psychosocial functioning as well as for models assessing both foster parent support and total social support from other individuals. Furthermore, longitudinal effects of social support on self-concept and self-concept on well-being also failed to reach significance. The inclusion of additional model parameters, which examined potential indirect effects of social support on self-concept (via well-being), likewise did not yield significant effects.

Despite the absence of significant associations between social support, self-concept, and well-being within the cross-lagged panel models, some significant relations between these constructs were evident among the bivariate correlations. The hypothesized positive association between perceived scholastic competence at time 2 and school competence at time 3 was observed. This is consistent with previous research among youth in the general population (e.g., Huang, 2011) and expands the literature on youth in foster care to provide preliminary support for a protective effect of self-concept on academic functioning. Previous research has identified a cross-sectional, but not a longitudinal, association between these constructs among girls in foster care (Pears et al., 2012). A cross-sectional association between perceived scholastic competence and school competence was also observed in the present study, albeit only at the final time point. A limited number of other cross-sectional correlations consistent with previous research were also observed. Specifically, at both the second and third time points, global self-worth and externalizing problems were negatively correlated. As might be expected based on prior research supporting a positive association between social support and academic self-concept (see Sterrett
et al., 2011 for review), at time 1, support from foster parents and perceived scholastic competence were positively correlated; however, this result is inconsistent with Pears et al.’s (2012) finding that girls’ reports of their relationships with their closest mother figures were not related to their views of their competence at school.

Additional correlations yielded unexpected findings. Although foster parent social support and perceived scholastic competence were positively correlated at time 1, there was a negative association between total social support and perceived scholastic competence such that higher perceived scholastic competence at time 1 was associated with lower total social support at the second and third time points. Moreover, total social support at time 1 was associated with lower school competence at time 3. These findings may suggest that children who are having difficulties in school (or perceive that they are) garner more support from those around them, whereas children who are already functioning more positively do not receive the same levels of support. Further evidence for this notion comes from the positive correlations between externalizing problems at time 1 and foster parent social support at times 1 and 2. Children who are exhibiting higher levels of behavioral difficulties may receive more support from foster parents as a result of caregivers’ efforts to address these concerns. Alternatively, it is possible that these findings are influenced by the nature of the individuals from whom the youth were receiving support; Sterrett et al. (2011) cite research showing that youth’s perceptions of important adults’ participation in negative behaviors are associated with more conduct problems among the youth. The authors suggest that supportive adults’ attributes may be relevant to consider. Likewise, the possibility that the youth in the current study were exposed to negative influences by the individuals whose support they rated may partially account for the lack of
significant findings for social support. The inconsistent results across the three time points and the possibility of type 1 errors due to the number of correlations computed suggests, however, that these significant correlations should be interpreted cautiously and require replication in future studies.

An examination of the fit statistics for the eight primary models in this study indicates that in all but one, at least one fit statistic was outside the acceptable range, suggesting poor model fit. This finding raises questions about other constructs that should be assessed when exploring possible associations between social support, self-concept, and well-being within the foster care population. In addition to demographic characteristics of study participants, which, as discussed below, were not included as potential moderators due to the relatively small sample size, contextual variables that may have important influences on children’s well-being and the protective effects of social support and self-concept were absent from the models. Indeed, these variables appear to be relevant influences on both internalizing and externalizing problems among youth in foster care (Perry, 2015). One key factor to consider, given the instability that is characteristic of youth’s foster care experiences, is the number of placements that participants experienced throughout the course of the study. Placement instability has been associated with behavior problems after 18 months in substitute care (Rubin et al., 2007). Moreover, changes in placement may co-occur with other experiences of instability common in foster care, including disruptions in relationships and educational contexts. Such co-occurrence contributes to cumulative risk, which is associated with poorer outcomes (Sameroff, Gutman, & Peck, 2003). When considered in relation to Masten’s (2006) framework, the present study examined protective factors representing individual differences and relationships and parenting but did not
address protective factors within the community, such as schools, relations with organizations, or safety. Examining factors such as neighborhood characteristics may be particularly relevant for youth in kinship care, as they experience higher rates of poverty than youth in non-relative placements (Ehrle & Geen, 2002) and may therefore be more likely to live in neighborhoods that present higher degrees of risk. Prior research has demonstrated relations between attributes of neighborhoods, such as SES, and youth psychosocial functioning (see Leventhal & Brooks-Gunn, 2000 for review). A previous study found that among maltreated children, individual strengths were associated with resilience only when children experienced few neighborhood and family stressors, suggesting that such strengths cannot provide adequate protection under highly adverse circumstances (Jaffee et al., 2007). Including a broader range of contextual variables in the current study may therefore have helped clarify the roles of social support and self-concept among youth in foster care while also providing insight into combinations of protective factors that may contribute to resilience in this population. Sameroff et al. (2003) present evidence from a study indicating that the presence of larger numbers of positive factors is associated with more positive outcomes and highlight the importance of examining multiple, rather than single, factors.

