

THE RELATIONSHIP BETWEEN CAREGIVING STRESS AND CHILD WELL-BEING
AMONG INFORMAL AND FORMAL KINSHIP CARE FAMILIES

BY

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DISSERTATION

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ABSTRACT

The purpose of this study is to examine the relationship between caregiving stress and child well-being (i.e., child health and emotional/behavioral problems) among informal and formal kinship care families. This study also examines the role of kinship caregivers' social engagement (i.e., weekly participation in volunteer activities and/or religious services) in the relationship with child well-being. A secondary aim of this study is to examine the variations across the two kinship care families: informal vs. formal kinship families.

Kinship families are presumed to be a less disruptive and the least restrictive family-like environment for children whose parent(s) are not able to provide caregiving. However, kinship families have been found to present a profile with difficulties and limited support which raises significant concerns regarding the well-being of children in the care of kinship caregivers. Children in kinship families can be particularly vulnerable and may require additional supports, especially under a policy context that limited financial aids are available for poor families and caregivers who are experiencing greater stress without reliable support from social relationships.

To examine the research questions, this study is based on a secondary data analysis using data from a national cross-sectional survey, the 1999 and 2002 National Survey of America's Families (NSAF). The data include information on the health, economic, and social dimensions of well-being of U.S. children and families from a nationally representative probability sample of the civilian, noninstitutionalized population. The current study sample includes 1,623 children who were cared for by relatives without a parent present in the household. Informal kinship families (n=1,293) were defined as non-foster kinship care, while formal kinship families (n=330) were defined as foster kinship care. Weighted stepwise multivariate linear regressions are conducted to examine the relationships among caregiving stress (measured by the Parenting

Aggravation Scale), child well-being (measured by the child general health perception and the Child Behavior and Emotional Problems Scale), and social engagement (measured by weekly volunteer activity and/or religious service participation).

Findings from the study indicate that (1) Informal and formal kinship families present similarities in most demographic and well-being characteristics. Despite this, younger children (aged 6-11) in formal kinship families fared worse in behavioral outcomes than those in informal kinship families. Informal kinship families were more likely to live in poverty but less likely to receive public benefits (e.g., public assistance, food stamps), compared to formal kinship families. (2) Kinship caregiver caregiving stress was not significantly related to child health, but was found to be negatively associated with behavioral outcomes of both younger (aged 6-11) and older children (aged 12-17). (3) Kinship caregiver social engagement, specifically weekly participation in volunteer activities was only positively related to younger children's behavior (aged 6-11). Weekly participation in volunteer activities also buffered the negative relationship between caregiving stress and children's behavior. (4) Kinship family type was found to be a moderator of the relationship between caregiving stress and older children's behavior (aged 12-17). That is, the negative association between caregiving stress and children's behavioral outcome was stronger for formal kinship families and lessened for informal kinship families.

Findings from this study have implications for practice, policy, and research. Based on the findings, practical suggestions are made to increase opportunities for kinship caregivers and children to engage in social activities/relationships within the community. Policy implications regard revisiting the eligibility of public assistance and supportive services for kinship caregivers and families. Future research should also assess and target different factors that are associated with child well-being, stress, and social engagement among a diverse group of kinship families.

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CHAPTER 1 INTRODUCTION

1.1 Statement of Problem and Purpose

Children in kinship families are increasing in number in the U.S. In 2012, about two million or 2.8% of U.S. children were raised by their relatives (e.g., grandparents, aunts, uncles, cousins, or siblings) without either of their biological parents present in the household (U.S. Census Bureau, 2013). This represents 2.7 million kinship families and an increase of 12.5% from 2000 (Ellis & Simmons, 2014; Simmons & Dye, 2003). Kinship families generally can have informal or formal caregiving arrangements. For instance, *informal kinship families* refer to a kinship care arrangement that is made privately or informally between biological parents and relatives without the auspices of the state child welfare system, whereas *formal kinship families* represent a kinship care arrangement that is made legally through the state and under the supervision of a state child welfare agency¹ (Child Welfare Information Gateway, 2016; Harden, Clark, & Maguire, 1997). In 2015, there were 127,821 children in the U.S. placed with kin in formal caregiving arrangements in the child welfare system (Children's Bureau, 2016). The number of foster children in kinship care has also increased in the past decade from 24% in 2002 to 30% in 2015, since the passage of the Personal Responsibility and Work Opportunity Act of 1996 (PRWORA) (Children's Bureau, 2006, 2016).

Overtime, kinship care has become a preferable type of placement when children have to be separated from biological parent(s) because this placement maintains a family-like and relatively stable environment, it is connected to existing family support and network, and there is less disruption and trauma to a child (Harden et al., 1997; O'Brien, 2012; Rankin, 2002; Testa, 2002).

¹ The different types of kinship care are not always consistent in the literature, except the formal kinship foster care. See Appendix A for discussion and comparison between informal and formal kinship care.

In particular, the informal caregiving arrangement provides an informal safety net for poor families struggling with meeting children's caregiving needs. Thus, kinship care has been serving as an extension of family preservation or a family-preserving alternative to foster care for biological parents to avoid coercive state intervention (Roberts, 2001).

However, the reasons leading to placement with kinship families, such as parental substance abuse, incarceration, mental illness, and maltreatment of children (ACF, 2007; Gleeson et al., 2009; Leder, Grinstead, & Torres, 2007; Letiecq, Bailey, & Porterfield, 2008), may mean that these children nevertheless have special health, developmental, and caregiving needs. In addition, public assistance is especially significant for kinship care families because caregivers tend to have low income (Roberts, 2001). Since the welfare reform, i.e., the passage of PRWORA, kinship caregivers may not be able to meet the time-limit and work requirements to receive the public financial support (i.e., Temporary Assistance for Needy Families (TANF) cash payment) because their older age and poorer physical functioning do not allow them to return to the job market (Mullen, 2000; Roberts, 2001). Many kinship caregivers taking care of their related child in an informal caregiving arrangement were forced to relinquish custody of children to the state in order to receive the higher foster care payment and more support to meet children's extra needs. However, in order to have higher financial support from the government, these families receive greater intensity of state supervision over their independence. The different amount of financial aid between TANF and foster care payments also reflects that with limited resources, state governments prefer providing support to children in the state custody (Roberts, 2001). This would leave out those informal kinship families who are outside of the child welfare system and make them more vulnerable, especially when fewer federal safety nets cover the needs of these poor kinship families. Their vulnerability raises the concerns regarding children's development

in the care of both informal and formal kinship caregivers.

Currently, the well-being of children in kinship families—informal and formal—lacks definitive evidence, and mixed findings regarding the efficacy of kinship families in promoting child well-being are reported in the literature (Rufa & Fowler, 2016). What is known is that the outcomes for children in formal kinship families are generally seen as positive; for example, studies consistently find that children in kinship foster care have fewer behavioral and mental health problems than children in non-kin foster placements (Iglehart, 1994; Keller et al., 2001; O'Brien, 2012; Rubin et al., 2008; Sakai, Lin, & Flores, 2011). Conversely, a small number of studies on informal kinship families have found that some children fare worse in health, emotional, and behavioral well-being than those from families with at least one parent present in the household (Billing, Ehrle, & Kortenkamp, 2002; Bramlett & Blumber, 2007; Sun, 2003). The field's understanding of child well-being among different subgroups of kinship families also include mixed findings. There is a need to understand the heterogeneity both within and across types of kinship family in order to promote the well-being of children in these families.

One factor potentially associated with child well-being is caregiving stress of kinship caregivers, but it has not been examined among both informal and formal kinship families. A growing number of studies suggest that providing care to an extra related child, who has experienced adversity (e.g., maltreatment and separation from parents), can worsen caregiver well-being and lead to their having physical health problems (Harden, Clyman, Kriebel, & Lyons, 2004; Whitley, Kelley, & Sipe, 2001), psychological symptoms (Blustein, Chan, & Guanais, 2004), and caregiving stress (Ehrle & Geen, 2002a; Leder et al., 2007) in both informal and formal arrangements. Empirical studies suggest that kinship caregivers are more likely to experience stress than parent caregivers and traditional foster parents (Harden et al., 2004; Kelley,

1993). Increased stress among kinship caregivers may become a risk factor that can facilitate or exacerbate children's adjustment difficulties. One study (Guzell-Roe, Gerard, & Landry-Meyer, 2005) found that stress among grandparent caregivers is related to their use of harsh and strict disciplinary practices. Harsh parenting could further lead to negative developmental outcomes for children, especially for families with hardships and inadequate support. Though stress in kinship caregivers and adjustment problems in children are evident, research is needed to understand the link between caregiving stress and child well-being among kinship families.

Another concern is that both informal and formal kinship families often receive inadequate support from formal (i.e., government) and informal networks (i.e., community), although they may have a strong need for extra support (Bramlett & Blumberg, 2007). Kinship caregivers tend to be older (Berrick, Barth, & Needell, 1994; Ellis & Simmons, 2014; Harden et al., 1997; Leder et al., 2007), less educated (Gleeson et al., 2009), not employed (Berrick et al., 1994; Gleeson et al., 2009; Harden et al., 1997), living in or near poverty (Berrick et al., 1994; Livingston & Parker, 2010), and socially isolated (Strozier & Krisman, 2007). This profile presents a low socioeconomic status of kinship care family and differentiates kinship caregivers from those caregivers in the general caregiving population (Berrick & Hernandez, 2016). It may also create a circumstance that exposes children to risk factors associated with social isolation and living in poverty. Social isolation from peers due to caregiving demands is also found to be a predictor of caregiving stress among informal kinship caregivers (Kelley, 1993; Minkler & Roe, 1993). Social engagement in community activities, such as participating in religious services, volunteer activities, educational workshops, and entertainment events, may buffer the effects of stress and help kinship families connect with more resources and support. The extent to which kinship caregivers engage in social activities and social relationships and the level of social engagement

in the community are an area in need of further exploration.

Therefore, the purpose of this study is to examine the relationship between caregiving stress and child well-being (i.e., health and psychological well-being) among kinship families (informal and formal), and to investigate the role of social engagement in promoting child well-being. A secondary aim of the current study is to explore the variations between informal and formal kinship families by comparing the demographic and well-being characteristics as well as the relationships among child well-being, caregiving stress, and social engagement.

1.2 Background and Significance

1.2.1 Historical and Policy Context of Kinship Families

In the U.S., historically relatives, especially grandparents, often assume a caregiving role to provide informal care of related children when the biological parent is not able to offer childrearing. The Public Welfare Amendments to the Social Security Act was an early federal law that authorized kinship caregivers and dependent children to receive financial payments under the Aid to Dependent Children (ADC) program for informal kinship families (Roberts, 2001). The Indian Child Welfare Act of 1978 was enacted as the first federal policy prioritizing formal extended family placements for Native American children. Later in 1979, the Supreme Court's decision in *Miller vs. Youakim* extended this consideration to non-Indian children and addressed the disparities between kinship caregivers receiving Aid to Families with Dependent Children (AFDC) and those receiving non-kin foster payments. States were required to make the same foster care benefits available to kinship families (Hegar & Scannapieco, 2005; Testa, 2013; Testa & Miller, 2005).

The Adoption Assistance and Child Welfare Act of 1980 was enacted later to respond to the increase in children's length of stay in foster care and unnecessary removals. This Act created

Title IV-E, Federal Payments for Foster Care and Adoption Assistance, of the Social Security Act. In addition, it established federal procedures requiring and ruling states to support maltreated children. States should make “reasonable efforts” to prevent placement and to promote children’s permanency, either for reunification or adoption (Child Welfare Information Gateway, 2012; Goldman & Salus, 2003; Murray & Gesiriech, 2004; Pecora, Whittaker, Maluccio, Barth, & DePanfilis, 2009; Waldfogel, 2001). This Act also required states to place a child in the “least restrictive” and “most family-like” setting which was interpreted as a preference for kinship families (Hegar & Scannapieco, 2005). Later, the pendulum of child welfare swung back to “child protection” which considers child safety as the primary concern (Barner, Stevenson, & Ebhrman, 1998). The Adoption and Safe Families Act (ASFA) of 1997 was then enacted to promote maltreated children’s safety, permanency, and well-being. Since the passage of the ASFA, the federal government has been explicitly encouraging states to look to kinship care as the primary placement option for children entering the child welfare system (Stroizer & Krisman, 2007). The increasing percentage of children placed with relatives reflected federal and state policies’ growing reliance on kinship care since the welfare reform (Allen, DeVooght, & Geen, 2008). As discussed earlier, while the federal and state governments recognized the financial needs of most kinship families, the government preferred a residual approach to meet family needs. The government tended to prioritize those families in the child welfare system due to crisis in providing financial aid and gave less attention to those outside the system. However, children in these informal kinship families who were left behind from the child welfare and public assistance systems were still in a greater need in support and became more vulnerable.

More recently, the Fostering Connections to Success and Increasing Adoptions Act of 2008 required child welfare agencies to increase efforts in notifying relatives when children are

removed in order to improve outcomes for children entering foster care (Bratteli, Bjelde, & Pigatti, 2008). States are able to receive federal funds for developing training or supportive services for informal kinship caregivers, and states are allowed to use the Title IV-E child welfare funds to promote the stability of formal kinship families and seek the option of kinship guardianship for children in the child welfare system. The recent federal law, the 2014 Preventing Sex Trafficking and Strengthening Families Act, further extended resources for states to make efforts to ensure the well-being of kinship families (Rubin et al., 2017).

The early policy change in federal child welfare legislation did not address the needs of “informal” kinship families who may not meet the eligibility and foster care licensing standards. Informal kinship families may seek to avoid child welfare involvement but have difficulties obtaining financial assistance and other services without a legal custody relationship. States are not required to assist relatives to qualify for programs under state foster care regulations (Minkler & Roe, 1993). The Title IV of the Social Security Act of 1980 guaranteed kinship caregivers to receive AFDC benefits, the only source of financial assistance for informal kinship families. In order to receive the better foster care payment, informal kinship families sometimes need to be voluntarily involved with the child welfare system, which may not be their intention. To date, informal kinship caregivers are not eligible for the same types of support as formal kinship caregivers under federal and state policies (Ellis & Simmons, 2014; Strozier & Krisman, 2007). Though some informal kinship families are entitled to the child-only TANF benefit, only about 20% of informal kinship families receive TANF benefits or other government payments (Murray, Ehrle, Geen, 2004; Sheran & Swann, 2007). One older study also indicates that, on average, kinship caregivers receive \$220 less cash assistance than non-kin caregivers (Minkler & Roe, 1993). This situation may be worse after the welfare reform and for kinship families

nowadays. The federal policy prefers a residual and nongovernmental approach to address family issues, meaning that the government only intervenes in the poorest and the most in need.

Government's role is limited to helping families in crisis and assisting children who have been maltreated; thus, state intervention is the last resort rather than generally provided to ensure the well-being children and families (Lindsey, 1994). This approach encourages states from close involvement in matters of the family. It also ensures that the least amount of financial commitment is provided to informal kinship families, which may ultimately pose risks to the well-being of these children, kinship caregivers, and families (Hegar & Scannapieco, 2005).

1.2.2 Child Well-Being in Kinship Care: A Need for Definitive Evidence

While kinship care families in the child welfare system grew during the 1980s and 1990s, there have been few studies that compare kinship vs. non-kin foster care and formal vs. informal kinship families from the late 1990s (Ehrle & Geen, 2002a; Kortenkamp & Ehrle, 2002). However, these studies have not extensively examined the well-being of children. In part, it is because, first, the increase in the parental cocaine epidemic resulted in placing children with their kin even though abuse or neglect was not an issue, and led to increasing child welfare caseloads in the early 1980s (Burnette, 1997; Minkler, 1999). Many of the largest state child welfare systems struggled to meet basic needs of children in their care. As a result, the federal government swung the focus of child welfare policy from supporting families to care for their children (i.e., the Adoption Assistance and Child Welfare Act of 1980) to promoting short timelines to permanent placements (i.e., the Adoption and Safe Families Act of 1997). In other words, the goal and emphasis of the child welfare system shifted to promoting permanency. Thus, less attention overall has been given to children's well-being than to children's safety and placement permanency—the other two goals of the child welfare system (Mallon & Hess, 2005).

Second, much of the child welfare research relies on administrative data to monitor the outcomes of children and families on caseloads, but these data sources do not provide rich information on child well-being. Although national surveys, such as the National Survey of Child and Adolescent Well-Being (NSCAW), have enlarged understanding of child well-being, our understanding regarding the factors associated with the well-being of children in the child welfare system still need further exploration. This limitation may be due to that child welfare systems and policies vary across states in the U.S., leading to the difficulty in understanding the systematic influences on child well-being.

Third, with respect to kinship family, caregivers in both informal and formal kinship families tend to be older. There was an increasing grandparent caregiver population in the early 1990s, and early studies on kinship families, especially on informal kinship families, have been mostly conducted with the framework of aging field (e.g., gerontology and nursing literature). Thus, instead of focusing on outcomes for children, these studies focused on these older kinship caregivers' well-being, such as health, mental health, and service needs (Longoria, 2009; Strozier & Krisman, 2007). Although a growing body of research has looked at informal kinship families, mostly grandparent caregivers, research on children's outcomes among informal kinship families is scant compared to the findings regarding caregivers' outcomes.

Finally, little research has compared informal kinship families with formal kinship families. Formal kinship families are often compared with non-kin foster families in the context of the child welfare system, while informal kinship families are often compared with other types of family (e.g., two-parent or single-parent families) outside the child welfare system. Although the two kinship family groups are similar in demographics, service needs, and reasons for kinship placement, they receive different types and amount of public assistance and different levels of

support which may be protective for children's outcomes (Ehrle & Geen, 2002a; Ehrle, Geen, & Clark, 2001; Goodman, Potts, & Pasztor, 2007; Goodman, Potts, Pasztor, & Scorzo, 2004).

Another reason for limited comparative studies is that informal kinship families make up a larger group of kinship care, but it is difficult to attain a representative sample of these families. Since children in informal kinship families are not involved with any social service system and not visible in the administrative data, child welfare researchers have paid least attention to this population (Harden et al., 1997; Vandivere, Yrausquin, Allen, Malm, & McKlindon, 2012). One type of kinship family can be a reference group for the other to understand the service delivery, placement context, and potential risk/protective factors associated with the well-being of children and caregivers. Thus, it is important to extend our knowledge about kinship family as a whole and variations within the larger kinship group.

1.2.3 Significance

The current study focuses on child well-being among kinship families and its relationship with potential factors: kinship caregiver caregiving stress and social engagement. This study also attempts to compare the demographic and well-being characteristics of children, caregivers, and families between informal and formal kinship care arrangements.

Shedding light on these areas is important for the following reasons. First, children's overall well-being outcomes are less studied than health/mental health outcomes of kinship caregivers in informal kinship families and than permanency outcomes in formal kinship families. Informal kinship families especially receive less policy and research attention because they are often invisible in public welfare systems. Although they represent a relatively small proportion in the U.S. child population, they make up a large part of the kinship care family population. Thus, more research is needed to explore different dimensions of child well-being and a range of

factors related to the well-being of children in both informal and formal kinship families. Second, kinship caregivers can experience greater caregiving stress, due to the unexpected childrearing demands and inadequate support, than their non-caregiving counterparts and the general child caregiver population. It could also be that without reliable support from social relationships, kinship caregivers may not be able to cope with their stress and which may worsen children's developmental difficulties. Thus, it is important to examine the relationship between caregiving stress and child well-being and to explore associated factors as well as the role of social support through social engagement in enhancing caregivers' coping and family resilience.

Third, informal and formal kinship families are similar in many ways. But past studies on each population are likely to be limited to a framework which is either within or outside the child welfare system. It is significant to understand how these subgroups of kinship family may be similar or different because either group can be a reference group for the other in understanding factors associated with child well-being. Finally, findings from the current study have implications for social work practice and social welfare policy, especially in relation to how improvements can be made in the support and assistance provided to informal kinship families in particular since the government tends to provide support to those who are already involved in the child welfare system. Additionally, the role of social engagement provides a source of social support and an agent of family resilience in helping kinship caregivers to cope with their stress. Providing the opportunities for kinship caregivers to engage social relationships not only connecting them with support networks but also increases the awareness of the needs of these kinship families in the community.

CHAPTER 2 LITERATURE REVIEW

This chapter includes three sections. The first section provides the theoretical basis that links key constructs framed in this study. The second section reviews literature on comparisons between informal and formal kinship families and empirical studies on child well-being, caregiving stress, and social engagement among kinship families. The third section identifies gaps in the existing literature on both informal and formal kinship families and demonstrates potential contributions of the current study. Based on the literature review, the final section describes the research questions and hypotheses which are examined in this study.

2.1 Conceptual Framework

The Family Resilience Theory is applied to guide the conceptual model of this study. Little research in the area of kinship family has been theory-driven, which is consistent with research in child welfare generally. Studies on at-risk families have been employing Family Stress Model to understand the effects of life stressors or family crisis on individuals' adjustment. The Family Stress Model especially focuses on the negative effects of economic hardship as a family stressor on adjustment difficulties for adults and children in the family. This model posits that, for example, economic hardship causes family financial burdens, and further leads to parental emotional distress which, in turn, leads to harsh parenting behaviors and disrupts developmental outcomes for children (Conger, Rueter, & Conger, 2000).

Many researchers study at-risk families have shifted the theoretical framework from a deficit-based model to a strengths perspective, that is, identifying factors that contribute to effective and healthy family functioning rather than focusing on family maladjustment to stressors (Lakey & Cohen, 2000; McCubbin, Thompson, & McCubbin, 1996; Taylor & Conger,

2014; Walsh, 2003). The Family Resilience Model was developed to focus on both family strengths and potential limitations. The family Resilience Model considers family as the functional unit to rebound from stressors through the processes of adaptation and then leading to positive individual well-being (Nichols, 2013; Walsh, 2003). Resilience can be defined as *“the positive behavioral patterns and functional competence individuals and the family unit demonstrate under stressful or adverse circumstances, which determine the family’s ability to recover by maintaining its integrity as a unit while insuring, and where necessary restoring, the well-being of family members and the family unit as a whole”* (McCubbin et al., 1996, p. 5). This definition emphasizes on family’s ability to positively respond to stressors and ensure well-being. The role of family resources/support received from either the government or the community networks throughout the process of adaptation is particularly critical in mitigating the negative effects of stress on individuals’ well-being.

Building on the fundamental Family Stress and Family Resilience Models, many modified approaches have been developed to explain the relationship of life stressors on family stress and adjustment for both parents/caregivers and children. For example, McCubbin and colleagues (1996) developed the Resiliency Model of Family Stress, Adjustment, and Adaptation by adding relational perspectives of family adjustment and adaptation. The basis of this model is that the relational processes of stressor appraisal, family resources, social support, and coping and problem-solving lead to family resilience for positive adjustment and over time adaptation (McCubbin et al., 1996). Two studies on informal kinship families were guided by this model to investigate the role of family resources and social support in predicting kinship caregivers’ health and psychological well-being (Kelley, Whitley, Sipe, & Yorker, 2000; Musil et al., 2011). Findings from Kelley et al. (2000) support McMubbin et al.’s (1996) model that informal kinship

caregivers who have increased family resources and social support report lower levels of psychological distress. As evidenced, empirical studies on informal kinship families have used and supported Family Resilience Model to examine how family resilience may be related to the outcomes for kinship caregivers.

Figure 2-1 presents another Family Resilience Model originally proposed by Conger and Donnellan (2007) and applied by Taylor and Conger (2014) to explain the relationships of family stress and resilience in single-mother families. This model considers all possible interrelation paths among life stressors, factors associated with the stressors, family stress, parenting, and child adjustment. This model especially considers family psychosocial resources as a potential protective factor and a moderator that may buffer the relationships between adversity and individual adjustment of both children and parents (Taylor & Conger, 2014). Guided by this model, the current study specifically tests path 1: the relationship between family stress due to caregiving demands (i.e., caregiving stress in the current study) and child adjustment (i.e., child's health and psychological well-being in the current study).

The current study also examines psychosocial resource as a potential moderator, more specifically, social engagement in this study. Social engagement is defined as “*the extent to which individuals participate in a broad array of social roles, relationships, and activities*” (Hartwell & Benson, 2007, p. 331). Hartwell and Benson (2007) conceptualize social engagement as one component of social integration. The term *social integration* originated from the work of the French sociologist, Émile Durkheim, who believed that individual's behavior is a function of social dynamics; thus, the social relationships between individuals and social institutions are particularly important for social integration (Berkman, Glass, Brissette, & Seeman, 2000; Hartwell & Benson, 2007). In order to sustain the important social relationships,

people are likely to engage a social group or organization which integrates people into a supportive social community.

Figure 2-1: Family Resilience Model (Taylor & Conger, 2014)

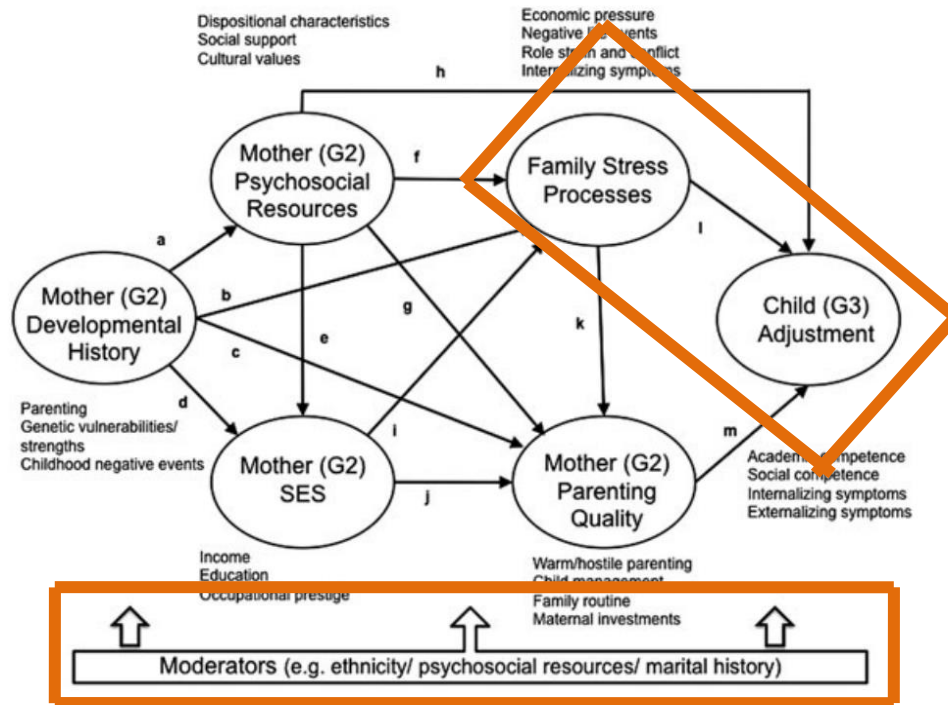


Fig. 9.1 An interactionist model of risk and resilience in single-mother families

Figure 2-1. An interactionist model of risk and resilience in single-mother families. Reprinted from *Defining prevention science* (p. 200) by Z. E. Taylor & R. D. Conger, 2014, New York, NY: Springer.

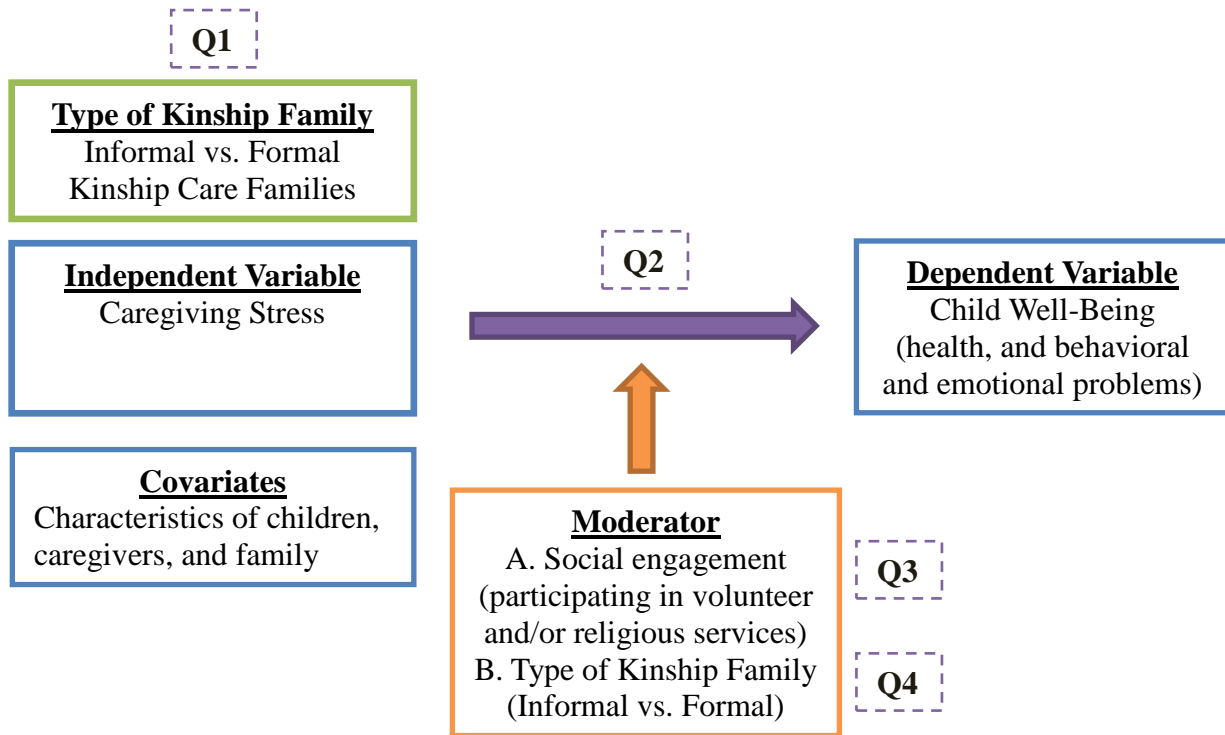
Participating in social roles, church attendance, volunteering, and group recreation are examples of social engagement (Berkman et al., 2000). Through active engagement in social activities, people receive support from social relationships and have improved health and psychological well-being and other favorable outcomes, such as enhanced family functioning and child development (Berkman et al., 2000; Hartwell & Benson, 2007). Conversely, having

low levels of social engagement and social integration, individuals are likely to have negative well-being and to be disconnected from the society (Berkman et al., 2000; Rose, Joe, Shields, & Caldwell, 2014; Wen, 2014). Berkman et al. (2000) concluded that when individuals have strong bonds to social groups or activities, such as religious and volunteer services, they feel the support from their social relationships and have improved well-being. However, while evidence supports that social engagement can enhance health, mental health, and behavioral outcomes (Hartwell & Benson, 2007; Turner & Turner, 2013), social engagement can also have adverse effects when social role expectations are conflicting or overwhelming (Hartwell & Benson, 2007).

Armstrong and her colleagues (2005) discussed social integration as an indicator of social support. Social integration through social engagement can provide individuals with a sense of belonging to a social organization or supportive social relationships. Social integration also functions as a buffer that protects individuals from negative effects of stressors (Armstrong et al., 2005; Lakey & Cohen, 2000). This proposition is incorporated to the Taylor and Conger's (2014) Family Resilience Model in the current study. That is, social engagement (defined as the extent of kinship caregivers participating in volunteer activities and/or religious services in the current study) is considered as a psychosocial resource and will be tested as a potential moderator in Taylor and Conger's model.

Thus, mainly guided by and adapted from the model proposed by Taylor and Conger (2014), Figure 2-2 presents the conceptual framework of the current study. The application of Family Resilience Model helps expand knowledge about family and individual adaptation under stressful conditions among kinship care families and highlights the conceptual/theoretical base needed to understand the importance of social engagement for vulnerable families and children.

Figure 2-2: Conceptual Framework of the Current Study



2.2 Empirical Studies

2.2.1 Comparisons between Informal and Formal Kinship Families

A review of the research finds that there are eight studies that compare informal versus formal kinship care families (Bunch, Eastman, & Griffin, 2007; Ehrle & Geen, 2002a; Ehrle et al., 2001; Font, 2015; Goodman et al., 2004, 2007; Harden et al., 1997; Strozier & Krisman, 2006). See Table 2-1 for details of the study aims, data, sample, measures, and findings of these eight studies. Among these eight studies, three studies explore outcomes of children, such as health, emotional, and behavioral well-being (Ehrle & Geen, 2002a; Goodman et al., 2004, 2007), whereas the remaining focuses on caregiver demographics and family service needs.

Six of the eight studies describe the differences in demographics and service needs between informal and formal kinship families (Ehrle & Geen, 2002a; Ehrle et al., 2001; Goodman et al., 2004, 2007; Harden et al., 1997; Strozier & Krisman, 2006). For example, Ehrle and Geen (2002a) explore child welfare service needs and service use, such as TANF, food stamps, etc. Using data from the 1999 National Survey of America's Families (NSAF), a nationally representative survey of U.S. households with information about economic, health, and social characteristics, the findings suggest that children in formal kinship care are more likely to live in low-income families than children in informal kinship care (61% vs. 76%). But children in formal kinship care are more likely to receive public assistance, such as TANF, food stamps, Medicaid, and health insurance (Ehrle & Geen, 2002a).

Another report conducted by Harden et al. (1997) describes informal and formal kinship care based on child welfare administrative data in four states—California, Illinois, New York, and Missouri—between 1990 and 1995. They find that children in formal kinship care are younger. The authors specifically compare Illinois formal kinship care with informal kinship

Table 2-1: Summary of Studies Comparing Informal and Formal Kinship Families

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Bunch, Eastman, & Griffin, 2007	This study explores whether or not caregiver well-being is effected by the type of kinship care arrangement (formal vs. informal)	<u>Design</u> Cross-sectional bivariate study <u>Data</u> Data were collected from a non-probability purposive sample recruited from grandparent caregivers who attended support groups in rural localities of Maryland, North Caroline, and Virginia.	55 kinship caregivers (31% White, 64% Black, 6% Hispanic; 85% aged between 50 and 69) - 23 formal kinship caregivers - 32 informal kinship care givers	<u>Measures</u> • The Satisfaction with Life Scale • Geriatric Depression Scale Short Form • Kansa Parental Satisfaction Scale <u>Outcomes</u> - Informal kinship caregivers are more likely to have the feelings of depression, less satisfaction with their parenting, and less sense of satisfaction with life.	<ul style="list-style-type: none"> • There was no information about characteristics of caregivers by each group. • The sample sizes were small and resulted in weak statistical power. • The small-scale and non-probability data limited the generalizability of the study findings. • This study did not compare differences in demographics.
Ehrle & Geen, 2002	This report describes specific service needs of children in kinship care.	<u>Design</u> Cross-sectional descriptive study <u>Data</u> Data were from the 1999 National Survey of America’s Families, a nationally representative survey of households with persons under the age of 65, with information about economic, health, and social characteristics of U.S. households.	1,160 children in kinship care - 911 children in private kinship care - 249 children in public kinship care	<u>Outcomes</u> - One in five children either has a limiting condition or is in poor health; 11% of 6-17 year old children have high levels of behavioral or emotional problems. - 65% of children in public care receive either a foster care or TANF payment, compared with 18% of children in private care. - 75% of children in public care receive Medicaid, compared with only 35% of children in private care. - 91% of children in public kinship care insured, compared with 78% of children in private kinship care.	<ul style="list-style-type: none"> • There was no information about characteristics of children and caregivers in each type of kinship care.
Ehrle, Geen, & Clark, 2001	This report describes different types of kinship environments, characteristics of these environments, and the services these children receive.	<u>Design</u> Cross-sectional descriptive study <u>Data</u> Data were from the 1997 National Survey of America’s Families, a nationally representative survey of households with persons under the age of 65, with information about economic, health, and social characteristics of U.S. households.	- 780 children in private kinship care - 167 children in voluntary kinship care - 148 children in kinship foster care	<u>Measures</u> • Environments (e.g., family income, caregiver education, family structure). • Service receipt (e.g., AFDC, Medicaid) <u>Outcomes</u> - A higher percentage (55%) of children in voluntary kinship care live with caregivers without a high school degree, compared with children in private kinship care (33%) and children in kinship foster care (32%). - A higher percentage of children in voluntary kinship care receive Medicaid (71%) and AFDC (52%), compared with children in private kinship care (49% and 24%) and children in kinship foster care (58% and 19%).	<ul style="list-style-type: none"> • There was no information about characteristics of children and caregivers in each type of kinship care.

Table 2-1 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Font, 2015	<ul style="list-style-type: none"> - This study examines the association between placement type and experiencing a maltreatment investigation or substantiation in out-of-home care. - What are the risks of maltreatment in three placement types: non-relative foster care (NRFC), formal kinship care (FKC), and informal kinship care (IKC)? - How do these risks vary over time? 	<p><u>Design</u> Longitudinal multivariate study using survival analysis</p> <p><u>Data</u> The administrative data from the state of Wisconsin between the years 2005 and 2012</p>	<p>75,130 placements involving 39,967 children</p> <ul style="list-style-type: none"> - 36,840 in NRFC (51% male; 43% White, 31% Black, 10% Hispanic) - 16,922 in IKC (49% male; 30% White, 48% Black, 9% Hispanic) - 21,368 in FKC (50% male; 47% White, 29% Black, 10% Hispanic) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Child protective service (CPS) investigation • Substantiated CPS investigation <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Over 6% of IKC placements experienced an investigation alleging maltreatment by a caregiver, compared with just over 3% for FKC and NRFC. - Lifetime risk of maltreatment (investigated or substantiated) is highest in IKC. - Because these IKC placements have a longer average duration, the monthly risk of maltreatment was lowest in IKC. <p><u>Measures</u></p> <ul style="list-style-type: none"> • Family need (e.g., grandchild's education, family mental health, medical/dental care, respite/child care, basic subsistence, legal issues) • Formal service utilization • Informal social support (e.g., degree of enacted support from family, friends, and/or religious organizations) • Child behavioral problems: Behavior Rating Index for Children • Caregiver burden <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Private and public caregivers have the same basic demographic. - Grandchildren in public kinship care are more likely to have reported school and behavior problems - Public caregivers report more needs in two areas: respite/child care and legal. - Public caregivers report more formal service utilization in response to basic subsistence and legal needs. - Private caregivers report more informal social support in response to legal needs. 	<ul style="list-style-type: none"> • There was no information about maltreatment by other household member. • Available covariates were limited, such as children's health and mental health status.
Goodman, Potts, & Pasztor, 2007	<ul style="list-style-type: none"> - This study examines expressed need for assistance, utilization of formal services, and receipt of informal social support among grandmother caregivers. - This study compares differences in these factors between public caregivers and private caregivers. 	<p><u>Design</u> Cross-sectional multivariate study using OLS regression</p> <p><u>Data</u> Data were collected from a follow-up of a sample recruited in the Los Angeles Unified School District and through media announcements between 1998 and 2001</p>	<p>181 grandmothers (36% White, 41% Black, 23% Hispanic; mean age: 58.8 years; 38% married; 33% employed; grandchild mean age: 10.4 years)</p> <ul style="list-style-type: none"> - 73 public caregivers (34% White, 43% Black, 23% Hispanic; mean age: 59.9 years; 36% married; 27% employed; grandchild mean age: 10 years) - 108 private caregivers (37% White, 40% Black, 23% Hispanic; mean age: 58.1%; 39% married; 36% employed; grandchild mean age: 10.7 years) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Family need (e.g., grandchild's education, family mental health, medical/dental care, respite/child care, basic subsistence, legal issues) • Formal service utilization • Informal social support (e.g., degree of enacted support from family, friends, and/or religious organizations) • Child behavioral problems: Behavior Rating Index for Children • Caregiver burden <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Private and public caregivers have the same basic demographic. - Grandchildren in public kinship care are more likely to have reported school and behavior problems - Public caregivers report more needs in two areas: respite/child care and legal. - Public caregivers report more formal service utilization in response to basic subsistence and legal needs. - Private caregivers report more informal social support in response to legal needs. 	<ul style="list-style-type: none"> • The results did not reflect ethnic distributions and the prevalence of formal and informal kinship care. • The measures were self-reported and only based on caregivers' perceptions. • The sample sizes were small and resulted in weak statistical power. • The small-scale data limited the generalizability of the study findings. • The study sample was limited to grandmothers.

Table 2-1 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Goodman, Potts, Pasztor, & Scorzo, 2004	This study compares private grandmother caregivers with public grandmother caregivers.	<u>Design</u> Cross-sectional multivariate study using logistic regression <u>Data</u> Data were collected from a sample recruited in the Los Angeles Unified School District and through media announcements between 1998 and 2001	- 373 private kinship care (grandmother: 32% White, 40% Black, 28% Hispanic; mean age: 56.4 years) (grandchild: 50% male; mean age: 9.7 years) - 208 public kinship care (grandmothers: 26% White, 47% Black, 26% Hispanic; mean age: 51.3 years) (grandchild: 43% male; mean age: 9.1 years)	<u>Measures</u> • Reasons of placement • Grandchild's behavioral problems: Behavior Rating Index for Children • Grandmother physical and mental health: Medical Outcomes Study Health Survey (SF-36) <u>Outcomes</u> - Grandmothers in both private and public care are similar in age, ethnicity, education, employment status, poverty level, income, and physical and mental health. - Grandmothers in private care are more likely to be married and had fewer grandchildren at home. - Grandchildren in both private and public care are similar in age and gender. - Grandchildren in public care are reported a higher level of behavioral problems. <u>Outcomes</u> - In the four states, 15.5% of kinship children are in a formal foster care placement. - Younger children are more likely to be in formal kinship. - In New York and Missouri, formal kinship care appears almost exclusively in the primary urban place. - In Illinois, compared to informal kinship care, children in formal kinship care are younger, overrepresented African Americans. - In Illinois, compared to formal kinship care, caregivers in informal kinship care are older, less likely to be married and grandparents.	<ul style="list-style-type: none"> • The measures were self-reported and only based on caregivers' perceptions. • The study sample was limited to grandmothers.
Harden, Clark, & Maguire, 1997	<ul style="list-style-type: none"> - One section of this report describes formal and informal kinship care based on administrative data in four states: CA, IL, NY, and MO. - One section of this report compares formal kinship care with AFDC/relative group as informal kinship care in Illinois. 	<u>Design</u> Cross-sectional descriptive study <u>Data</u> Administrative child welfare records in California, Illinois, New York, and Missouri between 1990 and 1995	The report does not provide specific sample characteristics of formal and informal kinship care.	<u>Outcomes</u> - In the four states, 15.5% of kinship children are in a formal foster care placement. - Younger children are more likely to be in formal kinship. - In New York and Missouri, formal kinship care appears almost exclusively in the primary urban place. - In Illinois, compared to informal kinship care, children in formal kinship care are younger, overrepresented African Americans. - In Illinois, compared to formal kinship care, caregivers in informal kinship care are older, less likely to be married and grandparents.	<ul style="list-style-type: none"> • There was no information about characteristics of children and caregivers.
Strozier & Krisman, 2006	<ul style="list-style-type: none"> - What are the demographics and basic needs of kinship caregivers? - Do kinship caregiver and children demographics differ by formal versus informal custody arrangements? - Do the needs identified by kinship caregivers differ significantly by formal versus informal custody arrangements? 	<u>Design</u> Cross-sectional bivariate study <u>Data</u> Data were from the Kinship Care Warmline, a statewide emotional support, education, and information and referral telephone line in Florida between 2003 and 2005.	1,070 kinship caregivers caring for 2,355 children (Caregivers: 54% White, 37% Black; 63% aged between 40 and 59; 45% married) - 745 formal caregivers - 568 informal caregivers	<u>Measures</u> • Family demographic: Florida Kinship Center Demographic Survey • Family needs: Florida Kinship Center Needs Checklist <u>Outcomes</u> - Compared to formal kinship care, informal care where caregivers have lower income, caregivers are less likely to be grandmothers, children are older, less children are in the care, and the length of time in care is longer. - Caregivers in both formal and informal care have common needs for services, except the need for counseling for children.	<ul style="list-style-type: none"> • Study sample was self-selected and may be biased. • The local data limited the generalizability of the study findings. • There was no information about characteristics of children.

care and find that informal kinship caregivers are older, less likely to be married, and less likely to be grandparents (Harden et al., 1997). A major limitation of these studies is that specific information regarding the characteristics of caregivers and children was not reported and compared across different types of kinship care. Additionally, these studies are dated and were conducted about 10 to 20 years ago. Although these studies have used national samples, there is still limited knowledge about the differences between the two subgroups of kinship family.

Other small-scale studies focus more on comparing informal kinship caregivers with formal kinship caregivers. For example, Strozier and Krisman (2006) examined whether service needs and demographics of caregivers and children differ by formal versus informal kinship care. They collected data between 2003 and 2005 through the Kinship Care Warmline, a Florida statewide program which provides emotional support, education, information, and referrals through telephone. Their findings indicate that compared to formal kinship caregivers, informal kinship caregivers present a lower income level and are less likely to be grandmothers (Strozier & Krisman, 2006). Their findings are opposite to Ehrle and Geen (2002), but most of the findings are consistent with Harden et al. (1997). Such as, children in informal kinship family are older and stay in care longer, compared with those in formal kinship family. Despite these demographic differences, caregivers in both types of kinship families have expressed common needs for services (Strozier & Krisman, 2006).

The other two studies by Goodman and colleagues (2004, 2007) compare informal and formal kinship care provided by grandmothers. Both studies use data from a sample of grandmother caregivers recruited through schools and media announcements. Findings from one study suggest that grandmother caregivers in each type of care arrangement are similar in age, ethnicity, education, employment status, income, and physical and mental health (Goodman et al.,

2004). These demographic findings are conflicting with findings from Harden et al. (1997) which used national and state samples described above. Grandmother caregivers in informal kinship family are more likely to be married and have fewer grandchildren at home than formal kinship caregivers (Goodman et al., 2004). Another follow-up especially examines service needs, formal service utilization, and informal social support receipt among informal and formal kinship caregivers (Goodman et al., 2007). They find that formal kinship caregivers report more public service use while informal kinship caregivers report more use of informal social support (Goodman et al., 2007). In sum, these small-scale studies have provided more information regarding the similarities and differences between informal and formal kinship families; however, their study findings are not generalizable to a larger context and statewide or nationwide kinship population due to their local samples, especially that samples in Goodman et al. (2004, 2007) are limited to grandmother caregivers.

The next subsections review empirical research on the three key constructs of the current study: child well-being, caregiving stress, and social engagement among informal and formal kinship families.

2.2.2 Child Well-Being in Kinship Families

Child well-being is often defined as a multidimensional construct incorporating domains of a child: physical, psychological, cognitive, social, and economic (Lippamn, Moore, & McIntosh, 2011; Pollard & Lee, 2003). The U.S. Administration on Children, Youth and Families has adapted a well-being framework that identifies four domains—cognitive functioning, physical health and development, behavioral/emotional functioning, and social functioning (Lou, Anthony, Stone, Vu, & Austin, 2008)—to promote well-being for children in the child welfare system (ACF, 2012). The construct of child well-being has been measured by standardized instruments,

single-item questions, and non-structured interviews to identify children's cognitive, psychological, and social development; relationships with peers and caregivers; environmental contexts; etc. (Lippman et al., 2011; Pollard & Lee, 2003). The child welfare literature studying child well-being within the foster care population has investigated outcomes of permanency, overall functioning, safety and risk, physical and mental health status, caregiving interactions, and school performance (Altshuler & Gleeson, 2001; Gleeson & Hairston, 1999; Kortenkamp & Ehrle, 2002). But studies that compare informal and formal kinship families, as mentioned, are limited, and most of these studies have not focused on child well-being.

As indicated earlier, there are three empirical studies that compare children's health, emotional, and behavioral outcomes in informal and formal kinship families. These studies find a similar pattern. Children in formal kinship families fare worse in health and behavioral outcomes. For example, Ehrle and Geen (2002a) find that children in formal kinship care are more likely to have poor health or a limiting health condition, compared to children in informal kinship care. Similarly, Goodman et al. (2004, 2007) indicate that children in formal kinship families are more likely to have school and behavioral problems, compared to children in informal kinship families. Although there is limited evidence in the literature, these initial studies provide a beginning foundation from which to understand how children fare in the two different types of kinship care.

In addition to child outcomes, a recent study (Font, 2015) examines child maltreatment investigations and substantiations across three types of caregivers: informal kinship families, formal kinship foster families, and non-relative or traditional foster care families. Font (2015) analyzed child welfare administrative data from Wisconsin between 2005 and 2012, and she finds that informal kinship families have higher rates of maltreatment allegations made that are investigated and substantiated than both formal kinship foster families and non-relative foster

care families. There is nevertheless limited evidence to conclude whether children in informal kinship families are likely to experience maltreatment. This may be particularly true given that child protection caseworkers may have been more likely to investigate and/or substantiate cases not formally involved in the child welfare system because these families are not supervised.