Similarly, it is possible that assessing the degree of maltreatment that the youth experienced as well as considering their other stressful or traumatic experiences may have been helpful in better understanding the effects of social support and self-concept in the context of foster care. In light of evidence that social support’s buffering effect is weaker in the presence of higher levels of maltreatment (Salazar, Keller, & Courtney, 2011), it is possible that some or all of the youth in the current study did not benefit significantly from social support due to the high
degree of adversity that is typical of the foster care population. The notion that social support may be less beneficial in cases of higher risk is consistent with Luthar et al.’s (2000) concept of a protective-reactive attribute, in which the benefits of a particular attribute are lower at high levels of stress. Salazar et al. (2011) suggest that when individuals experience significant trauma, the usual buffering effect of social support may not be present, and coping abilities may be inadequate despite having support. Similar limitations of protective effects may exist for self-concept as well. The stressful experiences and poor outcomes common to the foster care population make the potential limitations of social support and positive self-concept in the face of high degrees of risk particularly critical to examine.

An important consideration in understanding the apparent lack of protective effects of social support in this sample is the possibility that the children were overreporting the degree of support that they received from their foster parents and/or other sources, either defensively (and thus unintentionally) or deliberately as a means of presenting individuals in their social networks (particularly their parents or substitute caregivers) in a favorable light, perhaps in an effort to be returned to their parents’ care or maintain their current foster care placements. For instance, citing previous research regarding maltreated children’s idealization of their parents, Manashko, Besser, and Priel (2009) suggest that the positive ratings of non-parental caregivers within their sample of maltreated children in residential care may be influenced by defensive mechanisms. These authors also raise the possibility that children may not have wanted to portray their caregivers negatively due to concerns about possible negative repercussions. Moreover, as noted by Denuwelaere and Bracke (2007), both support and conflict can exist within the same relationships, a notion that suggests that measuring both of these features of relationships may
provide a more comprehensive and valuable understanding of youth’s social networks. This may be particularly important when examining relationships between children and adolescents in foster care and their biological parents (or other caregivers from whom they were removed), as these relationships may be marked by conflict related to the reason for the youth’s removal.

Furthermore, it is important to note the apparently limited degree of change in primary study variables throughout the study period. As evident in Table 1, the mean values for most variables changed little across time points, thereby limiting the ability to detect significant effects in the cross-lagged panel models. Additionally, although mean scores on the four measures of well-being appear to indicate somewhat poorer psychosocial functioning relative to the scores for the normative sample (Achenbach & Rescorla, 2001), it is possible that substitute caregivers underreported the difficulties of youth participants, either due to limited familiarity with the children or due to a desire to portray the children positively. Such a phenomenon may have further limited the ability to detect significant effects in the current study. Research on longitudinal changes in psychosocial functioning among youth in foster care is limited (McWey, Cui, & Pazdera, 2010). Youth in long-term foster care have been found to demonstrate improvement with regard to both internalizing and externalizing behaviors over a 3-year period (McWey et al., 2010). Children adopted from foster care, however, exhibited relatively stable behavior problems over a period of approximately six years, although some children did demonstrate improvement (Simmel, Barth, & Brooks, 2007). As youth in the current sample were new to foster care, it is unclear to what extent the results of these previous studies may apply to them.
Methodological issues may also have contributed to the failure to find support for the hypotheses of the present study. In order to adhere to Bentler’s (1995) recommendation of a minimum of five participants per estimated parameter, the current study should have included at least 185 participants for the primary cross-lagged panel models, with an additional 10 participants needed for the models with both upstream and downstream indirect effects. Hence, a substantially larger sample size relative to the 102 participants in the present study would have been preferable. The limited sample size also prevented a thorough examination of possible moderators of associations between social support, self-concept, and well-being, including gender, age, race/ethnicity, and kinship versus traditional foster parents.