Research focusing on children's outcomes in formal kinship families often compares children in formal kinship foster care with children in non-kin foster care. Table 2-2 provides a summary of selected studies that examine children's outcomes in formal kinship families (Font, 2014; Iglehart, 1994; Keller et al., 2001; Rubin et al., 2008; Sakai et al., 2011; Taussig & Clyman, 2011). Generally, evidence suggests that compared with children in non-kin foster care, children in formal kinship care have fewer behavioral and mental health problems (Iglehart, 1994; Keller et al., 2001; Rubin et al., 2008; Sakai et al., 2011), which is generally attributed to greater stability and less disruption of kinship foster care placements. For example, Sakai et al. (2011) analyzed data from the NSCAW, a national survey on the well-being of children in the U.S. child welfare system. They find that children in formal kinship care fare better with behavioral and social skills and are at decreased risk of outpatient therapy and psychotropic drug use, compared to children in non-kin foster care (Sakai et al., 2011). Other studies provide conflicting information (Font, 2014; Taussig & Clyman, 2011). For example, Taussig and Clyman (2011) conducted a cohort study with foster youth who entered a U.S. county child welfare system between 1990 and 1991. Their findings suggest that foster youth who spend more time in formal kinship care present more adverse outcomes, such as substance abuse, delinquent behavior, and poor academic performance. This conflicting evidence may suggest that formal kinship families can benefit children in some ways but may also contribute to worsening children's health and behavioral well-being in the long run. Factors associated with children's outcomes and whether

Table 2-2: Summary of Studies on Child Well-Being in Formal Kinship Families

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Font, 2014	This study examines an unbiased estimate of kin placement (as opposed to nonrelative placement) on children's well-being.	<p><u>Design</u> Cohort multivariate study using ordinary least squares, change scores, propensity score weighting, and instrumental variables regression</p> <p><u>Data</u> The first cohort (October 1999 through December 2000) of the National Survey of Child and Adolescent Well-Being, a national survey on the well-being of children in the U.S. child welfare system</p>	1,215 children in in placements - 668 children in 0-49% kin placements (50% male; 35% Black, 22% Hispanic; mean age 13 years) - 547 children in 50-100% kin placements (42% male; 44% Black, 19% Hispanic; mean age 13 years)	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Cognitive skills: math scores, reading scores, and verbal ability • Behavior problems: externalizing and internalizing behaviors • Child health <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - There is a negative effect of kin placements on children's reading scores - There is no significant effect of kin placements on children's behavior problems and health. 	<ul style="list-style-type: none"> • There was no normative comparison group • Findings may not be generalizable to all children in kinship care since sample excludes children under the age of 6.
Iglehart, 1994	This study compares youth in kinship foster care with those in non-kin foster family care on placement history, placement adjustment, and agency monitoring.	<p><u>Design</u> Cross-sectional comparative study</p> <p><u>Data</u> The Los Angeles County Study, assessing the needs and school, behavioral, and mental health functioning of adolescents aged 16 and older in out-of-home placements during February to July, 1988</p>	1,642 adolescents (62% female; 29% White, 43% Black, 28% Hispanic)	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Child Behavior Checklist - Three competence scales (activities, social, school) - Problem behavior <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Kinship foster care placements are more stable since adolescents in kinship care were less likely to experience more placements. - No differences are found between the two groups in the length of stay. - No differences are found between the two groups in adolescents' educational performance and behavioral functioning. - Kinship care adolescents are less likely to have serious mental health problem. 	<ul style="list-style-type: none"> • There was no information regarding the caregivers and households.
Keller et al. 2001	This study evaluates the behavior of kinship foster children in comparison to non-relative foster children and children in the general population.	<p><u>Design</u> Cross-sectional bivariate study</p> <p><u>Data</u> Foster children in the Casey Family Program in June, 1997, which provides planned long-term, out-of-home care services for children.</p>	240 foster children (55% female; 50% White, 16% Black, 16% Native American, 12% Hispanic) - 67 in kinship care (19% White, 42% Black, 24% Native American, 6% Hispanic mean age 11.1 years) - 173 in non-kin care (62% White, 6% Black, 13% Native, 14% Hispanic; mean age 11.6 years)	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Child Behavior Checklist (activities, social, and school subscales) <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Children in kinship foster care are not different from children in the general population. - Children in non-kin foster care present lower levels of competence and higher levels of problem behaviors, compared to children in kinship foster care and those in the general population. 	<ul style="list-style-type: none"> • The sample size was relatively small. • There was no information regarding the caregivers and households.

Table 2-2 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Rubin et al., 2008	This study examines the influence of kinship care on behavioral problems after 18 and 36 months in out-of-home care.	<u>Design</u> Prospective cohort study <u>Data</u> The National Survey of Child and Adolescent Well-Being, October 1999 to March 2004	1,309 children entering out-of-home care - 599 in kinship care (56% female; 48% White, 41% Black) - 710 in foster care (52% female; 52% White, 35% Black)	<u>Measures</u> • Child Behavior Checklist <u>Outcomes</u> - Children in kinship care are at lower risk at baseline and less likely to have unstable placements than children in foster care. - Children placed into kinship care have fewer behavioral problems 3 years after placement than children who were placed into foster care.	<ul style="list-style-type: none"> • There was no information regarding the caregivers and households. • The measures were only based on caregivers' report.
Sakai, Lin, & Flores, 2011	This study assesses family services, health, and health care outcomes for U.S. children in kinship care vs. foster care.	<u>Design</u> Prospective cohort study <u>Data</u> The National Survey of Child and Adolescent Well-Being,	1,308 children in the child welfare system - 572 in kinship care (60% female; 48% White, 33% Black; 14% Hispanic) - 736 in foster care (48% female; 40% White, 38% Black; 15% Hispanic)	<u>Measures</u> • Caregivers' support services (e.g., financial support, parent education and training, peer support groups, and respite care). • Children's behavioral (Child Behavior Checklist), mental health (Child Depression Inventory, Trauma Symptoms Checklist for Children), and health service (outpatient mental health therapy) <u>Outcomes</u> - Kinship caregivers are more likely than foster caregivers to have a low socioeconomic status and receive fewer support services (e.g., caregiver subsidies, parent training, peer support, and respite care). - Children in kinship care fare better with behavioral and social skills problems, mental health therapy use, and psychotropic medication. - Adolescents in kinship care are at higher risk for substance use and pregnancy.	<ul style="list-style-type: none"> • Changes in placement settings were not examined. The duration in each placement was unknown. • The measures were only based on caregivers' report.
Taussig & Clyman, 2011	This study examines the relationship between length of time living with kin and indices of adolescent well-being.	<u>Design</u> Prospective cohort study using bivariate and multivariate analyses <u>Data</u> Foster children aged 7-12, who entered out-of-home care between May 1990 and October 1991	148 youth at time 1 - 43 in kinship care (51% female; 40% White, 44% Black; 16% Hispanic; mean age 8.8 years) - 97 in non-kinship care (57% female; 47% White, 29% Black, 24% Hispanic; mean age 9.2 years)	<u>Measures</u> • Emotional and behavioral symptomatology: Child Behavior Checklist • Lifetime risk behaviors: Adolescent Risk Behavior Survey <u>Outcomes</u> - There are no significant bivariate findings between length of time living with kin and the outcome variables. - Longer length of time living with kin is related to greater involvement in risk behaviors and poorer life-course outcomes.	<ul style="list-style-type: none"> • There was no information regarding the caregivers and households. • The study sample and context were limited to one age group in one county, limiting generalizability.

these problems existed before placement, however, are poorly understood.

Research focusing on children's outcomes in informal kinship families often compares children in informal kinship families with children in other family structures, such as two-parent and single-parent families. Table 2-3 presents a summary of studies that examine children's outcomes of informal kinship families (Billing et al., 2002; Bramlett & Blumberg, 2007; Ghuman, Weist, & Shafer, 1999; King, Mitchell, & Hawkins, 2010; Scarcella, Ehrle, & Geen, 2003; Smith & Hancock, 2010; Smith & Palmieri, 2007; Smith, Palmieri, Hancock, & Richardson, 2008; Solomon & Marx, 1995; Sun, 2003). Generally, evidence from these studies suggests that compared with children in the care of biological parent(s), children in informal kinship families are likely to present poorer health, more emotional and behavioral problems, and lower levels of school engagement and academic performance (Billing et al., 2002; Bramlett & Blumberg, 2007; Ghuman et al., 1999; King et al., 2010; Smith & Palmieri, 2007; Sun, 2003). For example, Bramlett and Blumberg (2007) analyzed data from the 2003 National Survey of Children's Health, a nationally representative survey with information of the health, health care access and use, and well-being of U.S. children. They find that compared to children in two-parent or single-parent families, children in grandparent families present poorer health and mental health status, including a higher likelihood of special health care needs, ADD/ADHD (attention-deficit/hyperactivity disorder), conduct problems, depression, and anxiety (Bramlett & Blumberg, 2007). Similarly, Sun (2003) compares psychological well-being, behavior problems, and academic performance among youth in informal kinship families with those in other family structures (i.e., two-parent and single-parent families). He analyzed data from the 1988 National Education Longitudinal Study, a nationally representative sample of eighth graders. His findings indicate that youth in informal kinship families present more behavior and deviance problems as

Table 2-3: Summary of Studies on Child Well-Being in Informal Kinship Families

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Billing, Ehrle, & Kortenkamp, 2002	<ul style="list-style-type: none"> - What is the well-being of children cared for by relatives? - This study compares children live with relative(s) with children live with parent(s). - This study compares children live with relative(s) with children live with parent(s) among low-income households (income below 200% of the federal poverty level). 	<p><u>Design</u> Cross-sectional descriptive study</p> <p><u>Data</u> The 1997 and 1999 rounds of the National Survey of America's Families, a nationally representative survey that measures economic, health, and social characteristics of households with persons under age 65</p>	<ul style="list-style-type: none"> - All incomes households: 2,257 children in relative care vs. 67,865 children in parent care - Low-income households: 1,464 children in relative care vs. 28,567 children in parent care 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Behavioral and emotional well-being • School and activity experiences • Interactions with adults • Physical health <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Compared to children in parent care, children in relative care are likely to present high levels of behavioral and emotional problems, to be suspended or expelled from school, and to skip school. - Compared to children in parent care, children in relative care are likely to present low levels of school engagement. - Compared to children in parent care, children in relative care are likely to be not involved in any activities. 	<ul style="list-style-type: none"> • There was no demographic information regarding the children, caregivers, and households. • The measures were self-reported and only based on caregivers' perceptions.
Bramlett & Blumberg, 2007	<p>This study compares estimates of the physical and mental health status of children in six family structures: two-biological-parent family; blended step family (a biological parent and a stepparent); blended adoptive family (a biological parent and an adoptive parent); single-mother family; single-father family; one or more grandparents, but no biological, step, foster, or adoptive parents.</p>	<p><u>Design</u> Cross-sectional descriptive study</p> <p><u>Data</u> The 2003 National Survey of Children's Health, a random-digit-dial household telephone survey with national and state-level estimates of the health, health care access and use, insurance coverage, and well-being of U.S. children</p>	<ul style="list-style-type: none"> - 64,116 children in two-parent families - 8,103 children in blended step families - 566 children in blended adoptive families - 20,033 children in single-mother families - 3,396 children in single-father families - 496 children in grandparent families (57% male; mean age: 9.6 years; 51% White, 31% Black, 12% Hispanic) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Physical health (health status, dental health, asthma-related health, allergies) • Mental health (emotional, developmental, behavioral problems; learning disability; depression, anxiety; ADD/ADHD) • Special health care needs <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Children in grandparent-only families present the poorest health status, compared to all other family structures. - Compared to children in two-parent families, children in grandparent-only families are twice as likely to have special health care needs, asthma-related health problems, ADD/ADHD, or difficulty with emotions, or getting along with others; and four times as likely to have conduct problems, depression/anxiety. 	<ul style="list-style-type: none"> • The assessment of family structure was subjective. The child's relationship to other household members was unknown. • There was no policy-relevant information, such as marital status and parental employment. • The measures were self-reported and only based on caregivers' perceptions.

Table 2-3 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Ghuman, Weist, & Shafer, 1999	This study determines the demographic and clinical characteristics of emotionally disturbed children being raised by grandparents, and compares those of youths who live with someone other than their grandparents.	<p><u>Design</u> Cross-sectional descriptive study</p> <p><u>Data</u> The data were gathered in 1998 through a chart review of all active child and adolescent patients at the Walter P. Carter Center, a community mental health center affiliated with the University of Maryland in Baltimore</p>	233 children and adolescents in active treatment at the community mental center - 51 children live with grandparents (69% male; 20% White, 78% Black; 53% age 5-10) - 182 children live with others (65% male; 36% White, 62% Black; 21% age 5-10)	<p><u>Measures</u> • Clinical characteristics (DSM-IV diagnoses)</p> <p><u>Outcomes</u> - Children living with grandparents are likely to be younger and African American, compared with children living with others. - Children living with grandparents are likely to have the diagnosis of oppositional defiant disorder and less likely to have a diagnosis of separation anxiety disorder, compared with children living with others. - The most common reasons for grandparent placement are 1) parent was absent or unavailable and 2) parental substance abuse.</p>	<ul style="list-style-type: none"> • The sample was limited to emotionally disturbed children at a community mental health center, and findings were not generalizable.
King, Mitchell, & Hawkins, 2010	<ul style="list-style-type: none"> - What are the living arrangements of adolescents with two nonresident parents? - How are these living arrangements related to adolescents' relationships with each of their nonresident parents? - How are these living arrangements related to adolescent well-being? 	<p><u>Design</u> Cross-sectional comparative study</p> <p><u>Data</u> The first wave of the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of adolescents in grades 7 through 12 in the U.S.</p>	<ul style="list-style-type: none"> - 502 adolescents with two nonresident parents - 4,029 adolescents living with mothers - 717 adolescents living with fathers 	<p><u>Measures</u> • Nonresident biological parent involvement (e.g., contact and closeness) • Child outcomes - Internalizing problems (e.g., depressive symptoms, negative outlook, low self-esteem) - Externalizing problems (e.g., nonviolent delinquency, violence, substance use)</p> <p><u>Outcomes</u> - The most common living arrangements are living with grandparent(s). - Adolescents living with two parent figures had the lowest levels of contact and closeness with their nonresident parents. - Adolescents living with an aunt and uncle or other nonrelatives had higher levels of internalizing problems. - Adolescents living alone or with an aunt/uncle had higher levels of externalizing problems.</p>	<ul style="list-style-type: none"> • Demographic information was lacking in this study. • The transitions between different living arrangements were unknown.

Table 2-3 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Scarcella, Ehrle, & Geen, 2003	<ul style="list-style-type: none"> - This study describes the characteristics and needs of children in grandparent care. - This study compares the characteristics of children in grandparent care with children in other relative care. 	<p><u>Design</u></p> <p>Cross-sectional descriptive study</p> <p><u>Data</u></p> <p>The 1999 National Survey of America's Families, a nationally representative survey that measures economic, health, and social characteristics of households with persons under age 65</p>	<ul style="list-style-type: none"> - 711 children live with grandparents - 389 children live with other relatives 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Demographic characteristics (age, marital status, education) • Income and health hardships (household income, caregiver health/mental health status) • Child well-being (health status, behavioral and emotional problems, school engagement) • Service receipt (health insurance, health care service, housing assistance, food stamps) <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Children in grandparent care are likely to be younger than children in other relative care. - About one-fifth of children in grandparent care and other relative care have either a limiting condition or are in poor health. - A tenth of 6- to 17-year-old children in either care present high levels of behavioral or emotional problems. - About one third of children in either care have low levels of school engagement. - Few grandparent or relative caregivers received child –only payments, housing assistance, or mental health services. 	<ul style="list-style-type: none"> • The measures are self-reported and only based on caregivers' perceptions.
Smith & Hancock, 2010	<p>This study examines the links among family contextual factors, custodial grandparents psychological distress, quality of marital relationship, parenting practices, and grandchildren's psychological adjustment.</p>	<p><u>Design</u></p> <p>Cross-sectional inferential study using structural equation modeling</p> <p><u>Data</u></p> <p>Study data of custodial grandparents were recruited across the 48 contiguous states through a combination of convenience and population-based method</p>	<ul style="list-style-type: none"> - 193 married custodial grandmother-grandfather dyads (Grandmother: 64% White, 36% Black; mean age 55.7 years) (Grandfather: 64% White, 36% Black; mean age 58.2 years) (Child: 53% girls; child mean age: 9.3 years) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Psychological distress • Marital distress: Spouse subscale from the Parenting Stress Index • Dysfunctional parenting • Social support • Family dysfunction • Grandchildren's maladjustment: Strengths and Difficulties Questionnaire <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - The relation between grandchildren adjustment and both grandmother-grandfather dyad psychological distress was mediated by their parenting practices. - Higher levels of marital distress were related to greater dysfunctional parenting which was associated with higher internalizing and externalizing symptoms among grandchildren. 	<ul style="list-style-type: none"> • The measures were self-reported and only based on caregivers' perceptions.

Table 2-3 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Smith & Palmieri, 2007	<ul style="list-style-type: none"> - This study examines risk of emotional and behavioral difficulties among custodial grandchildren. - This study compares the custodial grandchildren sample with the normative sample. - This study examines gender and race differences in the custodial grandchildren sample. 	<p><u>Design</u></p> <p>Cross-sectional comparative study</p> <p><u>Data</u></p> <ul style="list-style-type: none"> - Study data on custodial grandchildren were from 733 grandmothers recruited from 48 states through convenience methods (N=387) and population-based methods (N=346) - Comparative data were from the 2001 National Health Interview Survey, a multistage probability sample survey on the health of the U.S. civilian, population 	<ul style="list-style-type: none"> - 733 grandchildren (47% males; mean age: 9.8 years; grandmothers mean age: 56 years; 50% White, 50% Black; 48% married) - 9,875 children from the NHIS represent the normative sample 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Strengths and Difficulties Questionnaire - Emotional symptoms - Conduct problems - Hyperactivity and inattention - Peer problems - Prosocial behavior <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Grandchildren were reported to have more difficulties than children from the NHIS sample on each SDQ scale. - Boys were reported to have greater difficulties than girls on each scale except for emotional symptoms. - White children were reported to have more difficulties than Blacks on each scale except conduct problems and prosocial behavior. 	<ul style="list-style-type: none"> • The effect sizes for the gender and race difference analyses were small. • The measures were self-reported and only based on caregivers' perceptions. • The demographic differences between the study sample and normative sample were not examined. • The magnitudes of the difficulties were not reported. • The cross-sectional data did not allow for examination of causal paths. • The measures were self-reported and only based on caregivers' perceptions.
Smith, Palmieri, Hancock, & Richardson, 2008	<p>This study examines the linkages between family contextual factors, custodial grandmothers' psychological distress, parenting practices, and grandchildren's adjustment.</p>	<p><u>Design</u></p> <p>Cross-sectional inferential study using structural equation modeling</p> <p><u>Data</u></p> <ul style="list-style-type: none"> - Study data on custodial grandchildren were from 733 grandmothers recruited from 48 states through convenience and population-based methods 	<ul style="list-style-type: none"> - 733 grandchildren (47% males; mean age: 9.8 years; grandmothers mean age: 56 years; 50% White, 50% Black; 48% married) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Grandchildren's adjustment: Strengths and Difficulties Questionnaire • Psychological distress (i.e., depression and anxiety) • Low Nurturance • Ineffective discipline • Social support • Family dysfunction <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Dysfunctional parenting mediates the relationship between grandmothers' psychological distress and children's adjustment. This effect is greater for externalizing than for internalizing problems. - Family dysfunction, social support, and grandmother's health concurrently exert the effects on grandchildren's internalizing and externalizing problems. These effects are indirect through grandmothers' distress and dysfunctional parenting. 	<ul style="list-style-type: none"> • The measures were self-reported and only based on caregivers' perceptions.

Table 2-3 (cont.)

Study	Research Questions/Objectives	Design & Data	Sample	Measures & Outcomes	Limitations
Solomon & Marx, 1995	<ul style="list-style-type: none"> - What are some general characteristics of grandparent-headed families? - How do children raised in this type of family compare with children living in two-biological-parent and one-biological-parent family forms (e.g., sing-parent and blended families) on salient health and school adjustment indicators? - Are specific structural characteristics of grandparent-headed families related to a child's health and school adjustment? 	<p><u>Design</u> Cross-sectional comparative study using multinomial logistic regression</p> <p><u>Data</u> The 1988 National Children's Health Supplement to the National Health Interview Survey, a multistage probability sample survey on the health of the U.S. civilian, noninstitutionalized population</p>	<ul style="list-style-type: none"> - 448 grandparent-headed families (50% male; 51% White, 49% Black; 30% in poverty; child mean age: 9.6 years) - 10,086 two-biological-parent families (51% male; 88% White, 12% Black; 7% in poverty; child mean age: 7.7 years) - 5,646 one-biological-parent families (51% male; 68% White, 32% Black; 29% in poverty; child mean age: 9.3 years) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Health - Health vulnerability scale - Health conditions • School adjustment - Academic performance - Behavior problems <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Children in grandparent families and in one-parent families are older than children in two-parent families. - Grandparent and one--parent families are more likely to be Black and live in poverty than two--parent families. - Children in grandparent families have poorer academic performance than children in traditional families. - Children in grandparent families are less likely to have behavior problems at school than children in one-parent families. - Children in grandparent families are more likely to have better health than children in one-parent families. <p><u>Measures</u></p> <ul style="list-style-type: none"> • Academic performance (i.e., test scores in math, reading, science, and social studies) • Educational aspiration • Psychological well-being • Behavior problems at school <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Compared with children from two-parent families, children from non-parent families present poorer academic performance, educational aspiration, locus of control, and self-esteem, and presented more behavior and deviance problems. - There is little difference in outcomes between children in kin and non-kin households among non-parent families. - Compared with two-parent families, non-biological-parent families present poorer in all kinds of family resources. - Family resources appear to be effective mediators. - There is little gender difference in outcomes in different family structures. 	<ul style="list-style-type: none"> • The measures were self-reported and only based on caregivers' perceptions. • Internal dynamics and interactive relationships of the family were not measured. • The cross-sectional data did not provide information on family history of changes in child and caregiver well-being. • This study was based on a relatively outdated sample.
Sun, 2003	<ul style="list-style-type: none"> - This study compares the level of academic performance, psychological well-being, behavior problems, and deviance among adolescents in non-biological-parent families with those in two--parent, single-mother, single-father, stepmother, and stepfather families. - This study examines whether variation in child outcomes exists between kin and non-kin. - This study compares the levels of financial, human, cultural, and social resources in different types of households. - This study examines the extent to which differences in family resources account for possible differences in child outcomes. - This study examines the gender differences. 	<p><u>Design</u> Cross-sectional comparative study</p> <p><u>Data</u> The 1988 National Education Longitudinal Study, a nationally representative sample of eighth graders collected by the National Center for Education Statistics</p>	<ul style="list-style-type: none"> - 13,376 children in two-biological-parent families - 2,788 in single-mother families - 1,895 in biological-mother and stepfather or male partner families - 355 in single-father families - 413 in biological father and stepmother or female partner families - 354 in non-biological-parent families (265 with grandparents or relatives; 89 with nonrelative guardians) 	<p><u>Measures</u></p> <ul style="list-style-type: none"> • Academic performance (i.e., test scores in math, reading, science, and social studies) • Educational aspiration • Psychological well-being • Behavior problems at school <p><u>Outcomes</u></p> <ul style="list-style-type: none"> - Compared with children from two-parent families, children from non-parent families present poorer academic performance, educational aspiration, locus of control, and self-esteem, and presented more behavior and deviance problems. - There is little difference in outcomes between children in kin and non-kin households among non-parent families. - Compared with two-parent families, non-biological-parent families present poorer in all kinds of family resources. - Family resources appear to be effective mediators. - There is little gender difference in outcomes in different family structures. 	<ul style="list-style-type: none"> • The data did not allow examinations of important confounding factors other than resources, such as changes in family arrangements, duration of stay in households. • This study was based on a relatively outdated sample.

well as poorer academic performance and educational aspiration (Sun, 2003).

There is one exception by Solomon and Marx (1995). Solomon and Marx (1995) analyzed data from the 1988 National Health Interview Survey and find that children in grandparent families present fewer behavioral problems and better health than children in single-parent families; but these children have poorer academic performance than children in two-parent families. Note that findings from these studies on informal kinship families must be interpreted cautiously given that most of these studies are based on small-scale samples and predominately grandparent caregiver samples.

Factors associated with child well-being in kinship care families

Two recent studies have identified factors associated with children's developmental outcomes among informal kinship families, specifically grandparent-headed families (Smith & Hancock, 2010; Smith et al., 2008). Although these two studies used relatively small samples, findings from these studies suggest that grandmothers' psychological distress is indirectly associated with children's emotional and behavioral problems through poor parenting practice. An older study examines the factors associated with behavioral outcomes of children in formal kinship family and indicates that reasons for placement; child's age, gender, race; and caregiver's educational level are related to children's behavior problems (Dubowitz et al., 1993).

Beyond caregivers' psychological distress and health problems and children's demographics, other factors associated with the well-being of children among either informal or formal kinship families have not been widely examined. A review based on the socioecological framework on formal kinship care indicates that due to economic hardships experienced by kinship families, a high stress family environment in the microsystem may have negative impacts on children's physical and emotional well-being (Hong, Algood, Chiu, & Lee, 2011). Studies

have found that children in kinship care (informal and formal) are likely to live in families with low-income and material hardships, such as food and housing insecurity (Ehrle & Geen, 2002a, 2002b; Ehrle et al., 2001). In addition, studies have examined biological parent involvement within kinship families by informal versus formal kinship arrangement. One study finds that informal kinship families are twice as likely to have parental involvement than formal kinship families (Green & Goodman, 2010), while another study does not find significant difference in parental face-to-face contact for children in informal and formal kinship families (Goodman et al., 2004). Although the impact of parental involvement on children in kinship care families is unknown, one study indicates that more consistent parental contact leads to foster children's stronger attachment with their parents, and children with higher levels of attachment are less likely to have behavioral problems and to take psychiatric medication (McWey & Mullis, 2004). Thus, these factors (i.e., family income, family hardship, parental involvement) are examined as covariates potentially associated with children's outcomes in the current study.

2.2.3 Caregiving Stress among Kinship Caregivers

Caregiving or parenting stress is defined as negative psychological feelings and reactions to the demands of being a caregiver, such as difficulties accomplishing parenting tasks or perceptions of caregiving/parenting role strain (Deater-Deckard, 1998; Quittner, Glueckauf, & Jackson, 1990). It is often measured by psychological distress in the caregiving role or by factors associated with distress. Among the studies on informal kinship families, some apply the Parenting Stress Index to measure kinship caregiver's stress due to parenting or caregiving demands (Gerard, Landry-Meyer, & Roe, 2006; Gleeson, Hsieh, & Cryer-Coupet, 2016; Hayslip, Blumenthal, & Garner, 2014; Kelley, 1993; Leder et al., 2007; Lee, Clarkson-Hendrix, & Lee, 2016; Rodger-Farmer, 1999) while others use other standardized scales (e.g., the Depression,

Anxiety, and Stress Scale) or nonstandard indicators, such as caregiver burdens or challenges (Dowdell, 1995; Goodman et al., 2007; Kelley et al., 2000).

Among the eight studies that compare informal and formal kinship families, only one study reports caregiving stress among kinship caregivers (Ehrle & Geen, 2002a). This study indicates that children in formal kinship families are more likely to live with a caregiver with high aggravation (i.e., a measure of caregiving stress), compared to children in informal kinship care (35% vs. 20%), although this difference is not statistically significant. Again, there is little evidence to claim that kinship caregivers in formal kinship families experience more stress.

Research on formal kinship families has not widely examined caregiving stress among kinship caregivers. In general, caregivers in the child welfare system, including formal kinship foster caregivers and non-kin foster caregivers, have higher levels of aggravation, compared to parent caregivers (Kortenkamp & Ehrle, 2002). Also, among caregivers in the child welfare system, formal kinship caregivers may experience higher stress than other non-kin foster caregivers because of their economic disadvantage and poorer health (Harden et al., 2004; Kelley et al., 2000). Nonetheless, the degree of caregiving stress among formal kinship caregivers remains unknown.

A growing body of informal kinship family literature has indicated that informal kinship caregivers present higher levels of caregiving stress and psychological distress than the general caregiver population (Kelley 1993; Kelley et al., 2000; Lee et al., 2016). Evidence suggests that the stress stemming from a caregiving role can be attributed to caregivers' poor health (Kelley et al., 2000), children's psychological/physical problems (Dowdell, 1995; Gerard et al., 2006; Lumpkin, 2007; Sands & Goldberg-Glen, 2000a), financial difficulties (Dowdell, 1995; Waldrop & Weber, 2001), and lack of support or resources (Gleeson et al., 2016; Kelley et al., 2000;

Sands & Goldberg-Glen, 2000b). Conversely, the stress due to a caregiving role may also affect other domains of a kinship caregiver's well-being, such as poor physical health (Dowdell, 1995; Kelley et al., 2000; Leder et al., 2007), anxiety and/or depressive symptoms (Leder et al., 2007; Rodgers-Farmer, 1999), low self-esteem (Dowdell, 1995), and social isolation from their peers and in the community (Leder et al., 2007; Sands & Goldberg-Glen, 2000a).

In sum, most of the studies reviewed here are cross-sectional, so it is unclear whether kinship caregiver caregiving stress may play a role as a predictor or an outcome. Despite this limitation in the literature, results from the review suggest that kinship caregivers' increased stress has been negatively associated with multiple domains of caregiver and family well-being. Although few studies find that the caregiving experience is beneficial and rewarding for some kinship caregivers such that they have improved health behaviors (Baker & Silverstein, 2008; Minkler & Roe, 1993; Waldrop & Weber, 2001), most studies suggest that these informal kinship caregivers encounter challenges related to their caregiving demands and present higher levels of stress than other caregivers and non-caregiving counterparts, such as grandparents who do not provide primary caregiving (Musil, 1998). The demands of caregiving may also couple with the financial hardships and tremendously increase their stress, in turn, affecting the well-being of both caregivers and children, especially when most of them receive inadequate assistance and support in the community.

2.2.4 Social Engagement among Kinship Caregivers

Social engagement can be broadly defined as the extent of one's participation in social activities and social relationships of a social group (Hartwell & Benson, 2007). Social engagement has been assessed as—the frequency of involvement in social activities (e.g., going to church, volunteering, participating in social groups), number of face-to-face contacts with

close friends, the existence of a confidant relationship, and extent of reported social support—in the literature on the elderly, a socially isolated population (Saczynski et al., 2006; Seeman et al., 2011; Thomas, 2011). In particular, religion is an important resource for coping with stress and can enhance individual's extent of social engagement, social network size, and levels of social support (Berkman et al., 2000). Studies on general parental care families have found that parental participation in religious services is associated with positive parents' physical and mental well-being and positive parenting styles (Smith, 2003; Wen, 2014). Yet, research on kinship care families has not extensively studied this component, social engagement, e.g., participating in religious, volunteer, or other social activities, among caregivers or children.

Kinship care families, especially informal kinship families, tend to be economically disadvantaged and socially isolated (Minkler, 1999; Strozier & Krisman, 2007). One study indicates that compared to formal kinship families who are more likely to utilize public services, informal kinship families commonly receive support from social relationships (Goodman et al., 2007). While many kinship caregivers heavily rely on support from informal social networks, other caregivers experience decreased socialization with friends, family, or social groups as a result of the demands of caregiving (Goodman et al., 2007; Minkler, 1999). Some kinship caregivers stop participating in social activities and become isolated in their social networks. This is also because many of these kinship caregivers, especially grandparents, raise the children without support from an adult spouse/partner or children's biological parents (Leder et al., 2007).

Moreover, one study finds that increased social engagement (i.e., participating in volunteer activities and attending religious services) is related to better psychological health of kinship caregivers, especially for grandmother caregivers (Park, 2009). This may be because participating in social activities connects these caregivers to extensive social relationships and

provides them with a break from the demands of caregiving (Li, Seltzer, & Greenberg, 1997). However, with limited evidence, social engagement among informal and formal kinship caregivers needs further exploration.

In sum, while some positive effects of participating in religious and/or volunteer services on kinship caregiver well-being have been discovered, the effect of social engagement on child well-being among kinship families remains unclear. With the recognition that participating in social activities or groups may increase social support and has positive influences on caregiver and family well-being, the potential negative association between caregiving stress and child well-being might be mitigated by social engagement. Further examination is needed to understand this relationship.

2.3 Summary, Research Gaps, and Contributions of this Study

The above review of literature helps to understand profiles of children and caregivers in informal and formal kinship families. Though evidence suggests that kinship caregivers and children are likely to experience hardships, it must be stated that kinship caregiving itself is not a social problem per se (Longoria, 2009). As originally intended, kinship families do have the benefit of providing immediate support and caregiving for many children who are not cared for by their biological parent(s). Rather, the issue is that we have relatively limited knowledge about the well-being of children in the care of relatives and the factors that may be associated with a range of outcomes for these families. For instance, it could be that children enter these placements with risks that pose challenges to caregiving. Also, the kinship family hardships may be due to the lack of policy attention, public financial aid, and/or social support. Thus, an issue of concern is whether these families receive enough support, including through their social relationships and networks.

The present study attempts to address the gaps in the literature and contribute to the existing literature in the following ways. (1) This study uses a national dataset containing a relatively large sample of informal kinship families, including all types of kinship caregivers, whereas most of the existing research has utilized local and small samples with grandparent caregivers, limiting the generalizability of their findings. (2) Previous research has mainly focused on caregivers' outcomes. This study not only looks at child well-being outcomes across health, emotional, and behavioral well-being but also examines potential factors (e.g., caregiving stress and social engagement) that are associated with child well-being. (3) Prior research has not extensively compared the well-being and characteristics of children and caregivers in informal and formal kinship families. This study extends prior research and specifically investigates the similarities and differences across a broad range of kinship families.

2.4 Research Questions and Hypotheses

This study examines the following research questions in order to increase understanding of informal and formal kinship families regarding the relationships among child well-being, kinship caregiver caregiving stress, and social engagement.

Q1: How are informal and formal kinship families similar or different in terms of the well-being of children as well as the child, kinship caregiver, and family characteristics?

Q2: What is the relationship between kinship caregiver caregiving stress and child well-being?

Q3: What is the role of social engagement in the relationship between kinship caregiver caregiving stress and child well-being?

Q4: Do the relationship between caregiving stress and child well-being differ by informal and formal kinship families?

For the first research question, a hypothesis was made specifically regarding the well-being

of children between informal and formal kinship families. In terms of the well-being characteristics of children and caregivers, I hypothesized that children in formal kinship families would present worse well-being, including worse physical health and behavior, than children in informal kinship families. This hypothesis was made based on the literature that children who are placed in formal kinship families are likely to have experienced more severe adversity prior to placement, such as maltreatment, parent mental health illness, parental substance abuse, and children's own health or behavioral problems, which may already have negative influences on children's development (ACF, 2007). Also, I hypothesized that informal kinship caregivers would present higher levels of caregiving stress than formal kinship caregivers. I also hypothesized that informal kinship families would be less likely to receive public benefits. These hypotheses were made because past research and the policy trends suggest that informal kinship families receive less public assistance than formal kinship families. This burden may contribute to caregivers' psychological distress when they try to meet children's needs. There were no other hypotheses proposed on other demographic characteristics.

For the second question, I hypothesized that the relationship between caregiving stress and child well-being would be negative, meaning that higher levels of caregiving stress are related to poorer child well-being assessed in both health and psychological (behavioral and emotional problems) domains.

For the third question, I hypothesized that social engagement would be positively associated with child well-being and also would moderate the relationship between caregiving stress and child well-being. That is, a higher level of social engagement would be related to better child well-being. Social engagement would also buffer the negative relationship between caregiving stress and child well-being. That is, the relationship between caregiving stress and child

well-being should differ by the level of social engagement.

For the fourth research question, I hypothesized that these relationships would differ by informal and formal kinship families. That is, the pattern of the relationship between caregiver caregiving stress and child well-being would present differently for informal and formal kinship families.

CHAPTER 3 METHODS

3.1 Data and Sample

This study is based on a secondary data analysis and public use data from the 1999 and 2002 National Survey of America's Families (NSAF). The NSAF collected information on a nationally representative probability sample of the civilian, noninstitutionalized population under the age of 65 from 13 selected states (Alabama, California, Colorado, Florida, Massachusetts, Michigan, Minnesota, Mississippi, New Jersey, New York, Texas, Washington, and Wisconsin). This national survey was designed and implemented by the Urban Institute, and data collection was conducted in 1997, 1999, and 2002 by Westat. It was part of the "Assessing New Federalism" research project which was initiated following the welfare reform, i.e., the PRWORA. The passage of the PRWORA changed social welfare from a federal cash entitlement program for poor women with children under AFDC to a time limited set of services under state block grants (Kenney, Zuckerman, Rajan, Brennan, & Holahan, 1999; Kincaid, 1998). The Assessing New Federalism research project was designed to specifically understand policy changes and to analyze the devolution of responsibility for social welfare from the federal government to state governments. The goal of the NSAF was to facilitate studies evaluating welfare programs targeting low-income families and to specifically collect information on the health, economic, and social dimensions of the well-being of U.S. children and families (Abi-Habib, Safir, & Triplett, 2004).

The NSAF surveyed households with at least one person who was under the age of 65, including families with under-eighteen children; thus, households with only adults older than 65 were excluded. For families with at least one child under 18, extended interviews were conducted with a household adult defined as the "most knowledgeable adult" (MKA) regarding

the focal child's education and health care and to provide detailed information on the child, adult, and family settings. In the NSAF, MKA could be the child's biological parent, step parent, adoptive parent, foster parent, relatives (e.g., grandparent, uncle, aunt, cousin, sibling), or parent's partner. For each household, up to two focal children were sampled, which included one younger child aged under 5 and/or one older child aged 6 to 17. MKA were asked questions regarding the focal child(ren)'s characteristics and well-being.

The public NSAF includes data in 1997, 1999, and 2002. This survey is not longitudinal panel data; instead, data were collected at each year of these three years as a cross-sectional design, although some subjects were retained in 1999 from 1997 and resulted in some unidentifiable overlaps between 1997 round and 1999 round of data. For the current study, the 1999 and 2002 rounds of data were used. The 1997 round of the NSAF was excluded in this study because, as indicated, some of its overlaps with the 1999 data are not identifiable, and the 1997 data includes different information about family structure which makes it difficult to identify informal kinship families (Conway & Li, 2012; Safir, Scheuren, & Wang, 2000). The 1999 and 2002 rounds of the NSAF were combined to increase the sample size of target sample available for statistical analysis, and the combined dataset yielded a total of 70,270 households. The Focal Child, Family Respondent, Household, and Social Family data files were used for the analyses to include information at the child, caregiver, and family levels. Secondary data analysis using publicly-available data from the NSAF qualifies for an exempt Institutional Review Board (IRB) status.

The target study sample, informal and formal kinship families, was identified based on a survey question asked about focal child's living arrangement. This variable describes the type of parents/caregivers that each focal child lived with during the survey year. Answers for this

question are 42 types of living arrangement², five of which had to do with informal kinship family, and four of which had to do with formal kinship family. Based on the answers for this question, the current study defines “informal kinship family” as children living with non-foster relatives, including “married couple (other relatives non-foster),” “married couple (kinship care non-foster),” “non-married couple (kinship care non-foster),” “single female (kinship care non-foster),” and single male (kinship care non-foster); and the current study defines “formal kinship family” as children living with foster kinship caregivers, including “married couple (foster kinship care),” “non-married couple (foster kinship care),” “single female (foster kinship care),” and “single male (foster kinship care).” Thus, the combined 1999 and 2002 NSAF dataset include 2,303 children who lived in kinship families (approximately 3% of the original data sample), including 1,807 children in informal kinship families, where the child lived with non-foster relative(s) with no parent present in the household, and 496 children in formal kinship families, where the child lived with foster kinship caregiver(s).

Children who were five or younger (n=545) were excluded from the current study because children under the age of six did not meet the age requirements for questions on the Child

² (1) Married couple (two bio parents), (2) Married couple (two adoptive parents), (3) Married couple (bio mother step father), (4) Married couple (bio father step mother), (5) Married couple (bio mother adoptive father), (6) married couple (bio father adoptive mother), (7) Married couple (bio mother other father), (8) married couple (bio father other mother), (9) Married couple (adoptive mother step father), (10) Married couple (adoptive father step mother), (11) Married couple (step mother step father), (12) Married couple (step mother other father), (13) Married couple (step father other mother), (14) **Married couple (other relative non-foster/kin)**, (15) Married couple (foster non-kin), (16) **Married couple (foster kinship care)**, (17) **Married couple (kinship care non-foster)**, (18) Non-married couple (two bio parents), (19) Non-married couple (two adoptive parents), (20) Non-married couple (bio mother male partner), (21) Non-married couple (bio father female partner), (22) Non-married couple (adoptive mother male partner), (23) Non-married couple (adoptive father female partner), (24) Non-married couple (bio mother adoptive father), (25) Non-married couple (bio mother other father), (26) Non-married couple (bio father other mother), (27) Non-married couple (step mother partner father), (28) Non-married couple (other mother other father), (29) **Non-married couple (foster kinship care)**, (30) **Non-married couple (kinship care non-foster)**, (31) Single female (bio mother), (32) Single female (adoptive mother), (33) Single female (step mother), Single female (foster non-kin), (34) **Single female (foster kinship care)**, (35) **Single female (kinship care non-foster)**, (36) Single male (bio father), (37) Single male (adoptive father), (38) Single male (step father), (39) Single male (foster non-kin), (40) **Single male (foster kinship care)**, (41) **Single male (kinship care non-foster)**, (42) Same sex couples, (43) Other

Behavioral and Emotional Problems Scale, which was one of the outcome variables. Among the remaining sample, 135 subjects (7.68%) had missing data on at least one study variable. The missing data represented small percentages among the key variables of the current study: child well-being (3.64%-3.93%, n=26-41), caregiving stress (2.56%, n=45), and social engagement (2.56%, n=45). The number of subjects with missing data on other study variables is between 8 and 40, representing 0.46% to 2.28% of the study sample. Note that these missing values do not include variables which were already imputed organically in the publicly available dataset. These variables with imputed values are child's age, gender, race/ethnicity, limiting health condition, and health status. To address the remaining missing values, researchers suggest that missing data more than 10% are likely to be statistically biased (Bennett, 2001; Dong & Peng, 2013). Due to the few missing observations in the current study (less than 10% of the target sample), the 135 subjects with missing data were excluded and complete cases were used for the analyses (Rubin, 1976). Thus, the final study sample includes 1,623 children in kinship families, including 1,293 from informal kinship families (79.67%) and 330 from formal kinship families (20.33%).

There are some limitations to the NSAF. First, the study design is a repeated cross-sectional survey with no families followed over time, except for some overlaps between 1997 and 1999 data, making it difficult to use these data to draw causal inferences and to study the effects of time in the household or family transition. Second, the data are dated, i.e., 1999 and 2002, with the survey conducted almost 20 years ago. They represent a time in which policy change led to the devolution of social welfare responsibility. The use of these data may provide a snapshot of kinship families during that time but may not demonstrate the current trend. Moreover, devolution has taken on more of a cut to safety net for poor families. These poor kinship families in the data may have increased support that they would be eligible for now. Third, whether the

MKA was the primary caregiver of the focal child is not clearly indicated in the supporting document of the dataset. Notwithstanding, studies conducted by the Urban Institute using data from the NSAF, did not point out this limitation and explicitly referred to the MKA's as caregivers (Billing et al., 2002; Ehrle & Geen, 2002; Ehrle et al., 2001; Scarcella et al., 2003). Finally, the NSAF was not particularly designed to survey families involved in the child welfare system; thus, there are no variables which indicate the reasons for children being placed or living with relatives.

These above limitations are offset by the fact that the NSAF provides a unique opportunity to answer unknown questions among kinship families in the U.S., and it satisfies the scope of the current study. First, the NSAF oversampled low-income families in a variety of living arrangements. It has a reasonable sample size of both informal and formal kinship families. Findings from the current analyses with this nationally representative sample can be generalized to a larger kinship population in the U.S., although whether the generalizability is applicable for the current estimate should be with caution. Second, the NSAF has rich and high quality information on the child, caregiver, and family—such multidimensional data are limited in the literature. Third, the informal kinship family sample in this dataset includes a range of kinship caregivers which expands understanding of the heterogeneity of kinship caregiving relationships. Finally, the NSAF is the only publicly available dataset that includes good quality of information on children and caregivers from kinship families as well as a reasonable number of samples of informal kinship families, who are often not visible in public or administrative data. Such data are required to make accurate comparisons.

3.2 Measures

3.2.1 Dependent Variable: Child well-being

Child well-being has been operationalized as a multi-domain concept. The ACF (2012) recommends using the framework of child well-being by Lou et al. (2008) wherein the domains of child well-being include cognitive functioning, physical health and development, behavioral/emotional functioning, and social functioning. The current study focuses on two of these child well-being domains: 1) physical health and development and 2) behavioral/emotional functioning. The first domain is assessed with the indicator “child general health” while the second domain is assessed with the indicator “child behavioral and emotional problems.” Previous research studying the well-being of children with the NSAF data also examined the variables of child physical health and behavioral problems (Brown, 2004; Ehrle & Geen, 2002a; Ehrle et al., 2001; Harkness & Newman, 2005; Stewart, 2010; Wen, 2014; Yamaguchi, 2013). The following describes the child well-being measurements and how they are constructed in the literature and current study. Table 3-1 displays the correlations of the three child well-being outcomes with key study variables and covariates.

3.2.1.1 Child health

Children’s general health status was assessed by kinship caregiver perception of child health and a global measure caregiver-rated item, “*In general, would you say the child’s health is excellent, very good, good, fair, or poor?*” with a value of 1 indicating excellent health and 5 indicating poor health. In the current study, this variable was reverse recoded with a higher score indicating better health.

3.2.1.2 Child behavioral and emotional problems

Child behavior is measured by the Child Behavioral and Emotional Problems Scale which was developed for the National Health Interview Survey as an indicator of children’s mental health status (Ehrle & Moore, 1999). This scale includes six questions/items which were selected

from the Child Behavior Checklist (CBCL), a parent self-rated questionnaire about perceptions of children's competences and problems (Achenbach & Edelbrock, 1987). Note that the original school-age version of the CBCL (CBCL/6-18) contains 120 problem behavior questions (Achenbach & Rescoria, 2001). Past studies using the NSAF data have applied the Child Behavioral and Emotional Scale to represent children's behavioral and/or psychological well-being. For example, Wen (2008, 2014) and Harkness and Newman (2005) used this scale to examine children's behavioral and/or emotional well-being, while others used this scale to examine children's psychological well-being (Yamaguchi, 2013) or psychological adjustment (Stewart, 2010). Following the application of the Child Behavioral and Emotional Problems Scale in Brown (2004), the current study names the child behavior variable directly from the scale: children's behavioral and emotional problems. This variable is later discussed in the results section as "child behavior" and reported in descriptive tables as "positive behavior."

The Child Behavioral and Emotional Problems Scale has been widely used by researchers who examined the outcomes of child well-being (Brown, 2004; Ehrle & Geen, 2002a; Ehrle et al., 2001; Harkness & Newman, 2005; Stewart, 2010; Wen, 2008, 2014; Yamaguchi, 2013). A psychometric assessment has also suggested that this scale has strong psychometric properties and validity (Ehrle & Moore, 1999). However, Sturm and colleagues (2003) argued that there are two major limitations regarding this scale. First, this scale is based on a reduced set of items drawn from the CBCL, and it may be biased or less reliable than the full standardized measure (Sturm et al., 2003). Fewer items of a full set scale would result in a lower level of reliability value (i.e., Cronbach's alpha coefficient) of the subscale. Second, this scale is parent/caregiver reported; thus, children's psychological or behavioral well-being is based on caregiver's perceptions. It has biases in perspective and sensitivity. The use of multiple informants, such as

both parent/caregiver's and children's responses, can be more accurate to capture children's behavioral and emotional patterns (Achenbach, 1991).

In the NSAF, caregivers of children aged 6 and up were asked three questions: during the past month, whether the child *“doesn't get along with other kids”*; *“can't concentrate or pay attention for long”*; and *“has been unhappy, sad, or depressed.”* Additional 3 items are tailored for younger (aged 6-11) and older (aged 12-17) children. Caregivers of younger children aged 6 to 11 years were further asked whether the child *“feels worthless or inferior”*; *“has been nervous, high-strung or tense”*; and *“acts too young for his/her age.”* Caregivers of older children aged 12 to 17 years were asked whether the child *“has trouble sleeping”*; *“lies or cheats”*; and *“does poorly at schoolwork.”* Responses are “1 = often true,” “2 = sometimes true,” or “3 = never true” and were summed for each child and standardized as a scale, ranged from 6 to 18, with a higher score representing better behavior. For an unweighted sample, the reliability alpha correlation coefficient is .75 for younger children aged 6 to 11 and .72 for older children aged 12 to 17.

3.2.2 Independent Variable: Caregiving stress

Caregiving stress is measured by the Parent Aggravation Scale which has four items. This measure was derived from the Parental Stress Index and Parental Attitudes about Childrearing Scale (Blumberg et al., 2005) and was adapted by the NSAF from a component of the National Evaluation of Welfare-to-Work Strategies, the evaluation of the Job Opportunities and Basic Skills program (Ehrle & Moore, 1999). The four questions asked caregivers' perceptions about how often in the past month they felt *“the child was much harder to care for than most”*; *“the child did things that really bothered them a lot”*; *“they were giving up more of their lives to meet the child's needs than ever expected”*; and *“angry with the child.”* Responses are “1 = all of the time,” “2 = most of the time,” “3 = some of the time,” or “4 = none of the time” and were

summed to create a 16-point scale, where a lower score indicates a greater level of caregiving stress. This scale was reverse coded for interpretation purpose in the current study: meaning that a higher score indicates a higher level of caregiving stress. For an unweighted sample, the reliability alpha correlation coefficient is .54.

There are variations in how previous studies using the NSAF data describe this measure, the Parent Aggravation Scale. For example, Wen (2014) applied this scale to assess “positive parenting attitude.” The Parent Aggravation Scale was constructed in her study with a higher value indicating less aggravation or more positive attitudes toward parenting. Ehrle and Geen (2002a) and Kortenkamp and Ehrle (2002), on the other hand, described it as “parental aggravation.” In their study, the Parent Aggravation Scale was constructed with a value of 11 or less as “high aggravation.” Using the same measure, the current study described it as “caregiving stress” because questions of this scale are tailored to kinship caregivers’ perceptions of stress due to caring for the child. In the current analysis, it is constructed with a higher score indicating a higher level of caregiving stress.