Possible selection effects within the study sample must also be considered. As only participants with data available for all three time points were included in the analyses, many youth included in the larger overall study were excluded. In particular, any youth who exited foster care within a year of being placed in temporary custody were not eligible for inclusion in the present study. Youth who exited care in less than a year or who did not participate in all time points despite remaining in care may differ from youth in the present study sample with regard to the severity of maltreatment they experienced, the functioning of the youth as well as their substitute caregivers and the caregivers from whom they were removed upon placement in foster care, the degree of support available to them and their caregivers (both their foster caregivers and those from whom they were initially removed), and the extent of stress and adversity that they experienced while in substitute care. Together, these potential differences suggest that the associations between social support, self-concept, and well-being may have differed for youth who participated at all three time points versus those who did not.
Additionally, the participant burden of completing the NRI-SPV for multiple individuals may have compromised the validity of this questionnaire as a measure of social support. In particular, fatigue and reluctance to complete the NRI-SPV for multiple potential sources of support may have influenced children’s scores for social support (especially with regard to total social support if they declined to complete one or more iterations of the NRI-SPV). Furthermore, because participants were required to complete the NRI-SPV for their biological parents if they had relationships with these individuals, youth who reported relatively unsupportive relationships with their parents may have had lower total support scores than if they had been free to report on their relationships with individuals whom they perceived as more supportive. Thus, the decision to select some of the individuals whom participants rated may have limited the ability to accurately assess the full extent of youth’s support networks.

**Limitations and Future Directions**

While the present study has a number of strengths, including its longitudinal, multi-informant design and inclusion of multiple sources of social support, there are also important limitations that should be considered. Most notable is the small sample size, which limited the ability to detect significant effects and examine potential moderators. Additionally, the current study did not examine potential direct effects of social support on the four well-being outcomes. Though associations between social support and the well-being outcomes have been well established in previous research, some inconsistent findings have been reported, suggesting the value of continuing to examine when social support appears to influence well-being, particularly in the relatively less studied context of foster care. However, the emphasis on examining more parsimonious models due to limited sample size, together with the fact that none of the models
included direct effects as suggested modification indices to improve model fit, supports the decision not to examine such effects in the current study. Moreover, previous research has demonstrated support for the mediating role of self-esteem in the associations between social support and both internalizing and externalizing problems among early adolescents but provided limited evidence of direct effects of social support on these outcomes (DuBois et al., 2002).

Future research can continue to expand upon the literature examining the roles of social support, self-concept, and other protective factors in the context of foster care by conducting studies with larger samples over a longer period of time. The inclusion of additional measures relevant to stress and adversity as well as children’s relationships and social networks can provide a more nuanced, comprehensive understanding of their experiences and of the functioning of protective factors within this unique context. Given that some research has shown differences in the associations between support and well-being for foster children versus biological children (Denuwelaere & Bracke, 2007), and the present study did not support hypothesized associations between social support, self-concept, and well-being, it will be critical to continue to study these constructs to understand how these and other risk and protective factors interact. In particular, it will be important to look beyond youth’s individual characteristics and immediate social networks to examine broader contexts, such as neighborhoods, that may influence psychosocial functioning. Such research has important implications for policy and practice, as those with both formal (e.g., social workers) and informal (e.g., family members) relationships to youth in foster care work to best support and promote the well-being of these youth.
REFERENCE LIST


VITA

Dr. Anne Fuller is from Freehold, New Jersey. Prior to attending Loyola University Chicago, she earned a Bachelor of Science in Psychology (magna cum laude) from Brown University in 2011. As a graduate student at Loyola University Chicago, Dr. Fuller served as an instructor for undergraduate courses and as a member of committees in the clinical psychology program. Dr. Fuller completed her predoctoral internship at Canvas Health in Oakdale, Minnesota, where she specialized in child clinical psychology. She will complete her postdoctoral fellowship at the University of Texas Southwestern Medical Center.