3.2.3 Independent Variable or Moderator: Caregiver social engagement

In this study, kinship caregiver social engagement is measured by two indicators: volunteer activity participation and religious service attendance. In the NSAF, caregivers were asked about how often they have “*participated in volunteer activities through a religious, school, or community group*” and “*attended a religious service*” in the past year. Responses are “1 = never,” “2 = a few times a year,” “3 = a few times a month,” and “4 = once a week or more.” For the current study, these two measures were constructed in four ways: a) two independent dichotomous variables, b) a dichotomous social engagement variable, c) a standardized continuous variable, and d) a standardized categorical variable. For the first approach, responses

for the two measures were dichotomized with a value of 1 indicating participating in volunteer activities or religious services at least once a week. That is, kinship caregivers' weekly participation in social activities is considered active social engagement. This dichotomized construction is based on Park (2009) and Wen (2008). For the second approach, the variable is named "active social engagement" with a value of 1 indicating that a kinship caregiver participated in either volunteer activities or religious services at least once a week (i.e., weekly/active participation in either volunteer activities or religious services).

For the third and fourth approaches to construct standardized variables, responses for the two measures were first standardized and recoded based on how many times per year the caregiver participating in social activities, such as "never = 0 times per year," "a few times a year = 2 times per year," "a few times a month = 24 times per year," and "once a week or more = 52 times per year." The standardized responses were then summed and resulted in one standardized scale ranging from 0 to 104. For the third approach, a continuous variable was created by dividing 52, meaning that how many times per week a kinship caregiver engages in social activities (i.e., volunteer activities and/or religious services). For the last approach, a three-level social engagement variable was constructed with a value of 1 indicating low social engagement (0 to 26 times per year volunteer activity and/or religious service participation), a value of 2 indicating medium social engagement (48 to 54 times per year volunteer activity and/or religious service participation), and a value of 3 indicating high social engagement (76 or more times per year volunteer activity and/or religious service participation).

All these four approaches were tested later for the analysis. The descriptive results indicate that about 50% of caregivers actively/weekly participated in religious services while about 20% actively/weekly participated in volunteer activities (see Table 4-1). Additionally, the correlation

coefficient of these two measures is .33 which represents a low level of collinearity (see Table 3-1). Also, the combined active social engagement variable does not show significant results in the regression models in later analyses. Thus, for interpretation purpose, the two measures were not combined, and the two independent active social engagement variables (i.e., the first approach of constructing the social engagement variable) were used for all statistical analyses.

3.2.4 Covariates

3.2.4.1 Child characteristics

The analyses controlled for child demographic characteristics, including child's gender, age, race/ethnicity, and limiting health condition. ***Gender*** is a dichotomous variable with a value of 1 indicating female and 0 indicating male. ***Age*** ranges from 0 to 17, with an unweighted sample mean of 12.23 years old and a median of 13 years old for children in both types of kinship families. ***Race/ethnicity*** was recoded as a categorical variable including four racial/ethnic groups: Non-Hispanic White, Non-Hispanic Black, Hispanic, and Other, which includes Asian, Pacific Islander, American Indian, and Native American. The ***limiting health condition*** variable taps more severe health problems based on caregivers' perceptions. Caregivers were asked the question "*Does the child have a physical, learning, or mental health condition that limits his/her participation in the usual kinds of activities done by most children his/her age or limits his/her ability to do regular school work?*" This variable was dichotomized, with a value of 1 indicating children with a limiting health condition and a value of 0 indicating no limiting health condition.

3.2.4.2 Kinship caregiver characteristics

The analyses controlled for kinship caregiver demographic and well-being characteristics, including caregiver's gender, age, race/ethnicity, education, mental health, and residence of a spouse/partner in the household. Caregiver's working status could not be included due to the

large number of missing data for the study sample in the NSAF. **Gender** is a dichotomous variable with a value of 1 indicating female and 0 indicating male. **Age** ranges from 18 to 85, with an unweighted sample mean of 50.65 years old and a median of 52 years old for kinship caregivers in both types of kinship families. **Race/ethnicity** was recoded as a categorical variable including four racial/ethnic groups: Non-Hispanic White, Non-Hispanic Black, Hispanic, and Other, which includes Asian, Pacific Islander, American Indian, and Native American. **Education** was recoded as a categorical variable, with five groups: 1) under high school, 2) high school or GED, 3) some college, 4) college degree, and 5) graduate degree. Caregivers were also asked about whether they have a **spouse or partner** residing in the household, and this variable was treated as a dichotomous variable.

Caregiver's **mental health** status is measured by the adapted Mental Health Inventory used in the Medical Outcomes Study (Ehrle & Moore, 1999), a five-item scale asked caregivers that how often in the past month they have "*been a very nervous person,*" "*felt calm and peaceful,*" "*felt downhearted and blue,*" "*been a happy person,*" and "*felt so down in the dumps that nothing could cheer them up.*" For each item, responses are "1 = all of the time," "2 = most of the time," "3 = some of the time," or "4 = none of the time." The second and fourth items are reverse scored. All responses were summed to create a standardized scale with scores ranging from 5 to 20 representing caregiver's mental health, with a higher score indicating better mental health. For an unweighted sample, the reliability alpha correlation coefficient is .74.

3.2.4.3 Family characteristics

The analyses also controlled for family characteristics, including family structure, family income level, family hardships, receipt of public benefits, and parental involvement. These variables are reliable indicators of family stressors for kinship caregivers. **Family structure** is

two continuous variables defined as the number of children and/or relatives in the household.

Family income level is a categorical variable indicating the family poverty level with five categories: “family income less than 50% federal poverty level,” “family income between 50% and 100% federal poverty level,” “family income between 100% and 150% federal poverty level,” “family income between 150% and 200% federal poverty level,” “family income between 200% and 300% federal poverty level,” and “family income more than 300% federal poverty level.” This variable was recoded as two dichotomous variables. One variable was defined as “low income,” with a value of 1 indicating family income under 200% federal poverty level and representing families living in low income. The other variable was defined as “poverty,” with a value of 1 indicating family income under 100% federal poverty level and representing families living under the poverty line. The two constructed variables were tested, and the low-income variable evidenced a higher level of variation and was later used for the multivariate analyses.

Family hardships are assessed by two measures: housing instability and food insecurity. Housing instability is assessed as caregiver self-reported difficulty in paying rent or utility bills. In the NSAF, caregivers were asked whether the family was “*ever not able to pay mortgage, rent, or utility bills*” over the last 12 months. This variable is a dichotomous variable with a value of 1 indicating “ever had housing instability during last year.” For food insecurity, caregivers were asked about family’s food situation over the last 12 months, regarding “*ever cut the size of meals or skips meals because there was not enough money for food*”; “*food did not last, and respondent did not have money to get any more*”; and “*worrying whether food would run out before getting money to buy more.*” These questions are from the U.S. Department of Agriculture’s scale to ascertain food insecurity and hunger (Nord, 2012). Responses for the first question are “1 = yes” and “2 = no,” and responses for the other two questions are “1 = often true,” “2 = sometimes

true,” and “3 = never true.” These items were constructed as one dichotomous variable, with a value of 1 indicating “ever had food insecurity during last year.”

Receipt of public benefits is assessed by whether any of the family members received public benefits, including (1) public assistance (e.g., cash assistance received from the welfare office under the Temporary Aid to Needy Families; General Assistance or General Relief; Emergency Assistance or forms of other one-time cash payments; vouchers or coupons received from welfare offices), (2) food stamps, (3) social security, (4) Supplemental Security Income, (5) and other income benefit (e.g., housing assistance; aid received through the Low-Income Home Energy Assistance Program; Earned Income Tax Credit; scholarships; incentive payments for work expenses; other property income). Each public benefit was treated as a dichotomous variable, with a value of 1 indicating ever received public assistance/benefits in the year prior to the survey. These indicators were then summed as a count variable indicating how many types of public assistance the family received, ranging from 0 to 5. Since about half of the families did not receive any public benefits, the public assistance receipt variable was then recoded as a dichotomous variable with a value of 1 indicating the family received one or more types of public benefits.

Biological parental involvement is measured by two indicators: parental visitation and parental financial support. Parental in-person visitation is assessed as how often the child saw either parent during the last 12 months, with a six-point scale ranging from “1 = not at all,” “2 = more than once a week,” “3 = about once a week,” “4 = one to three times a month,” “5 = one to 11 times a year,” and “6 = three months or more.” For the current study, responses for this measure were first standardized and recoded based on how many times per year, such as “not at all = 0 times per year,” “more than once a week = 104 times per year,” “about once a week = 52

times per year,” “one to three times a month = 24 times per year,” “one to 11 times a year = 6 times per year,” and “three months or more = 2 times per year.” The standardized responses for mother and father visitations were averaged. The parental visitation variable was finally constructed and treated as a continuous variable with a higher value indicating either biological parent visiting the child more often. The other parental involvement variable, parental financial support is assessed as whether the household received financial support from either biological parent. This variable was dichotomized with a value of 1 indicating that the kinship care family receives financial support from either biological mother or father.

3.3 Statistical Analysis

Statistical analyses for the current study were conducted using Stata 11.2 SE version (StataCorp, College Station, TX). As indicated, on account of few missing data (7.68%), this study underwent listwise deletion, and the analysis included complete cases only (Bennett, 2001). T-tests and Chi-square tests were conducted to evaluate for differences between samples with missing data and complete cases. Test results revealed that samples with missing values were different from the final study sample for a few variables only, including caregiving stress, child age, family income poverty level, family food stamps receipt, and parental financial support at the 95% significance level. Observations with missing values presented lower levels of caregiving stress, but these families were likely to live in poverty and less likely to receive food stamps and parental financial support. Although there were very few observations with missing data and this sample represented a small proportion, the exclusion of these observations may leave out these more vulnerable families.

Table 3-1: Correlation of Study Variables

	1	2	3	4	5	6	7
1. Child positive health	—						
2. Younger child positive behavior	.27 ***	—					
3. Older child positive behavior	.24 ***	—	—				
4. Caregiving stress	-.16 ***	-.49 ***	-.44 ***	—			
5. Social engagement weekly	-.002	-.02	.04	-.03	—		
6. Volunteer activities participation weekly	-.02	.01	-.002	-.03	.48 ***	—	
7. Religious services attendance weekly	-.004	-.03	.05	-.03	.93 ***	.33 ***	—
8. Child gender	-.004	.19 ***	.13 ***	-.08 **	.04	.07 **	.03
9. Child age	-.02	.02	.01	-.01	-.08 ***	-.05 *	-.07 **
10. Child race/ethnicity	-.11 ***	-.03	-.02	.03	.06 *	.02	.07 **
11. Child limiting health condition	-.21 ***	-.40 ***	-.37 ***	.19 ***	.02	.05	.01
12. Caregiver gender	-.03	-.02	-.08 **	.06 *	.09 ***	.02	.10 ***
13. Caregiver age	-.09 ***	-.003	-.004	.08 **	.10 ***	.02	.11 ***
14. Caregiver race/ethnicity	-.11 ***	.08 *	-.001	.02	.08 **	.04	.09 ***
15. Caregiver education	-.15 ***	.07	.05	-.05	.05 *	.09 ***	.04
16. Caregiver mental health	.19 ***	.23 ***	.30 ***	-.35 ***	-.12 ***	.06 *	.13 ***
17. Caregiver spouse/partner residence	.09 **	.05	.07	-.12 ***	.03	.06 *	.01
18. Family number of relatives residence	-.01	.002	.01	.07 **	.08 **	.04	.06 **
19. Family number of children residence	-.02	-.06	.02	.11 ***	.05 *	.03	.04
20. Family low income	-.14 ***	-.004	-.01	.06 *	-.02	-.03	-.01
21. Family housing instability	-.12 ***	-.09 *	-.20 ***	.15 ***	.01	-.01	-.002
22. Family food insecurity	-.19 ***	-.14 ***	-.18 ***	.19 ***	-.03	-.05 *	-.01
23. Family receipt of public benefit	-.12 ***	-.09 *	-.12 ***	.13	.01	-.02	.02
24. Family parental visitation	-.02	.10 **	.09	-.04	-.04	-.04	-.04
25. Family parental financial support	-.03	.10 **	.10	-.10 ***	-.05 *	-.05 *	-.06 *

* $p < .05$; ** $p < .01$; *** $p < .001$

A Person correlation analysis was performed on the three child well-being outcomes, caregiving stress, social engagement, and all other study variables. As shown in Table 3-1, the correlation coefficients indicate the level of study variables correlating to each key variable examined in this study, and the p-values suggest the significance levels of the correlation.

The skewness and kurtosis of the child well-being variables were calculated to check the normality of these measures. Skewness for child health, child behavior for younger children, and child behavior for older children measurements are -0.71, -1.05, and -0.79, respectively. Kurtosis for child health, child behavior for younger children, and child behavior for older children measurements are 2.83, 4.18, and 3.15, respectively. These values suggest that the distributions of these three child well-being outcomes are not highly skewed (i.e., a liberal criterion of normality that skewness is between 2 and -2 and kurtosis is between 7 and -7 according to Bryne, 2010). Thus, Ordinary Least Square (OLS) regression is applicable for the current analysis. This method, OLS is a common statistical technique used in multivariate analysis to obtain a linear unbiased estimator of a continuous outcome variable (Dismuke & Lindrooth, 2006). OLS regression is also considered a robust analytical method for this large sample size study (Lumley, Diehr, Emerson, & Chen, 2002). R-squared statistics were used to determine the goodness of fit of the linear regression model. R-squared can be explained as the proportion of the variation of the dependent or outcome variable that can be explained by the independent variable(s) (Dismuke & Lindrooth, 2006). Later in this section, comparison in R-squared statistics is described. Moreover, OLS regression was also employed in previous studies to examine the same variables of child health and child behavior (Brown, 2004; Harkness & Newman, 2005; Stewart, 2010; Wen, 2008, 2014; Yamaguchi, 2013). Building on the analytical method used in these past studies to examine child health and behavior variables, the current study further

considers including the national weight and state fixed-effects in the regression models.

To obtain national-level estimates and to produce inferences applicable and representative of the kinship family in the United States, the current study used the focal child full sample national weight for all analysis (Abi-Habib et al., 2004; Brick, Ferraro, Strickler, Rauch, & Passel, 2004). State fixed-effects were also considered in the OLS regression models by including dummy state variables into multivariate regression models. The state fixed-effect model was used to control for variations between states because the context of this dataset (i.e., NSAF) was when the federal government gave more power and responsibility to the states for providing welfare benefits, and thus social welfare programs and service delivery may vary by state. Also, state fixed-effect regressions were considered in this study because data were collected from thirteen states in the U.S. Controlling for characteristics of different states would fix the state-level effects that might affect the outcome variables.

To answer the first research question (i.e., How are informal and formal kinship families similar or different in terms of child, caregiver, and family characteristics?), descriptive statistics and bivariate analyses were conducted and involved the complete study sample by informal and formal kinship care families. The study employed T-tests on the differences in continuous variables (e.g., child well-being variables, child age, caregiver mental health status, etc.) between children/caregivers in informal and formal kinship families. Chi-square tests were conducted for the differences in categorical variables (e.g., social engagement variables, child race/ethnicity, family income level, etc.) between informal and formal kinship families.

For answering the remaining research questions, the study involved a set of hierarchical/stepwise multivariate OLS regression models. The following describes the steps of stepwise multivariate OLS regression models. Study variables were entered the regression model

by steps and clusters. Four models were estimated for the child well-being variables accounting for different clusters of covariates to answer the second research question: What is the relationship between caregiving stress and child well-being? In the first model, the caregiving stress variable was entered as the only factor associated with child well-being outcomes. Indeed, *Model 1* refers to the regression of child well-being outcomes on caregiving stress. For *Model 2*, a cluster of child characteristic variables was entered as factors associated with child well-being outcomes. This model demonstrates the regression of child well-being outcomes on caregiving stress and child characteristics as covariates. For *Model 3*, a cluster of kinship caregiver characteristic variables was entered to Model 2. This model demonstrates the regression of child well-being outcomes on caregiving stress as well as child and caregiver characteristics as covariates. For *Model 4*, a cluster of family characteristic variables was entered to Model 3. This model demonstrates the regression of child well-being outcomes on caregiving stress as well as child, caregiver, and family characteristics as covariates. The changes in R-squared values between models were evaluated to measure the goodness of fit and determine whether child, caregiver, and/or family characteristics have additional explanatory values associated with child well-being outcomes, in addition to caregiving stress.

To answer the third and fourth research questions specifically, interaction terms were created by multiplying the mean-centered caregiving stress variable and potential moderators (i.e., social engagement and type of kinship family). Then, they were entered in the Model 4, and additional Models 5 and 6 were created. To answer the third research question (i.e., What is the role of social engagement on the relationship between caregiving stress and child well-being?), the direct effect and the moderating effect of the two social engagement variables were examined (i.e., Model 5, Model 6a, and Model 6b). Thus, this model demonstrates the regression of child

well-being outcomes on caregiving stress, social engagement, and the interaction of caregiving stress and social engagement, accounting for child, caregiver, and family characteristics as covariates as well as state fixed-effects.

Similarly, to examine the fourth research question, whether the relationship between caregiving stress and child well-being differs by type of kinship family, an interaction variable of caregiving stress by two-type kinship family was created. Then, this interaction variable was entered to Model 4. Thus, this *Model 6c* demonstrates the regression of child well-being outcomes on caregiving stress, covariates, and the interaction of caregiving stress and kinship family type as well as state fixed-effects.

R-squared statistic for each model were compared for model fit to determine which model includes the most explanatory power associated with child well-being outcomes. Effective sizes for all models were calculated. These calculations were based on squared multiple partial correlations (R^2), as the proportion of explained variance to unexplained variance of the dependent variable. According to Cohen (1992), an effect size .02 is considered small effect, .15 is a medium effect, and .35 is a large effect. The R^2 is displayed in the tables and effect sizes are reported in the results section.

CHAPTER 4 RESULTS

This chapter reports analysis findings and presents by research questions. First, this chapter presents the descriptive statistics of the study sample—1,623 kinship care families—for all study variables. The next subsection illustrates the results of the bivariate analysis that answered the first research question. It examined differences in the variables between informal and formal kinship families. Then, this chapter reports the results of the multivariate Ordinary Least Square (OLS) regressions that answered the second research question. It examined the relationship between caregiving stress and child well-being. Then, the results of adding social engagement as a factor and a moderator for the models are reported to answer the third research question. Finally, this chapter reports the results of adding the interaction of caregiving stress and kinship family type and further examinations for the fourth research question.

4.1 Descriptive Statistics

Table 4-1 presents the descriptive statistics, including characteristics of full study sample on the weighted mean and standard deviations or percentages. The following section presents the demographic characteristics of children, caregivers, family, and well-being characteristics of children and caregivers. As the table indicates, children in all kinship families (informal and formal) were aged 12.1 years old on average. In terms of gender, boys and girls represented almost equal proportions (50.16% vs. 49.84%). The majority of children were non-Hispanic Black (42.15%), followed by non-Hispanic White (37.98%), Hispanic (17.02%), and other racial/ethnic groups (2.86%). About 19% of the children cared for in kinship families had limiting health conditions.

Table 4-1: Weighted Descriptive Statistics of the Full Sample (N = 1,623)

Variable	%	M	SD	Range
<i>Dependent variables</i>				
Child well-being				1-5
Health (N = 1,623)		3.98	.97	
Positive behavior				6-18
Children aged 6-11 (n=667)		15.10	2.45	
Children aged 12-17 (n=956)		15.43	2.28	
<i>Independent variables</i>				
Caregiving stress		6.89	2.44	4-16
Social engagement				
Standardized social engagement		.84	.68	0-2
Active social engagement	53.69			
Low social engagement	43.67			
Medium social engagement	30.59			
High social engagement	25.72			
Volunteer activity participation	19.70			
Religious service attendance	49.51			
<i>Child characteristics</i>				
Gender				
Male	50.16			
Female	49.84			
Age		12.10	3.50	6-17
Race/ethnicity				
Non-Hispanic White	37.98			
Non-Hispanic Black	42.15			
Hispanic	17.02			
Other	2.86			
Limiting health condition	19.04			
<i>Caregiver characteristics</i>				
Gender				
Male	13.74			
Female	86.26			
Age		48.60	13.09	18-85
Race/ethnicity				
Non-Hispanic White	41.23			
Non-Hispanic Black	42.02			
Hispanic	12.82			
Other	3.94			

Table 4-1 (cont.)

Variable	%	M	SD	Range
Education				
Under HS	23.83			
HS or GED	34.02			
Some college	16.19			
College degree	19.50			
Graduate degree	6.46			
Mental health		15.54	3.01	5-20
Spouse/partner in the household	51.73			
<i>Family characteristics</i>				
Number of relative		3.18	2.00	0-14
Number of children		2.53	1.55	1-9
Family income level				
Poverty (under 100% FPL)	31.33			
Low income (under 200% FPL)	60.79			
Family hardships				
Housing instability	24.09			
Food insecurity	38.36			
Public benefit receipt				
One or more types	58.94			
Public Assistance	21.24			
Food Stamps	26.02			
Supplemental Security Income	19.10			
Social Security	27.14			
Other payments (e.g., EITC)	3.43			
Parental involvement				
Parental visitation		34.62	33.90	0-104
Parental financial support	43.69			

Note: % = Percentage; M = Mean; SD = Standard deviation; HS = High school; FPL = Federal Poverty Level; EITC = Earned Income Tax Credit

In terms of kinship caregiver demographic characteristics, the majority of caregivers were female (86.26%). They were 48.6 years old on average, ranging from 18 to 85 years old. The majority of caregivers were non-Hispanic Black (42.02%), followed by non-Hispanic White (41.23%), Hispanic (12.82%), and other racial/ethnic groups (3.94%). More than half of the caregivers reported that their educational level did not exceed high school (57.85%). Just over half reported that they had a spouse or partner residing together in the household (51.73%).

On family demographic characteristics, over half (60.79%) of kinship families were low income, and about one-third (31.33%) lived in poverty. An approximate range of 24% to 38% of kinship families experienced family hardships, including housing instability and food insecurity. However, only about one-fifth to one-quarter of kinship families received each type of public benefits, food stamps, Supplemental Security Income (SSI), social security, and/or other payments. Over half (58.94%) of kinship families received at least one type of public assistance benefits. For the kinship family structure, on average, there were about three relatives and two children in the household. In terms of parental involvement in the kinship family, children saw either biological parent about 34 times per year, meaning a biweekly parental visitation. Also, 43.69% of kinship families received financial support from at least one of the child's parents.

In terms of the well-being of children (i.e., physical health and psychological well-being) examined in this study, Table 4-1 indicates the average value for a child's health as 3.98. This score suggests that children in kinship families were reported to be in very good health on average. The average behavioral problems' index score for younger children (aged 6-11) was 15.1, and the average score for older children (aged 12-17) was 15.43. The benchmark of a reported score under 12 identified a child with a high level of behavioral and emotional problems. Based on this benchmark, among kinship families, 15.33% of the younger children and 11.94%

of the older children were identified with high levels of behavioral problems. These statistics are not reported in the table.

On the matter of kinship caregivers' well-being and social engagement, the descriptive findings suggest that kinship caregivers presented an average score of 6.89 on caregiving stress. A caregiving stress score equal to 9 or above identified high aggravation. Based on this benchmark, about one-fifth (21.61%) of kinship caregivers were highly aggravated and with high levels of caregiving stress. The average mental health score for caregivers was 15.54 (i.e., 77.7 out of 100), meaning a moderate to good level of mental health status. In terms of caregiver social engagement, on average, kinship caregivers participated in social activities, i.e., volunteer activities and/or religious services, 0.84 times per week or 44.18 times per year, meaning almost once per week. Also, more than half (53.69%) kinship caregivers actively engage in volunteer or religious activities at least once per week. After the standardized measure was broken down, most kinship caregivers reported low social engagement (43.69%), followed by medium engagement (30.59%) and high engagement (25.72%). Specifically, approximately half (49.51%) of kinship caregivers actively attended religious services; they engaged in religious services at least once per week. About one-fifth (19.7%) of caregivers were active participants in volunteer activities; they engaged in volunteer activities at least once per week.

4.2 Bivariate Analysis: Research Question 1

Research question 1 considered differences and similarities between informal and formal kinship families. Bivariate analysis (i.e., T-tests and Chi-square tests) was conducted to compare the characteristics of the two types of kinship groups. Table 4-2 presents estimates for informal and formal kinship families with the weighted mean, standard deviation, and/or percentage on all study variables. As Table 4-2 indicates, there are both similarities and differences between

informal and formal kinship families. The two kinship family groups were similar in the following demographic characteristics: child's gender; caregiver's gender, age, educational level, and mental health status; and family structure and hardships.

Table 4-2: Bivariate Analysis between Informal and Formal Kinship Families

Variable	Total (N=1,623)	Informal Kinship (n=1,293)	Formal Kinship (n=330)	Statistics Examining Difference
<i>Dependent variables</i>				
Child well-being (M/SD)				
Health (N = 1,623)	3.98 (.97)	4.01 (.97)	3.89 (.96)	t=1.05
Positive behavior				
Children aged 6-11 (n=667)	15.10 (2.45)	15.51 (2.30)	13.84 (2.46)	t=4.69 ***
Children aged 12-17 (n=956)	15.43 (2.28)	15.51 (2.12)	15.00 (2.96)	t=1.24
<i>Independent variables</i>				
Caregiving stress (M/SD)	6.89 (2.44)	6.80 (2.34)	7.22 (2.75)	t=1.22
Social engagement (%)				$\chi^2=.07$
Standard social engagement	44.18 (35.51)	43.65 (35.47)	46.25 (35.58)	t=.58
Active social engagement	53.69	52.84	57.03	$\chi^2=.54$
Volunteer activity participation	19.70	19.46	20.68	$\chi^2=.06$
Religious service attendance	49.51	48.32	54.19	$\chi^2=1.03$
<i>Child characteristics</i>				
Gender (%)				$\chi^2=.27$
Female	49.84	50.45	47.41	
Age (M/SD)	12.10 (3.50)	12.30 (3.54)	11.32 (3.20)	t=2.72 **
Race/ethnicity (%)				$\chi^2=3.15 *$
Non-Hispanic White	37.98	41.09	25.73	
Non-Hispanic Black	42.15	38.86	55.08	
Hispanic	17.02	17.28	16.02	
Other	2.86	2.78	3.17	
Limiting health condition (%)	19.04	15.32	33.67	$\chi^2=15.59 ***$

Table 4-2 (cont.)

Variable	Total (N=1,623)	Informal Kinship (n=1,293)	Formal Kinship (n=330)	Statistics Examining Difference
<i>Caregiver characteristics</i>				
Gender (%)				$\chi^2=.61$
Female	86.26	85.92	87.58	
Age (M/SD)	48.60 (13.09)	48.26 (13.05)	49.93 (13.16)	t=1.10
Race/ethnicity (%)				$\chi^2=3.11$ *
Non-Hispanic White	41.23	44.33	29.06	
Non-Hispanic Black	42.02	38.65	55.26	
Hispanic	12.82	13.05	11.89	
Other	3.94	3.97	3.79	
Education (%)				$\chi^2=.47$
Under HS	23.83	23.99	23.21	
HS or GED	34.02	33.99	34.18	
Some college	16.19	15.60	18.52	
College degree	19.50	19.26	20.44	
Graduate degree	6.46	7.17	3.65	
Mental health (M/SD)	15.54 (3.01)	15.46 (3.05)	15.83 (2.86)	t=1.22
Spouse/partner in the household (%)	51.73	54.16	42.19	$\chi^2=4.46$ *
<i>Family characteristics</i>				
Number of relatives (M/SD)	3.18 (2.00)	3.13 (1.95)	3.38 (2.15)	t=.89
Number of children (M/SD)	2.53 (1.55)	2.47 (1.54)	2.77 (1.58)	t=1.50
Family income level (%)				
Poverty (under 100% FPL)	31.33	34.23	19.92	$\chi^2=9.90$ **
Low income (under 200% FPL)	60.79	59.51	65.80	$\chi^2=1.36$
Family hardships (%)				
Housing instability	24.09	22.53	30.22	$\chi^2=2.10$
Food insecurity	38.36	38.44	38.07	$\chi^2=.004$
Public benefit receipt (%)				
One or more types	58.94	54.39	76.84	$\chi^2=18.75$ ***
Public Assistance	21.24	15.35	44.40	$\chi^2=37.59$ ***
Food Stamps	26.02	22.39	40.31	$\chi^2=11.17$ ***
Supplemental Security Income	19.10	18.34	22.08	$\chi^2=.69$
Social Security	27.14	25.26	34.52	$\chi^2=3.21$ *
Other payments (e.g., EITC)	3.43	4.00	1.22	$\chi^2=4.49$ *
Parental involvement				
Parental visitation (M/SD)	34.62 (33.90)	38.03 (34.26)	22.04 (29.30)	t=4.80 ***
Parental financial support (%)	43.69	47.88	28.14	$\chi^2=11.28$ ***

Note: % = Percentage; M = Mean; SD = Standard deviation; HS = High school; FPL = Federal Poverty Level; EITC = Earned Income Tax Credit

* p < .05; ** p < .01; *** p < .001

Notably, about half of the children in informal and formal kinship families were girls (50.45% vs. 47.41%). In informal and formal kinship families, caregivers were most often female (85.92% vs. 87.58%). Caregivers from both kinship families were approaching ages in their 50s, with an average age of 48.26 for informal kinship caregivers, and an average age of 49.93 for formal kinship caregivers. Moreover, informal and formal kinship caregivers tended to have a low level of educational attainment. That is, about 58% of informal kinship caregivers and 57% of formal kinship caregivers reported earning a high school degree or less. Both informal and formal kinship caregivers also reported similar mental health levels (15.46 vs. 15.83). In terms of family structure, both informal and formal kinship families reported about 3 relatives and 2.5 children in the household. Also, about one-third of either informal or formal kinship families revealed hardships: housing instability (22.53% of informal kinship families vs. 30.22% of formal kinship families) and food insecurity (38.44% of informal kinship families vs. 38.07% of formal kinship families).

Findings from the bivariate analysis also indicate that informal and formal kinship families were significantly different in the following demographic characteristics: child's age, race/ethnicity, and limiting health condition; caregiver's race/ethnicity, the presence of a spouse/partner in the household; and family's income level, public benefit receipt, and parental involvement. As regards the child's demographics, children in informal kinship families were one year older than children in formal kinship families (12.3 vs. 11.32). Children in informal kinship families were likely to be non-Hispanic White (41.09%), while children in formal kinship families were more likely to be non-Hispanic Black (55.08%). More children in formal kinship families were reported to have a limiting health condition, compared to children in informal kinship families (33.67% vs. 15.32%). Regarding kinship caregivers' demographics,

informal and formal caregivers were significantly different in race/ethnicity and whether having a spouse or partner in the household. Compared to formal kinship caregivers, informal kinship caregivers were more likely to be non-Hispanic White and have a spouse or partner in residence (54.16% vs. 42.19%).

For family characteristics, informal and formal kinship families demonstrated differences in family income levels, public benefit receipts, and parental involvement. Compared to formal kinship families, informal kinship families were more likely to live in poverty (34.23% vs. 19.92%), but they were less likely to receive public benefits. For example, about half (54.39%) of informal kinship families received one or more types of public benefits, compared to about three-quarters (76.84%) of formal kinship families. Also, informal kinship families were significantly less likely to receive public assistance (15.35% vs. 44.4%) and food stamps (22.39% vs. 40.31%). However, informal kinship families were slightly more likely to receive other types of payments such as Earned Income Tax Credit and housing assistance (4.00% vs. 1.22%). As regards parental involvement in kinship families, children in informal kinship families were visited by their biological parent(s) 16 more times per year than those in formal kinship families (38.03 vs. 22.04). Additionally, almost half (47.88%) of informal kinship families received financial support from either of the child's parent, compared to less than one-third (28.14%) of formal kinship families.

Table 4-2 also regards the child and caregiver well-being characteristics and social engagement variables. The current study reveals few significant differences between informal and formal kinship families as regards these key variables, except for younger children's (aged 6-11) behavioral problems. Children in informal families presented slightly better health levels (4.01 vs. 3.90 on average), compared to children in formal kinship families, but this result was

not statistically significant. Also, younger children (aged 6-11) in informal kinship families presented significantly better behaviors (15.51 vs. 13.84 on average), compared to younger children in formal kinship families. Differences in behavioral problems were not found for older children (aged 12-17).

In terms of kinship caregivers' levels of caregiving stress, informal kinship caregivers reported a slightly lower level of caregiving stress than formal kinship caregivers (6.80 vs. 7.22), but this result was not significant. As regards social engagement of informal and formal kinship caregivers, informal kinship caregivers engaged in either volunteer activities or religious services about 44 times per year while formal kinship caregivers engaged in social activities about 46 times per year. This difference was not statistically significant. More specifically, about one-fifth of caregivers (19.46% of informal kinship caregivers vs. 20.68% of formal kinship caregivers) participated in volunteer activities weekly. Moreover, about half of the caregivers (48.32% of informal kinship caregivers vs. 54.19% of formal kinship caregivers) attended religious services weekly. These results were not significantly different.

Research question 1 summary

These bivariate findings partially support the hypotheses. For example, children in informal kinship families present better levels of psychological well-being (i.e. behavioral and emotional problems) than children in formal kinship families. In contrast to the research hypothesis, however, formal kinship caregivers present slightly higher levels of caregiving stress; although, this difference was not statistically significant. Further, the findings on family characteristics support the research hypotheses that informal kinship families were more likely to live in poverty and less likely to receive public benefits.

4.3 Multivariate Analysis: Research Question 2

This study conducted weighted multivariate Ordinary Least Square (OLS) regressions to answer the second research question: What is the relationship between caregiving stress and child well-being? Tables 4-3, 4-4, and 4-5, respectively, present results of the hierarchical/stepwise OLS regression analysis for child health, younger child behavior, and older child behavior. For each table, Model 1 consisted of the caregiving stress variable only. Further, Model 2 controlled child characteristics, Model 3 added caregiver characteristics, and Model 4 added family characteristics. State fixed-effects were considered in all models. The differences in R-squared between models were compared. The following presents results for research question 2, according to different child well-being outcomes.

Table 4-3 presents outcomes regarding children's health among kinship families. This table indicates results for Model 1 showing that the negative relationship between caregiving stress and children's health is marginally significant ($p < .10$); however, the effect size is .008, representing low power. After controlling for child, caregiver, and family characteristics and adjusting for state fixed-effects, the relationship between caregiving stress and child health became non-significant, displayed in Model 2, Model 3, and Model 4 of Table 4-3. Rather, children's health is significantly associated with other child and caregiver characteristics, including child's limiting health condition and kinship caregiver's age, education, and mental health status, as shown in Model 3 and Model 4 of Table 4-3. The changes in R-squared also indicate that child and caregiver characteristics explain a greater percentage of child health outcome variation. For instance, when a child's kinship caregiver was younger ($p < .01$), had an education level beyond high school ($p < .05$), and reported healthier mental health status ($p < .001$), the child was reported to be in better health. Further, a test was conducted for younger

(aged 6-11) and older (aged 12-17) child groups separately, and results reveal consistently that caregiving stress is not significantly related to child health.

Table 4-3: Weighted OLS Regression of Child Health (aged 6-17) (N = 1,623)

Variable	Model 1	Model 2	Model 3	Model 4
	b (SE)	b (SE)	b (SE)	b (SE)
Caregiving stress	-.04 (.02) †	-.02 (.02)	.002 (.02)	.001 (.02)
<i>Child characteristics</i>				
Gender (male)		-.04 (.07)	-.03 (.07)	-.03 (.07)
Age		-.01 (.01)	-.20 (.01)	-.001 (.01)
Race/ethnicity (White)				
Black		-.20 (.08) *	-.04 (.24)	.03 (.24)
Hispanic		-.39 (.12) **	-.20 (.16)	-.19 (.16)
Other		.06 (.26)	-.29 (.27)	-.36 (.26)
Limiting health condition		-.54 (.10) ***	-.55 (.10) ***	-.56 (.10) ***
<i>Caregiver characteristics</i>				
Gender (male)			.17 (.11)	.16 (.11)
Age			-.01 (.003) **	-.01 (.003) **
Race/ethnicity (White)				
Black			-.26 (.24)	-.33 (.23)
Hispanic			-.25 (.18)	-.32 (.18) †
Other			.19 (.23)	.15 (.21)
Education (less than high school)				
HS or GED			.25 (.10) *	.26 (.10) *
Some college			.25 (.11) *	.24 (.11) *
College degree			.22 (.12) †	.25 (.13) †
Graduate degree			.17 (.16)	.17 (.15)
Mental health			.05 (.01) ***	.05 (.01) ***
Spouse/partner in the household			-.16 (.07) *	-.18 (.08) *
<i>Family characteristics</i>				
Number of relatives				.06 (.03) †
Number of children				-.08 (.05) †
Family low income				.06 (.08)
Housing instability				.05 (.10)
Food insecurity				-.01 (.09)
Public assistance receipts				.04 (.08)
Parental visitation				.001 (.001)
Parental financial support				-.16 (.08) *
Constant	5.26 (.13) ***	3.55 (.42) ***	2.95 (.53) ***	2.91 (.55) ***
R ²	.113	.169	.229	.241

Note: Reference groups are denoted in parentheses.

All models are adjusted for state fixed-effects.

† p < .10; * p < .05; ** p < .01; *** p < .001

Table 4-4 presents outcomes for younger children's behavior among kinship families. This table indicates results for Model 1 that caregiving stress is negatively related to children's positive behavior for the younger child group ($p < .001$). After controlling for the variables of child, caregiver, and family characteristics and adjusting for state fixed-effects, Models 2, 3, and 4 reveal consistent results that higher levels of caregiving stress are related to worse behavior among younger children ($p < .001$; effect size: .88 for the full Model 4). Specifically, the coefficient reflects the changes in child behavior score for every one unit decrease in caregiving stress of kinship caregivers. For example, this finding suggests that 0.41 points decrease in caregiving stress is expected for one point increase in the score of younger child behavior scale. Besides, child and caregiver characteristics explain a greater percentage of the outcome variation than the cluster of family characteristics. There are other characteristics, such as child's gender and limiting health condition as well as kinship caregiver's mental health status found to be associated with younger children's behavior. For example, younger children with a limiting health condition, or who were male, presented worse behavior ($p < .05$); and children with a kinship caregiver with better mental health presented better behavior ($p < .01$).

Table 4-4: Weighted OLS Regression of Younger Child Positive Behavior (aged 6-11) (n = 667)

Variable	Model 1	Model 2	Model 3	Model 4
	b (SE)	b (SE)	b (SE)	b (SE)
Caregiving stress	-.48 (.08) ***	-.40 (.07) ***	-.39 (.07) ***	-.41 (.07) ***
<i>Child characteristics</i>				
Gender (male)		.71 (.31) *	.74 (.29) *	.77 (.28) **
Age		.06 (.09)	.03 (.08)	.04 (.09)
Race/ethnicity (White)				
Black		.06 (.28)	-.28 (.47)	-.03 (.56)
Hispanic		.64 (.54)	1.01 (.89)	1.05 (.96)
Other		-.09 (.74)	-.31 (.97)	-.39 (1.06)
Limiting health condition		-1.53 (.47) **	-1.50 (.45) **	-1.57 (.45) ***
<i>Caregiver characteristics</i>				
Gender (male)			-.08 (.39)	-.23 (.39)
Age			-.01 (.01)	-.01 (.01)
Race/ethnicity (White)				
Black			.20 (.47)	-.04 (.56)
Hispanic			-.83 (.91)	-.93 (.93)
Other			.17 (.84)	.19 (.82)
Education (less than high school)				
HS or GED			-.35 (.42)	-.26 (.40)
Some college			-.01 (.39)	.14 (.39)
College degree			.14 (.34)	.36 (.36)
Graduate degree			.56 (.49)	.72 (.52)
Mental health			.12 (.04) **	.12 (.04) **
Spouse/partner in the household			-.15 (.27)	-.19 (.28)
<i>Family characteristics</i>				
Number of relatives				.07 (.12)
Number of children				-.001 (.16)
Family low income				.16 (.34)
Housing instability				.10 (.34)
Food insecurity				.17 (.34)
Public assistance receipts				-.21 (.29)
Parental visitation				.005 (.004)
Parental financial support				-.46 (.28)
Constant	22.32 (.71) ***	18.28 (1.19) ***	17.33 (1.74) ***	17.10 (1.67) ***
R ²	.334	.426	.457	.468

Note: Reference groups are denoted in parentheses.

All models are adjusted for state fixed-effects.

* p < .05; ** p < .01; *** p < .001

Table 4-5 presents outcomes for older children's behavior among kinship families. This table illustrates results for children's behavior among the older age group are similar to results for the younger age group. Results for Model 1 indicate that caregiving stress is negatively related to children's positive behavior for the older group ($p < .001$). After controlling for the variables of child, caregiver, and family characteristics and adjusting for state fixed-effects, Models 2, 3, and 4 reveal consistent results: higher levels of caregiving stress are related to worse behavior among older children ($p < .001$; effect size: .75 for the full Model 4). Specifically, 0.24 points decrease in caregiving stress is expected for one point increase in the score of older child behavior scale. At closer examination, child and caregiver characteristics explain most of the outcome variation. There are other characteristics associated with old children's behavior, such as child's gender and limiting health condition, kinship caregiver's age and mental health status, and receiving public benefit. For example, among older children (aged 12-17), those reporting female gender presented better behavior ($p < .001$). Children with a limiting health condition presented worse behavior ($p < .001$). Additionally, children, who had an older kinship caregiver ($p < .05$), or a caregiver with better mental health ($p < .01$), presented better behavior. Also, older children who lived in a kinship family receiving one or more types of public assistance presented worse behavior ($p < .001$).

Table 4-5: Weighted OLS Regression of Older Child Positive Behavior (aged 12-17) (n = 956)

Variable	Model 1	Model 2	Model 3	Model 4
	b (SE)	b (SE)	b (SE)	b (SE)
Caregiving stress	-.35 (.06) ***	-.32 (.07) ***	-.25 (.05) ***	-.24 (.05) ***
<i>Child characteristics</i>				
Gender (male)		.81 (.19) ***	.74 (.19) ***	.73 (.19) ***
Age		-.01 (.05)	-.03 (.05)	-.04 (.05)
Race/ethnicity (White)				
Black		.10 (.24)	.29 (.56)	.21 (.49)
Hispanic		-.41 (.27)	-.72 (.51)	-.68 (.47)
Other		.44 (.51)	.43 (.52)	.36 (.52)
Limiting health condition		-2.08 (.26) ***	-2.10 (.27) ***	-2.04 (.27) ***
<i>Caregiver characteristics</i>				
Gender (male)			.33 (.29)	.35 (.29)
Age			.01 (.01)	.02 (.01) *
Race/ethnicity (White)				
Black			-.37 (.55)	-.25 (.48)
Hispanic			.23 (.55)	.34 (.52)
Other			-.01 (.49)	.07 (.50)
Education (less than high school)				
HS or GED			-.30 (.28)	-.27 (.28)
Some college			-.10 (.30)	-.17 (.30)
College degree			-.45 (.34)	-.32 (.33)
Graduate degree			-.07 (.42)	-.12 (.45)
Mental health			.14 (.04) ***	.13 (.04) ***
Spouse/partner in the household			.06 (.20)	-.01 (.23)
<i>Family characteristics</i>				
Number of relatives				.01 (.08)
Number of children				.10 (.11)
Family low income				.23 (.19)
Housing instability				-.03 (.27)
Food insecurity				-.24 (.22)
Public assistance receipts				-.68 (.21) **
Parental visitation				.002 (.003)
Parental financial support				.03 (.21)
Constant	19.39 (.23) ***	19.03 (1.45) ***	16.67 (1.97) ***	16.63 (1.97) ***
R ²	.236	.377	.408	.430

Note: Reference groups are denoted in parentheses.

All models are adjusted for state fixed-effects.

* p < .05; ** p < .01; *** p < .001

Research question 2 summary

In summary, findings from the analyses indicate that kinship caregivers' caregiving stress levels are negatively related to younger and older children's behavior. However, caregiving stress is not found to be significantly related to children's health as measured. These findings partially support the hypothesis for research question 2. Caregiving stress is only related to one domain of child well-being, i.e., psychological well-being, in this study.

4.4 Multivariate Analysis and Social Engagement Interaction: Research Question 3

To answer the third research question, within the weighted multivariate OLS regressions, further examinations were conducted to explore the role of kinship caregiver social engagement. This involved adding social engagement variables as factors and adding interactions of social engagement and caregiving stress to Model 4, as previously discussed. Table 4-6 presents results of OLS regression analysis for the role of social engagement on child health, younger child behavior, and older child behavior. All these regression models controlled for characteristics of children, caregivers, and families as well as state fixed-effects.

Regarding child health, as shown in Table 4-6 in the first column (Model 5) under the outcome of child health, kinship caregiver social engagement, either active/weekly participation in volunteer activities or religious services, is not associated with children's health status. The second column (Model 6a) demonstrates that the interaction of caregiving stress and active engagement in volunteer activities reveals significance ($p < .05$; effect size: .34). While this result implies that there is no overall direct effect of caregiving stress or social engagement on children's health, there is, however, a crossover interaction. Consequently, the relationship between caregiving stress and child health is different according to whether the caregiver actively engages in volunteer activities.

Table 4-6: Weighted OLS Regression of Child Well-Being Outcomes on Social Engagement and Interactions

Dependent Variables	Child Health (aged 6-17) (n = 1,623)				Younger Child Positive Behavior (aged 6-11) (n = 667)				Older Child Positive Behavior (aged 12-17) (n = 956)			
	Model 5	Model 6a	Model 6b	Model 6c	Model 5	Model 6a	Model 6b	Model 6c	Model 5	Model 6a	Model 6b	Model 6c
Variables	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)
Caregiving stress	.001 (.02)	-.02 (.02)	-.003 (.02)	.04 (.04)	-.40 (.07) ***	-.48 (.08) ***	-.34 (.08) ***	-.38 (.10) ***	-.24 (.04) ***	-.25 (.05) ***	-.20 (.06) ***	-.45 (.10) ***
<i>Social engagement</i>												
Volunteer activity participation weekly (less than once per week)	-.07 (.10)	-.08 (.09)	-.07 (.09)	-.08 (.09)	.59 (.28) *	.52 (.26) *	.61 (.29) *	.59 (.28) *	.24 (.24)	.26 (.24)	.24 (.23)	.23 (.23)
Religious service attendance weekly (less than once per week)	-.002 (.07)	-.01 (.07)	-.002 (.07)	-.002 (.07)	-.04 (.27)	-.12 (.27)	-.04 (.27)	-.03 (.27)	-.06 (.21)	-.06 (.20)	-.07 (.20)	-.03 (.20)
<i>Kinship family type</i>												
Informal kinship family (formal kinship family)	-.11 (.09)	-.09 (.09)	-.11 (.09)	-.10 (.09)	.92 (.32) **	.94 (.31) **	.93 (.31) **	.93 (.32) **	.36 (.25)	.36 (.25)	.35 (.25)	.42 (.24)
<i>Interactions</i>												
Caregiving stress X Volunteer activity participation weekly		.10 (.04) *				.30 (.13) *				.06 (.10)		
Caregiving stress X Religious service attendance weekly			.01 (.03)				-.09 (.11)				-.08 (.08)	
Caregiving stress X Kinship family type				-.05 (.04)				-.03 (.12)				.25 (.11) *
R ²	.243	.252	.243	.246	.492	.506	.494	.492	.434	.434	.435	.443

Note: All models are adjusted for child, caregiver, and family characteristics and state fixed-effects.

Reference groups are denoted in parentheses.

* p < .05; ** p < .01; *** p < .001

As shown in Model 5 of Table 4-6, the results for children's behavior indicate that a kinship caregiver's active participation in volunteer activities is positively associated with the younger but not older children's behavior. That is, caregivers' weekly volunteer activity participation is related to better younger children's behavior outcome ($p < .05$; effect size: .91). Precisely, after controlling for child, caregiver, and family characteristics and adjusting for state fixed-effects, when a caregiver volunteers at least once a week, the score of younger child behavior scale increase 0.52. Further, the interaction of caregiving stress and active engagement in volunteer activities indicates significance ($p < .05$; effect size: .98). That is, a kinship caregiver's active participation in volunteer activities buffers the negative relationship between caregiving stress and younger child behavior. For kinship families in which caregivers participate in volunteer activities at least once a week, the negative effect of caregiving stress on children's behavior is lessened. Active participation in volunteer activities functions as a protective factor among kinship families in the relationship between stress and well-being.

Per Table 4-6, the results for older children's behavior indicate that a kinship caregiver's social engagement, either participation in volunteer activities or religious services is not associated with older child behavior. Also, kinship caregiver social engagement does not moderate the relationship between caregiving stress and older child behavior.

Research question 3 summary

In summary, social engagement (i.e., active participation in volunteer activities or religious services) was examined to answer research question 3. Findings from the analyses indicate that kinship caregivers' social engagement was not significantly related to the health domain of child well-being. This finding does not entirely support the hypothesis that social engagement is positively related to the physical health domain of child well-being as measured. Rather, social

engagement, specifically, active/weekly volunteer activity participation of kinship caregivers, is related to better child behavior; and it moderates the negative association between caregiving stress and child behavior. However, it only affects younger child behavior and not older child behavior. The role of religious service attendance was not found to be a significant factor or moderator. These findings partially support the hypothesis on the moderating role of social engagement among kinship families.

4.5 Multivariate Analysis and Kinship Family Interaction: Research Question 4

The fourth research question asked whether the relationship, examined for research question 2, differs by kinship family types. To examine this research question, the interaction of caregiving stress and kinship family type was added to Model 4 weighted multivariate OLS regression. Table 4-6 presents results for child health, younger child behavior, and older child behavior. All these regression models controlled for characteristics of children, caregivers, and families as well as state fixed-effects.

As shown in Table 4-6, the findings reveal no statistically significant difference between informal and formal kinship families for the relationship between caregiving stress and child health as well as younger child behavior. However, per Table 4-6 on older child behavior, the third column (Model 6c) indicates that the interaction of caregiving stress and kinship family type shows significance ($p < .05$; effect size: .78). This result reveals that the relationship between caregiving stress and child behavior (for the older age group) varies, according to the type of kinship family. Specifically, the negative relationship between caregiving stress and older child behavior is stronger for children in formal kinship families and lessened for children in informal kinship families.

Research question 4 summary

To summarize the variations between informal and formal kinship families, the results indicate that the relationship between caregiving stress and older child behavior differs between the two types of kinship family. The relationships between caregiving and children's other outcomes (i.e., child health and younger child behavior) do not differ between informal and formal kinship families. These findings partially support the hypothesis.

4.6 Summary of Results

Table 4-7 presents a summary of results, according to the research questions and hypotheses. The first hypothesis examined the differences between informal and formal kinship families in child, caregiver, and family characteristics. The findings indicate that children, in either type of kinship family, were not statistically different in health status and older child behavior problems. Younger children in informal kinship families presented better behavior than those in formal kinship families. Additionally, informal and formal kinship caregivers did not present statistically difference in caregiving stress levels. Moreover, informal kinship families were more likely to live under poverty conditions than formal kinship families. However, they were less likely to receive public benefits, including public assistance and food stamps, than formal kinship families. These findings partially support the study hypothesis.

For the second research hypothesis, that kinship caregiver's caregiving stress is negatively related to child psychological well-being, results indicate that caregiving stress is negatively related to children's behavior for both younger and older age groups. Specifically, a higher level of caregiving stress is related to worse behavior in children. Caregiving stress is not related to children's health, however. The hypothesis is partially supported.

For the third research hypothesis, on the role of kinship caregiver's social engagement, results indicate that social engagement, volunteer activity participation only, is positively

associated with only the behavior of younger children, rather than other aspects of child well-being, such as child health status and older child behavior. Also, weekly volunteer activity participation is found to be a moderator on the relationship between caregiving stress and child health as well as younger child behavior. That is, the negative effects of caregiving stress on child health and young child behavior are less when the kinship caregiver actively/weekly engages in volunteer activities. The hypothesis is partially supported.

Finally, the fourth research question examined whether the relationship between caregiving stress and child well-being differs between informal and formal kinship families. The finding suggests that the negative relationship between caregiving stress and older child behavior is weaker in informal kinship families and stronger in formal kinship families. Since the moderating effect of kinship family type is only for one domain of child well-being, the hypothesis is partially supported.

Table 4-7: Summary of Results by Research Questions and Hypotheses

Research Question	Research Hypothesis	Findings
1	Children in informal kinship families present better child well-being outcomes than those in formal kinship families.	<u>Partially supported:</u> <ul style="list-style-type: none"> ➤ Children in informal and formal kinship families are not different in health status. ➤ Younger children in informal kinship families present better behaviors than those in formal kinship families. ➤ Older children in informal and formal kinship families are not different in behavioral problems.
	Kinship caregivers in informal kinship families present higher levels of caregiving stress than those in formal kinship families.	<u>Unsupported:</u> Kinship caregivers in informal and formal kinship families are not different in the level of caregiving stress.
	Informal kinship families are less likely to receive public benefits.	<u>Supported:</u> Informal kinship families are less likely to receive public benefits, including public assistance, food stamps, and other payments, than formal kinship families.
2	Higher levels of caregiving stress are related to worse child well-being.	<u>Partially supported:</u> <ul style="list-style-type: none"> ➤ There is no relationship between caregiving stress and child health. ➤ The relationship between caregiving stress and child behavior is negative, so that higher levels of caregiving stress are related to worse child behavior.

Table 4-7 (cont.)

Research Question	Research Hypothesis	Findings
3	Social engagement is positively related to child well-being.	<u>Partially supported:</u> <ul style="list-style-type: none"> ➤ There is no relationship between social engagement and child health and older child behavior. ➤ Caregivers' active engagement in volunteer activities is positively related to younger child behavior.
	Social engagement buffers the relationship between caregiving stress and child well-being.	<u>Partially supported:</u> <ul style="list-style-type: none"> ➤ Caregiver religious service attendance does not moderate the relationship between caregiving stress and child well-being. ➤ Caregiver volunteer activity participation buffers the relationship between caregiving stress and child health. ➤ Caregiver volunteer activity participation buffers the relationship between caregiving stress and younger child behavior.
4	The relationship between caregiving stress and child well-being differs between informal and formal kinship families.	<u>Partially supported:</u> <ul style="list-style-type: none"> ➤ The relationship between caregiving stress and child health does not differ between informal and formal kinship families. ➤ The relationship between caregiving stress and younger child behavior does not differ between informal and formal kinship families. ➤ The relationship between caregiving stress and older child behavior differs between informal and formal kinship families.

CHAPTER 5 DISCUSSION

This chapter presents and discusses the main descriptive, bivariate, and multivariate findings of the current study. Findings from the current analysis are evaluated and compared with past research. Limitations of the current study are then described. Implications for social work practice, policy, and research are finally discussed to provide suggestions for future research direction.

5.1 Evaluation of Findings

5.1.1 Descriptive Results

This section reports and discusses selected descriptive findings related to kinship families' demographic and well-being characteristics (see Table 4-1 for details). First, results from the current study indicate that kinship caregivers are predominately females. More than 85% of informal and formal kinship caregivers reported female gender. This demographic finding is consistent with past research. Across the literature reviewed, female caregivers also represent at least 60% of the study samples (Gleeson et al., 2009; Harden et al., 1997; Livingston & Parker, 2010; Strozier, 2012). Researchers stated that kinship caregiving is a gendered experience for both informal and formal kinship families. Others have discussed this experience within the broad sociological context of gender issues to facilitate an understanding of the nexus of gender and caregiving roles as this relates to society (Minkler, 1999; Stelle, Fruhauf, Orel, & Landry-Meyer, 2010).

In terms of kinship caregivers' ages, the current study sample reveals about 49-years old on average. Research on national or small-scale samples of informal kinship caregivers suggest that kinship caregivers are likely aged between 50 and 59 years (Ellis & Simmons, 2014; Ehrle &

Geen, 2002; Gerard et al., 2006; Strozier, 2012). Results of caregivers' ages are similar to past research findings, although the current study represents a slightly younger sample overall. The fact that kinship caregivers are relatively young suggests a physical ability for caregiving. However, this sample is still older than the general non-kin caregiver population in which over 95% of the parent caregivers are under the age of 50 (Harden et al., 1997). This older age may affect the quality of childcare and the well-being of caregivers themselves, especially as it reflects a wider age differential (e.g., 18-85 years old in the current study) compared to the children cared for. For example, one qualitative study explored the role of kinship caregivers with a sample of grandparent caregivers aged 53 on average, and this study found that many kinship caregivers expressed themselves "too old" to have the energy to fulfil the parenting responsibly and meet children's needs (Landry-Meyer & Newman, 2004). Compared to their peers and those younger parent caregivers, kinship caregivers are likely to experience role conflicts and off-time role expectations (Landry-Meyer & Newman, 2004). For kinship caregivers, especially grandparent caregivers, turning to a role of primary caregiver or parent may conflict with and lose their true role as a relative or grandparent to the child. Unexpected caregiving demands may also confuse some kinship caregivers with recycling of the parent role and individual life trajectories, such as providing primary caregiving while retiring.

In terms of the racial/ethnic composition among kinship families in the current study, all kinship families were slightly more likely to be non-Hispanic Black. Approximately 42% of children and caregivers in kinship families were Black. This finding is consistent with the fact that Black caregivers are likely to provide primary caregiving, and extended families are likely to support related children when the parent is not capable among Black community (Harden et al., 1997; Livingston & Parker, 2010). Notably, previous research with data from the Current

Population Survey (between 1983 and 1995) found that children who lived in the care of relatives were mostly likely to be non-Hispanic Black. This number was about four to five times greater than non-Hispanic White children (Harden et al., 1997). Strozier and Krisman (2007) stated that the racial disproportionality among both informal and formal kinship families might be because African Americans have historically depended on extended family for child rearing. However, the current study also found difference in racial composition between informal and formal kinship families. This finding is evaluated later in the next subsection.

Findings from the current study also suggest that kinship families were likely to have low socioeconomic status. About 61% of the kinship families reported low-income status, and 31% were living in poverty. In addition to family-income level, as another indicator of low socioeconomic status, kinship caregivers in the current study were less educated. Specifically, about 58% of the caregivers reported their education level as not beyond high school. These findings support past research (Ehrle & Geen, 2002) and indicate that kinship families represent a profile with low socioeconomic status and great hardship.

In terms of the child behavioral well-being among the current sample, 15% of younger children (aged 6-11) and 12% of older children (aged 12-17) were reported with high levels of behavioral and emotional problems. A national report based on the 2001, 2002, and 2003 National Health Interview Surveys found that about 5% of U.S. children aged 4-17 were identified with emotional and behavioral difficulties (Simpson, Bloom, Cohen, Blumberg, & Bourdon, 2005). The current finding suggests that, compared to the U.S. child population in the same cohort, children in kinship families of the current study were likely to present worse psychological well-being and have behavioral difficulties. Though, this national report applied a different measurement (i.e., Strengths and Difficulties Questionnaire) from the current study (i.e.,

Child Behavioral and Emotional Problems Scale) to assess children's psychological well-being, making this comparison needs to be interpreted with caution.

Furthermore, the current study found in terms of social engagement among kinship caregivers that about one-fifth (19.7%) of the caregivers actively engaged in volunteer activities and about half (49.51%) actively engaged in religious services. Details about volunteer and religious activities are not available, and it is therefore difficult to accurately interpret these indicators of kinship caregivers' social engagement and to explain the different percentage of kinship caregivers engaging in the two types of social activity. This descriptive finding regarding caregiver social engagement would be more meaningful when contextual and community factors are available for the analysis and discussion.

5.1.2 Bivariate Results of Research Question 1

This section discusses selected findings from the bivariate analysis, which was conducted to answer the first research question by examining the similarities and differences in demographic and well-being characteristics between informal and formal kinship families. In the current study, kinship families' demographic characteristics are found to be similar as regards the child's gender; caregiver's gender, age, and educational level; and family structure and level of hardships. Overall, the similarities support some findings of the past research and add the knowledge to the literature with mixed findings. For example, Goodman et al. (2004) indicated similarities for most caregiver and family demographic characteristics between informal and formal families, including caregiver's age, race/ethnicity, and educational level as well as family income level and receipt of public assistance. Comparatively, the study conducted by Ehrle and Geen (2002) reported that informal kinship caregivers are older, less educated, and in poorer mental health (Ehrle & Geen, 2002). The current findings do not support these differences found

in Ehrle and Geen (2002).

The two types of kinship families present differences as regards child's age, race/ethnicity, having a health limiting condition; caregiver's race/ethnicity, whether having a spouse/partner in the household; and family's income level, public benefit receipt, and parental involvement. The current bivariate results suggest that children and caregivers in informal kinship families were more likely non-Hispanic White. Meanwhile, those in formal kinship families were likely non-Hispanic Black. This finding supports the fact that Whites represent the majority group of informal kinship families, including grandparent-headed families (Livingston & Parker, 2010); and formal kinship families, who are involved in the child welfare system, are more prevalent the African American racial group (Derezotes, Poertner, & Testa, 2005; Ortega, Grogan-Kaylor, Ruffolo, Clarke, & Karb, 2010). Nonetheless, for both informal and formal kinship families, finding from the current study confirms that overall kinship families are disproportionately composed of racial minorities (i.e., African American and Hispanic), compared to the racial/ethnic composition of the U.S. child population (Derezotes et al., 2005; Livingston & Parker, 2010). This may be due to that racial/ethnic minority has stronger kin networks when there is a childcare need in their community.

The findings on family income level and receipt of public benefits support the hypothesis that informal kinship families are more likely to be financially impoverished and less likely to receive public benefits. Past research estimated that informal kinship caregivers presented a higher risk for socioeconomic disadvantage than parent caregivers and formal kinship caregivers, due to their informal caregiving status (Minkler, 1999; Strozier & Krisman, 2007). Many informal kinship caregivers do not have legal custody or guardianship of the children cared for (Burnette, 1997; Child Welfare Information Gateway, 2016; Landry-Meyer, 1999). Without legal

authority and parental rights, these kinship caregivers may experience difficulties engaging with institutions about the children. This informal caregiving relationship may make it difficult for the family to access other benefits regarding the child. Also, it increases financial hardships for the family (Burnette, 1997; Landry-Meyer, 1999). The fear of child welfare system involvement becomes another barrier for accessing public assistance. It renders such families invisible and marginalized by the public social support system (Letiecq et al., 2008). However, whether the informal kinship caregivers of the study sample have legal custody or guardianship of the focal child is unknown. The current analysis and findings do not provide enough information to support this explanation regarding the association between the accessibility of public benefit and the legal relationship of the family. Future research would consider legal relationship of kinship caregivers to the related child and examine its influences on family resources and support.

Moreover, informal kinship families reported higher levels of biological parental involvement, including visitation and financial support, than formal kinship families. This finding is unexpected but reasonable for the following explanations. On the one hand, this finding implies that informal kinship families have higher levels of flexibility and degrees of freedom to involve the biological parent in the family and maintain the parent-child relationship since these families are not involved with the child welfare system and biological parents still have the custody of the child as discussed above. On the other hand, this finding also implies that informal kinship families may be more likely to rely on support from biological parent(s) of the child rather than the public assistance system. Parental involvement here can be seen as a source of social support, and there are pros and cons for informal kinship families relying on this sole source of support. This circumstance can make caregivers and children in informal kinship families more vulnerable if the source of parental support and involvement is not consistent.

Nonetheless, elevated levels of parental involvement may increase family resilience and improve family functioning among kinship families. Again, these explanations are not precisely answered by the current analysis and data. Using divorce literature to further understand this finding, studies have found that noncustodial parents who visit their children more frequently present better visitation quality (i.e., better parent-child interactions) and pay higher child support than those families with low levels of noncustodial parental visitation (Arditti & Keith, 1993; Nepomnyaschy, 2007; Seltzer, Schaeffer, & Charng, 1989). This investment of economic and socioemotional resources from a noncustodial parent also suggests parent's commitment to their children (Seltzer et al., 1989). Parental involvement in this investment benefits children's adjustment to absence of either parent and shares resources among networks to improve family resilience (Hetherington & Stanley-Hagan, 1999; Seltzer et al., 1989). Thus, the same pattern of a higher level of parental involvement for informal kinship families may benefit shared resources and support between kin as well as the relationships between children, kinship caregivers, and biological parents, leading to stronger resilience for individuals in the kinship care family.

In terms of well-being characteristics, this study proposed that children in informal kinship families present better well-being outcomes as measured in two domains, than children in formal kinship families, since those in formal kinship families may have experienced severe adversity which may contribute to the reasons for placement in kinship care. The current findings only partially support the hypothesis. Between informal and formal kinship families, children's well-being (i.e., health and behavior well-being) is different for younger child behavior only. This is not the case for child health and older children's behavior. The results are not quite consistent with findings from past studies: that children in formal kinship families fare worse in both health and behavioral outcomes (Ehrle & Geen, 2002a; Goodman et al., 200, 2007). This

hypothesis was determined according to literature on the reasons for placement. However, the current study is not designed to examine related factors. Additionally, as indicated in the methods section, reasons for placement can contribute to a significant factor associated with child well-being, but this information is not available in the NSAF data since this survey was not designed for the child welfare population. Despite, the current study finding does indicate that children in formal kinship families were more likely to have a limiting health condition than those in informal kinship families. This health condition may contribute to a reason for placement with kinship caregivers.

Additionally, this study hypothesized that informal kinship caregivers present higher levels of caregiving stress, compared to formal kinship caregivers. This hypothesis was proposed because higher levels of caregiving stress among informal kinship caregivers may be due to a lack of formal support. The current finding does not support this hypothesis. In the literature reviewed, there is only one study indicating that formal kinship caregivers have higher levels of stress than informal kinship caregivers, although it was not found to be a significant difference (Ehrle & Geen, 2002a), and the current result is consistent with this finding. The fact that informal and formal kinship caregivers from the current study sample present common levels of caregiving stress may suggest that the demands of a caregiving role do not differ by the circumstances of different type of kinship family. The slight difference in caregiving stress among caregivers from informal and formal kinship families may also imply that there are other unobserved differences in factors associated with caregiving stress between the two types of kinship family. Further, this is evidenced that current study finds more similarities in demographic characteristics between informal and formal kinship families. Although most of the demographic and well-being characteristics between informal and formal kinship families do not

show significant differences, lower socioeconomic status among informal kinship families, in particular, warrants further research and policy attention. Whether these families receive enough support to meet children's caregiving and developmental needs and whether these families are more resilient due to high levels of parental involvement deserve further exploration.

5.1.3 Multivariate Results of Research Question 2: Caregiving Stress

This section discusses results for the current study's primary examination of the relationship between caregiving stress and child well-being among kinship families. It was hypothesized that kinship caregivers' caregiving stress level and children's well-being are negatively related. Findings from the current study only partially support the hypothesis. After controlling for characteristics of the child, caregiver, and family, caregiving stress is found to be negatively associated with children's behavioral outcomes, but it is not significantly related to children's health outcome.

A non-significant finding on the relationship between caregiving stress and child health suggests that children's health is more associated with other factors, such as children's limiting health conditions and caregivers' mental health status. As Table 4-3 indicates, children with a limiting health condition presented poorer general health; and children whose caregivers had better mental health status were reported to be in better health status. A caregiver's psychological problems, such as anxiety and depression, may significantly influence their own lives and capabilities for caregiving; consequently, children's health may be neglected.

Additionally, there might be measurement errors of using a single item to measure child health. Using a generalized health measure may oversimplify children's developmental issues and health concerns, although this global measurement of children's general health has been widely used and tested to be a valid and reliable indicator (Lundberg & Manderbacka, 1996;

Quesnel-Vallée, 2007). That is, critical aspects of health-related indicators, such as physical development (e.g., weight, height, BMI), illnesses, injuries, and conditions related to HPA axis (hypothalamic-pituitary-adrenal axis). For example, Jones and colleagues (2003) reported that children in kinship families have higher rates to have worse health compared to children in the general population. In their study, a variety of health-related indicators was considered, such as asthma, eating habits, sleeping patterns, and hyperactivity. Additionally, studies in neuroscience found that early childhood exposure to psychosocial stress has impacts on brain functioning and cognition in the long term (Lupien, EcEwen, Gunnar, & Heim, 2009; Tarullo & Gunnar, 2006). Thus, the impacts of stress on children's health outcomes tend to be long term, and the impacts may not show up until later childhood or early adulthood. This non-significant finding may be because the current cross-sectional study design is not able to capture the changes or trends in child health and development over time. Further examination is needed for using different research designs. Moreover, this global child health measure is based on kinship caregiver perceptions. An adult-reported child health status may be more subjective than other objective indicators, such as a medical/health report or disease diagnosis of the child.

On the other hand, the significant finding regarding the relationship between caregiving stress and child behavior may be also due to measurement bias. The caregiving stress and child behavior variables may tap similar constructs and questions which asked caregivers' perceptions about children's behavioral and emotional problems related to caregiving demands. Despite this potential bias, past research has found evidence that kinship caregiver's distress levels are related to emotional and behavioral problems of all child age groups among kinship families, and this relationship was also found to be mediated by dysfunctional parenting behavior (Smith & Hancock, 2010; Smith et al., 2008). A possible mechanism is that kinship caregivers with high

levels of caregiving stress may disengage from the child, discourage the child's self-expression, or be critical or harsh to the child (Cummings & Davies, 1994; Smith et al., 2008). These negative experiences would lead to children's behavioral and emotional difficulties. Therefore, child behavior and emotion may be more sensitive to a stressful environment and caregiver's emotional engagement or parenting while the impact of parenting on child health status may be long term. While the current study is limited to the discussion without examining parenting practice, future studies should explore this in more detail.

5.1.4 Multivariate Results of Research Question 3: Social Engagement

The third research question examined the role of social engagement in the relationship between caregiving stress and child well-being. Social engagement was hypothesized as positively related to children's well-being among kinship families and to moderate the relationship between caregiving stress and child well-being. However, these hypotheses are not fully supported by the current results.

In the current study, social engagement as measured via volunteer activity participation and/or religious service attendance was not significantly related to all the domains of child well-being. This finding may be explained as follows: caregivers' participation in social activities or social relationships benefits the caregiver's well-being only. Although no evidence presented a caregiver's social engagement as related to a child's well-being among kinship families, Wen (2014) found active religious attendance among parents to be positively associated with the well-being of parents and children. Another recent study also found that African American parents' religious practices can be considered culturally strength-based assets to promote adolescents' religious practices and psychological well-being (Butler-Barnes, Martin, & Boyd, 2017). However, findings from the current study do not support this pattern among

kinship families. There may be a measurement issue that only one aspect of religious service attendance was asked. Religious practices and religion attendance may represent different concepts regarding individuals' social engagement.

Rather, in the current study, kinship caregiver's weekly volunteer activity participation was found to be positively associated with younger child behavior. One explanation for this unique finding is that kinship caregivers may take younger children with them when participating in volunteer activities. When volunteering involves empowerment and advocacy, younger children are also exposed to positive interactions which then shape their behaviors and emotions.

Further examination of social engagement as a moderator reveals that caregivers' weekly participation in volunteer activities buffers the negative relationships between caregiving stress and younger children's behavior. This finding may imply the following: 1) participation in volunteer activities may be more likely to generate resilience than participation in religious services, and 2) the benefit of caregivers' weekly volunteer activity participation may be meaningful for younger children. A possible explanation for the former statement is that engaging in volunteer activities may involve less commitment for kinship caregivers than engaging in religious services. Instead, volunteering might involve higher levels of social interaction with people in the community. Engaging in religious services may involve more committed activities, but it may also generate stress for caregivers. Additionally, attending religious services can be a way of coping for kinship caregivers; but, it can be more personal and is not necessarily connected to social relationships. For this reason, there may be large variations in the engagement level of social engagement in religious services. "Attending" religious services can be different from "practicing" religious services. The benefits of the level of involvement may also differentiate the well-being of kinship caregivers and children. Details

regarding the types and practices of religious services were not available in the NSAF data and beyond the discussion of the current study.

Moreover, studies have found that helping others or developing prosocial behavior benefits at-risk families. While these families focus on the needs of others, they are developing their ability to cope with stress and strengthening resilience in individuals in the family (Lietz, 2007, 2011). In particular, Lietz (2007) found that helping those facing similar difficulties is not only one stage in the experience of family resilience for at-risk families, but these families also *receive* and *give* support as a way of coping and building social capital. Applying this pattern to the current study, this was evidenced by the finding that for kinship families in which caregivers participate in volunteer activities at least once a week, the negative effect of caregiving stress on child well-being is lessened. Although details regarding the volunteer activities were not clearly described in the survey, those caregivers who participate in church, school, or community volunteer activities may build stronger social relationships and foster more connections within the community. These kinship caregivers and families may become resilient and overcome hardship through engagement in social relationships with the sense of belonging, connection, and empowerment (Armstrong et al., 2005; Berkman et al., 2000; Hartling, 2008).

For the second statement as described above, the finding regarding the social engagement interaction suggests that the benefit of caregivers' weekly volunteer activity participation is significant for younger children. As discussed earlier, one explanation for this finding is that younger children may be more sensitive to a stressful environment created from caregiver psychological distress; so that they may also be sensitive to the *benefit* of social engagement on the reduction of caregiving stress. In contrast, older children (adolescents) may be more independent from their family and caregivers, and their behaviors may be more dependent on

peers. Additionally, older children are likely to build their social networks through their own social engagement (Schaefer, Simpkins, Vest, & Price, 2011). Studies have also found that adolescent active engagement in social activities, such as religious and leisure activities, benefits their behavior. For example, Steinman & Zimmerman (2004) found that a lower level of religious activity attendance is related to more risk behaviors, such as substance use, among African American adolescents. Another study further indicates that the structure of social activities matters for adolescents' behavior (Mahoney & Stattin, 2000). Adolescents who engaged in highly structured community-based activities present low levels of antisocial behavior, while those who were involved in less structured activities receive a lower level of support (Mahoney & Stattin, 2000). For the current analysis, however, it is unclear how much older children themselves engage in social activities and what types of social engagement children are involved in by themselves. Social engagement of older children was not examined and may contribute to a critical protective factor associated with these children's behavioral and emotional development. Thus, older children's behavior may be less responsive to the benefits of caregiver social engagement.

For future studies building on the Family Resilience Model, a comprehensive examination should include different types and levels of social engagement of individuals in the family to understand how social engagement can strengthen resilience in families as a whole and in kinship caregivers and children as individuals. Community or contextual factors associated with social relationships and social activities should also be considered. While both informal and formal kinship families keep children in the communities, children are likely to engage familiar social relationships as well as risks if the kinship family is from a stressful and impoverished community (Rufa & Fowler, 2016). Thus, the role of social engagement should be further

examined while considering relevant factors and contexts among social networks and social connections.

5.1.5 Multivariate Results of Research Question 4: Kinship Family Type

The fourth research question examined the variation between informal and formal kinship families. It was hypothesized that the relationship between caregiving stress and child well-being differs by kinship family type. However, the findings only partially support this hypothesis. Results from the analysis indicated that the negative relationship between caregiving stress and older child behavior differs between the two types of kinship family. The relationships between caregiving stress and the other child outcomes, i.e., child health and younger child behavior, do not differ between informal and formal kinship families.

This finding indicates that the negative association between caregiving stress and older child (aged 12-17) behavior is stronger for formal kinship families. That is, compared to formal kinship families, informal kinship families may contribute to a more protective environment for older children to respond or adjust to caregiving stress of kinship caregivers. One possible explanation is that the arrangement with formal kinship families may imply that the child has experienced much more adversity than those who are arranged with relatives informally. Conversely, children in formal kinship families may be placed due to their severe emotional and behavioral problems. If these problems are not addressed well and become a source of caregiving stress, the negative relationship between caregiving stress and child behavioral outcomes can be stronger for formal kinship families.

Another explanation regards the different level of parental involvement across these two types of kinship family (informal vs. formal). As indicated in Table 4-2, informal kinship families were likely to have a higher level of parental involvement, including more often

biological parental visitation and a higher likelihood of receiving financial support from biological parent(s). The higher level of parental involvement among informal kinship families may serve as a protective factor to both children's well-being and caregivers' psychological distress. On the one hand, informal kinship caregivers may share caregiving responsibility when maintaining contacts with children's parents, and in turn reduce their levels of psychological distress due to caregiving demands. On the other hand, when children in informal kinship families retain contact with at least one parent, they may become more resilient. Child welfare studies have found that consistent contact with biological parents is associated with children's lower levels of externalizing problem behaviors and lower likelihood to have emotional problems, such as anxiety and depression (Cantos, Gries, & Slis, 1997; McWey, Acock, & Porter, 2010, McWey & Mullis, 2004). For the child, frequent parental visitation shows biological parent's commitment and attention to the child. For the kinship caregiver, consistent parental contact shows the persistent efforts for cooperation and negotiation (Mcwey et al., 2010). For the kinship family, stable parental involvement suggests a stable source of support and resources to strengthen family functioning and caregiving quality. Since informal kinship families are not involved with the child welfare system, they are more flexible to negotiate with biological parent(s) and arrange visitation and support. Thus, informal kinship families may be more resilient than formal kinship families in terms of the higher frequency of parental contact and the amount of parental support. Nonetheless, some of the differences between informal and formal kinship families were not available for examination in the current study. The larger policy context and potential factors deserves further attention when these findings are interpreted.

5.2 Limitations

This study's findings should be considered in the context of some limitations. First, the

current study uses the NSAF data, which is cross-sectional. The causal relationship between caregiving stress and children's well-being cannot be drawn from the findings. Also, the point-in-time survey may not fully capture the dynamics of kinship relationships and changed living arrangements. Regardless of these limitations, this study has addressed some unanswered questions involving the associations between kinship caregiver caregiving stress, social engagement, and child well-being as well as questions regarding an understudied comparison across kinship groups.

Second, all study variables were caregiver/MKA (most knowledgeable adult) self-reported. That is, children's well-being measures were assessed based on caregivers' perceptions. Readers are advised to recognize that subjective measures were used in the current study and that child well-being outcomes could be potentially biased, especially when the caregiving stress and child behavior constructs potentially measured a similar concept. A child self-reported assessment may help inform more knowledge regarding children's well-being outcomes. Additionally, as discussed, the single item child health measure may not represent a variety of health issues for vulnerable children. Also, readers should note that, although past studies have been referring the MKA's as caregivers, there is no a supporting document from the NSAF data guideline to point out that the non-parent MKA's are primary caregivers of the focal child.

Third, the social engagement measure used in this study assesses caregivers' religious service attendance and volunteer activity participation only. Other types of social engagement, such as participation in educational workshops or recreational events, were not recorded. Further, limited information in the survey describes how "engaged" kinship caregivers are and how supported they feel about their experiences of social engagement. Additionally, information on children or adolescents' engagement in social activities was not assessed. Children's social

engagement may be a significant protective factor that is potentially associated with child well-being. The current study was limited to few social engagement indicators (i.e., volunteer activity participation and religious service attendance), and contextual variables that may be associated with the social activities in the community is not available for discussion.

Fourth, other important information related to kinship families is not available in the dataset. This includes reasons that contribute to kinship placement, duration of children's stay with relatives, and caregiver's parenting practices. These variables may represent important factors in the relationship between caregiving stress and child well-being. Findings from this study should be interpreted carefully, considering the role of these unknown components.

Fifth, although this study used a nationally representative sample from the NSAF, whether the findings can be generalized to the current national estimate is not clear. Both formal and informal kinship families nowadays are experiencing different policy and societal contexts from those who were surveyed around the year 2000. For example, the NSAF was designed to evaluate the influences of welfare reform on low income families. Kinship families, especially informal kinship families, represent nonparental caregivers who are eligible for the TANF child-only cash payment. However, there were fewer nonparental caregiver child-only recipients nationwide in 2010 than 2000 (Mauldon, Speiglmann, Sogar, & Stagner, 2012), which was the time when the NSAF was conducted. This evidence may suggest that informal kinship families in the current time may be less likely to receive the TANF child-only payment. They, however, are more likely to receive other types of supportive services (i.e., support group, respite care) since during the last decade, federal laws have allowed states to use federal funds to develop programs (i.e., Kinship Navigator Program, National Family Caregiver Support Program) for kinship caregivers caring for related children informally outside the child welfare system (Child

Welfare Information Gateway, 2016; James Bell Associates, Inc., 2011; Smith & Monahan, 2007). Thus, kinship families in the 2000s and 2010s may represent separate groups with different characteristics and levels of vulnerability as well as accessibility to services.

Finally, although the distinction between informal and formal kinship families was defined by children's living arrangement and this terminology was common used in the literature, the definitions should be more clarified for future research. Particularly, the larger kinship group—informal kinship families—are categorized and defined as different groups by different states (see appendix A), especially when the types of custody are expanding making this categorization more blurred (Ehrle & Geen, 2002b). A clearer distinction can contribute to a more accurate comparison of kinship family subgroups and more attached to the practices with these different families in the field.

5.3 Implications

In summary, the current evidence suggests three key findings among kinship families: 1) caregiving stress is negatively related to children's behavior, but not related to child health as measured; 2) kinship caregiver social engagement, specifically weekly volunteer activity participation, is positively related to younger children's behavior; and it buffers the negative effect of caregiving stress on younger children's behavior; and 3) the negative effect of caregiving stress on older children's behavior is stronger for formal kinship families and weaker for informal kinship families. These significant findings provide important implications for social work practice, policy, and future research in kinship care family.

5.3.1 Practice Implications

Regarding practice implications, the main findings of this study suggest that caregiving stress is negatively associated with children's behavior across younger (aged 6-11) and older

(aged 12-17) groups. These results imply a need for practitioners to recognize the factors associated with caregivers' stress. Such observations may help to address children's emotional and behavioral problems, especially if the stress is due to a caregiving role. For example, as previous literature and the current study noted, kinship families, especially informal kinship families, are likely to live in poverty (Berrick et al., 1994; Livingston & Parker, 2010). Moreover, family hardships may result from informal caregiving circumstances due to the lack of guardianship or legal child custody (Burnette, 1997; Landry-Meyer, 1999). Practitioners may identify risk factors associated with caregivers' stress as it relates to caregiving demands and children's emotional and behavioral problems. Such attention might reduce risk factors to caregiving stress, including financial burdens. It is important to ensure that services and support are available and accessible to help kinship caregivers and children (Wilson & Crewe, 2007).

The present findings also suggest that a family-center, intergenerational service delivery approach should be applied to develop interventions with the kinship family as a whole and meeting the needs of both caregivers and children (O'Reilly & Morrison, 1993). Clinical services should involve a combination of service delivery for both kinship caregivers and children, including treatment for children's behavioral and emotional difficulties and counseling for kinship caregivers' psychological distress (Smith et al., 2008). Parenting training and psychoeducation can also be developed to engage caregivers in positive interactions with the child they care for and to improve the quality of family communications and relationships (Goodman & Silverstein, 2006; Sands & Goldberg-Glen, 2000). Furthermore, the practice with kinship families should be established on a strength-based approach to improve the relationship between kinship caregivers and children. Rather than only assessing the risks among kinship families, practitioners would build on existing strengths in caregivers and children to improve

family functioning in responding to stress due to the demands of unexpected caregiving (Leitz, 2006; Walsh, 2002)

Additionally, kinship families can be resilient when caregivers are likely to engage in social activities. The second key finding suggests that social engagement, specifically participation in volunteer activities, buffers the negative effect of caregiving stress on child behavior. Social engagement appears to be a strong source of family resilience. However, due to unexpected caregiving demands, kinship caregivers are often socially isolated from social relationships or community networks. Among the study sample, only one-fifth of caregivers engaged in volunteer activities weekly. Supportive services (e.g., support groups, counseling) must be developed and accessible for kinship caregivers in the community. Practitioners would help strengthen kinship caregiver social networks by locating support in the school and community and connecting kinship families to other community service providers (Font, 2015; Strozier & Krisman, 2007). These services can effectively increase social support for kinship families (Smith & Monahan, 2007; Strozier, 2012; Strozier, Elrod, Beiler, Smith, & Carter, 2004). Practical plans, for example, may include the development of parenting training with knowledge about children's behavioral and emotional development and with interactions with those sharing common experiences. Consequently, caregivers may participate in social activities, receive support from those encountering similar difficulties, and learn how to address developmental and behavioral issues presented by the children in their care.

Moreover, participating in volunteer activities has been identified as an approach to gain value through helping others. For resilient kinship caregivers, they may receive as well as provide support to the social relationships in which they engage. Practitioners may recognize this strength among kinship caregivers and provide greater opportunities for connecting with others.

Other types of social activities (e.g., educational, emotional, recreational) would also be included for caregivers to develop positive social relationships and learn coping strategies. Through engagement in a variety of social activities or relationships, kinship caregivers would be able to access emotional support, information, referrals, and respites. Thus, the well-being of caregivers, children, and family would improve.

Finally, the third key finding suggests that informal kinship families may be more protective for children who may be influenced by caregivers' psychological distress and the stressful environment. Also, compared to formal kinship caregivers, informal kinship caregivers have been found to receive the least formal support and assistance from welfare agencies and are likely to receive inconsistent and inequitable treatment in the current study and in the literature (Landry-Meyer, 1999); but, children's biological parent(s) serve as a source of informal social support for informal kinship families. Parent may not be able to care for the child for various reasons, but they are available and willing to offer support and commit to the child's development. Further research is needed to support this statement.

Moreover, practitioners should point out this strength and recognize that parental involvement can be a reliable source of support rather than always a barrier to child well-being and safety. This is an important practical implication from the current findings and it is something the child welfare system can learn from those outside the system but receiving reliable support. For both informal and formal kinship families, service plan may be also made to be around arranging parental visitation and involving parent(s) in the improvement of child well-being. For formal kinship families, when the traditional permanency goal of reunification with parent(s) does not fit these families, it is still important for practitioners to involve biological parent as social support and as part of children's growth.

5.3.2 Policy Implications

Regarding policy implications, the current study's results of bivariate comparison suggest that informal and formal kinship families are similar in most demographic and well-being characteristics. However, they do not receive or have access to the same amount of public benefits. Informal kinship families are particularly vulnerable due to a lack of access to public support, such as food stamps and public assistance. Kinship care families have not been widely involved in welfare reform discussions. The existing public policies may also neglect the heterogeneity of kinship families and the diversity in relationships between different types of kinship caregivers and children. It becomes necessary to expand our understanding of public policy impact on formal and informal kinship families, especially when one of the NSAF's aims was to understand the impact of welfare reform. Additionally, the restrictive public policies on cash payments may force more kinship families into the child welfare system in order to receive the higher foster care payments (Geen, 2000; Scannapieco, 1999). The drop in nonparental caregiver TANF child-only cases nationwide is possible evidence of this (Mauldon et al., 2012). Informal kinship families may be especially influenced by public policy changes, when fewer safety nets are available to assist poor families. However, for informal kinship families wanting to receive more financial support and services and enter the child welfare, they may have to exchange autonomy for meeting children's special caregiving needs. This may not be the intention for relatives taking an informal caregiving responsibility. These informal kinship caregivers step up to care for related children may be because they do not want these children to be supervised by the state child welfare system. While with limited resources, the society are more willing to spend money on assisting children in the child welfare system rather than kinship families outside the system; therefore, public assistance can be especially important for poor

informal kinship families (Roberts, 2001).

A significant finding from the current study indicates that, compared to formal kinship families, informal kinship families received less public assistance and might be more likely to rely on support from children's biological parents. These conditions may still make informal kinship families the most vulnerable kinship group if the support from their kin network or biological parents is not stable. The TANF child-only benefit is the only type of public financial assistance available to informal kinship families. Caregivers have to meet their state's TANF definition of a kin caregiver to apply for family TANF grants; however, this benefit may not be appropriate for retired caregivers (Child Welfare Information Gateway, 2016). Changes in welfare policy would improve their situation and increase security stability for these families who live under the poverty line. Family policymakers must revisit financial aid eligibility and accessibility for this vulnerable group. Goodman and Silverstein (2006) suggest increases in TANF grants for children and exemptions for older kinship caregivers from time limits and work requirements. This recommendation is especially true when informal kinship families share similar characteristics and face similar vulnerabilities with formal kinship families, but they do not eligible for the same amount of support. A stronger safety net or a support system, specifically involving informal kinship care families, may need to be established in responding to this growing population and truly assist poor and near poor families. Although this discussion is beyond the finding from the current analysis, the issues regarding variations across different types of kinship care family would continue when the government has limited funding to choose between supporting one group over another (Child Welfare League of America [CWLA], 2014).

Furthermore, the last key finding indicates that informal kinship families may be more protective to caregiving stress and child well-being, specifically children's behavior. Also, the

significant direct and moderating effects of caregiver social engagement especially hold among informal kinship families. These findings suggest that developing programs with the opportunity of engagement in social activities may support and strengthen caregivers and families in relation to the improvement in child well-being and family resilience. Thus, it is critical to develop supportive service delivery to those kinship families in need. During the two decades after the NSAF survey, some federal policies have been legislated to allocate federal funds for services to kinship families, especially informal kinship caregivers. For example, under the Fostering Connections Act of 2008, states are able to use Federal title IV-E funds to provide payment and assistance to custodial kinship caregivers (Child Welfare Information Gateway, 2016). Also, the Family Connection Discretionary Grants were allocated to implement programs in helping reconnect family members with children who are at risk of entering the foster care system (James Bell Associates, Inc., 2011). The Kinship Navigator Program is one of the federally funded demonstration projects to assist kinship caregivers to meet the needs of their families by locating existing programs and services through information and referral systems (James Bell Associates, Inc., 2011). Moreover, as of the 2006 Reauthorization of the Older Americans Act, the National Family Caregiver Support Program provides assistance and services (e.g., community service access, counseling and training, and respite care) to informal kinship caregivers aged 55 or over who are raising their related children (Administration for Community Living, n.d.). The KinNET (Nurturing, Educating, and Teaching) is another federal project funded by the Children's Bureau. It was designed especially for older kinship caregivers to create a national network of support groups (Smith & Monahan, 2007).

The implementation of these nationwide programs has demonstrated that the federal government has been developing policies and programs to correspond to the increasing kinship

family population and their complex family needs. These programs were also developed to create further support, connections, and relationships for kinship families within the community. While studies have found that involving kinship families in these programs (e.g., Kinship Navigator Program) significantly increase caregivers' strength and ability for caring for children and accessing to services (James Bell Associates, Inc., 2011; Nelson-Dusek & Gerrard, 2012), one critique, however, is that some of these programs are still not universally available to all types of kinship families (CWLA, 2014; Rubin et al., 2017). It is critical to draw the attention to existing programs and policies for supporting diverse and vulnerable families (Burnette, 1997; Stelle, Fruhauf, Orel, & Landry-Meyer, 2010). New policies regarding the support for kinship caregivers should specifically examine the impact on the well-being of children and families (Wilson & Crewe, 2007). In sum, although some of the implications discussed above are beyond the scope of the current study, the current findings have raise the concern about services for informal kinship families specifically.

5.3.3 Research Implications

This study contributes to extant literature and offers implications for future research. As indicated, findings from this study increase our understanding about otherwise understudied but significant subjects: informal and formal kinship families and the well-being of children in their care. As discussed, there may exist measurement errors in the child well-being measures examined in the current study. Also, all the responses were based on caregivers' perceptions. Researchers have suggested that examination from multiple informants may reduce the bias. Future research on the well-being of children in kinship families might also address a variety of children's well-being domains, such as physical, psychological, behavioral, and educational well-being. Other potential factors, such as children's social engagement, reasons for placement,

duration of the child staying in the family, caregiver parenting practice, or other factors at the mezzo- or macro-system levels warrant examination to understand whether caregiving stress is a strong contributor to negative child well-being.

Also, “social engagement” was a term not given much attention in family study or the Family Resilience Model, especially among kinship care families. The current study first examined caregivers’ engagement in social activities as a protective factor for caregiving and well-being of children. This social engagement of caregivers or children serves an important function in dynamics of family resilience. Researchers might explore the roles of other types of social engagement, such as attending support groups or activities at children’s schools, as it relates to developing positive child well-being, especially in the development of prosocial behaviors. In particular, as the second key finding suggested, weekly participation in volunteer activities becomes a moderator that buffers the negative effect of caregiving stress on children’s behavior. Future work should look at the detailed content of the volunteer activity. Whether caregiver’s volunteering is involved in the child’s school, caregiver support groups, and/or other community-based services needs further exploration.

Additionally, the level of engagement in social activities and relationships was unknown in the dataset and unanswered in the current study. How much kinship caregivers engage in social groups, what they really receive from actively engaging in social relationships, and how much their social engagement is related to their stress level and children’s development deserve further exploration. These inquiries can be better answered by qualitative studies. Qualitative research designs can help understand more nuances regarding social engagement among kinship caregivers and children and explore relevant community and contextual factors that are associated with individuals’ engagement in social networks.

Moreover, as discussed in the limitations, “kinship care family” is a more diverse group in the field than it appears in the literature, although informal and formal categorization is the most common terminology used in the current child welfare and grandparenting literature. Kinship family has been viewed as an extension of family preservation programs which are inclined to keep children and family together, including extended family. Based on how much the government intervenes in these families and determines the rights of kinship of caregivers, there can be more categories beyond “formal vs. informal” or “public vs. private” among kinship care families. Thus, the identification and characteristics of kinship caregivers are important factors to determine which services and support they should receive. For example, kinship adoption and guardianship are areas of practice worth including in the comparison and for further investigation (Scannapieco & Hegar, 1999). Berrick and Hernandez (2016) recently propose a new framework of kinship care types, including state mandated, stated mediated, and stated independent, depending on the role of government agents. They also argue that developing consistent kinship caregiving arrangements and practices is needed (Berrick & Hernandez, 2016). There also might be movement between different types of kinship families. Different identifications may determine their receiving public resources, strengths, and level of vulnerability. Researchers and policymakers should consider the diversity across kinship families and pay attention to the context and system that different kinship groups are involved in. Developing a survey specifically targeting kinship families including a variety of kinship caregivers may also be necessary. Furthermore, for formal kinship families, few surveys were conducted for families in the child welfare system on a national level. For informal kinship families, most of them can only be easily approached on a local basis to conduct research relevant to their situations. For these reasons, establishing updated data on a larger scale (i.e., statewide or nationwide) is needed

for a detailed exploration of this population.

Finally, the current study is limited to a cross-sectional design. Findings for the examined questions may not imply a causal relationship. There may be a bidirectional or reciprocal relationship between caregiving stress and child well-being. Further research can involve a longitudinal design to evaluate the changes in child well-being as well as caregiving stress over time and identify potential factors influencing the well-being of caregivers and children. Additionally, a longitudinal research design is more appropriate to capture the process from family stress to individual adaptation as well as gains in family resilience. Such way can fill in some of the components discussed in the Family Resilience Model. For example, if parental involvement is a reliable source of social support for both informal and formal kinship families, future studies can examine its role as a protective factor or a buffer against the negative influence of caregiving stress on children's development.

5.4 Conclusion

Kinship caregivers often express commitment and care for related children, and recognize this as a historical and family responsibility (Lawrence- Webb & Okundaye, 2007). It has been described as a gift to the society to help care for vulnerable children. These kinship care families may serve as a prevention and preservation for families experiencing adversity. However, these kinship caregivers are often overburdened and experience caregiving stress, which may be negatively associated with children's emotional and behavioral development. Also, the costs on supporting kinship care families are not enough arranged to this vulnerable population. The current study examines the relationship between caregiving stress and children's well-being among kinship families. In particular, it explores the role of social engagement. Findings from the current study suggest that kinship caregivers are a population that warrants supportive

interventions to enhance their ability to provide childcare and to reduce risk factors associated with their own stress and the emotional and behavioral well-being of the children in their care. It is evidenced that children in kinship families may suffer from the negative influences of psychological distress of kinship caregivers. Social engagement serves as a protective factor strengthening family resilience, particularly for children's emotional and behavioral development. Participating in social activities and volunteering often provide kinship caregivers with access to social support, relaxation, and respite. Social welfare policies and local practice should be developed to ensure that adequate support from formal support system (i.e., the government) is provided to both informal and formal kinship families, and strong social relationships are connected to kinship caregivers and children in strengthening individual and family resilience and improving the well-being of children and caregivers among kinship care families.

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APPENDIX A. Definition of Terms

Kinship care often refers to “formal” or “public” arrangements where children are cared for by their relatives while placed in the legal custody of the state under the supervision of a state child welfare agency. In formal kinship caregiving arrangement, kinship caregivers have physical custody of the children and are usually certified or approved as foster parents of their related children (Child Welfare Information Gateway, 2016).

In contrast to formal kinship care, informal kinship care arrangements refer as primary caregiving provided by relatives in the absence of a parent, and the placement is made among families themselves without the auspices of the child welfare system or the juvenile court system (Child Welfare Information Gateway, 2016; Harden et al., 1997; Strozier, 2012). This kinship arrangement is “informal” or “private” between the parents and kinship caregivers. This type of arrangement represents the largest group of kinship care (Child Welfare Information Gateway, 2016; Strozier, 2012). In informal kinship arrangement, kinship caregivers have physical custody of the children, but the legal custody often remains with the parents. Relatives taking on a parental role informally outside the child welfare system loom a much larger group of kinship families. Researchers have used different terms in describing the importance of the relative caregiving role and the informal caregiving relationship among extended families, such as “the second line of defense,” “a safety net for the child when parents fail” (Kornhaber, 1985), “family watchdogs” (Troll, 1983), “gift relationship” (Testa & Slack, 2002), and “a contingent process” (Troll, 1985). These descriptions also imply an extended definition of family preservation that relatives, especially grandparents, provide informal care to their related children with the desire to preserve family values and “keep the family together” (Landry-Meyer, 1999).

Another type of kinship care was documented in some states: voluntary kinship care, in

which children are cared for by relatives with child welfare agency involvement but without seeking state custody (Child Welfare Information Gateway, 2016). This type of arrangement is sometimes counted as a category of formal kinship care in some states while other states do not count non-licensed kinship families into the foster care population (Geen & Berrick, 2002). Thus, kinship care arrangement is still often dichotomized as formal vs. informal care or public vs. private care.

It is important to understand how the different types of kinship care families are defined in order to determine what services need to be developed for meeting specific caregiving needs and how existing welfare policies could include or potentially exclude any of this population. However, Ehrle and Geen (2002b) have argued that “the distinctions between kinship groups are becoming blurred as the definitions and types of custody are expanding” (p. 32). Some child welfare agencies are extending their services to private informal families where the child is not in the custody of the state. The blurred distinctions make researchers difficult to identify and explore this population, especially the understudied informal kinship families. Despite acknowledging these definitions, readers should note that there is a variety types of kinship care arrangement and some of them are not clearly separated in the literature and the field.