SYSTEMS FOR SCHOOL READINESS: THE ROLE OF COLLABORATIVES, CAPACITY, AND INTERORGANIZATIONAL EXCHANGES IN BUILDING COORDINATED EARLY CHILDHOOD SYSTEMS

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ABSTRACT

SYSTEMS FOR SCHOOL READINESS: THE ROLE OF COLLABORATIVES, CAPACITY, AND INTERORGANIZATIONAL EXCHANGES IN BUILDING COORDINATED EARLY CHILDHOOD SYSTEMS

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Giving all American children an equal opportunity to start kindergarten ready to learn and succeed is a complex and pressing issue. Addressing this complexity requires the support of accessible and coordinated early childhood service systems. The current study explored the role of multi-sector service provider collaboratives in making the goal of school readiness for all a reality. Specifically, the influence of relational capacity on collaborative effectiveness at building more coordinated, accessible systems and the mediating role of interorganizational exchanges. Longitudinal evaluation data spanning from 2010 to 2012 was collected from 54 early childhood collaboratives in Michigan to assess these connections. The results did not support a relationship between relational capacity and collaborative effectiveness, nor did they display a mediating effect of exchanges. Although the initial hypotheses were not supported, post-hoc analyses revealed that *shifts* in relational capacity from 2010 to 2012 were in fact predictive of collaborative effectiveness. These findings emphasize the importance of capacity building and changes in capacity as opposed to simply focusing on arbitrary levels at any given point-in-time. Implications and future directions for emphasizing the roles of change and capacity building in understanding effective early childhood collaboratives are discussed.

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INTRODUCTION

At the present time, many children in the United States are entering into school unprepared to learn, and the systems put in place to support school readiness are not effective at preparing all children to begin school and to succeed (Gratz & Larwin, 2014). In the US education system, standardized test scores are generally low and grade retention and dropout rates are high; many teachers report that children are not starting off their school careers ready to learn and succeed (Gratz & Larwin, 2014). Entering into a learning environment prepared involves being physically, emotionally, socially, and cognitively ready to be educated in a school setting (Anderson et al., 2003; Karroly et al., 1998; Schwartz, 1994; Nelson et al., 2007; Shonkoff, 2009). Because school readiness is so complex, experts agree that comprehensive readiness requires early childhood systems that provide four domains of support: family support; health, mental health, and nutrition; early education; and special care and early intervention (Bruner, 2012). These four domains include supports such as housing, food assistance, health insurance, psychotherapy, screening for developmental delays, home education resources, or early learning programs. Children need support in each of these areas to overcome challenges to success brought on by factors like poverty, homelessness, illness, developmental delays, learning disabilities, or just to simply prepare them to be immersed in a learning environment.

Beyond this diverse array of supports, ensuring all children are comprehensively prepared to succeed in school also requires that these supports are interconnected and function as a system (Bruner, 2012). In other words, not only do these supports need to exist but they also need to be coordinated and accessible in order for those in need to benefit from them. Oftentimes vulnerable children require one, or usually more, sources of support to overcome barriers to their success

but they end up falling through the cracks of, what are currently, disjointed and disconnected systems (Harbin et al., 2004; Bruder, 2008; Bruner, 2012). Right now, school readiness supports typically operate in silos - healthcare is not connected to education, education is not connected to family supports, and so on. This lack of coordination means that both providers and families are often unaware of available services and children and families are often unable to access all of the supports capable of meeting their needs (Harbin et al., 2004; Bruder, 2008; Bruner, 2012). The job of early childhood systems is to weave a coordinated, accessible safety net that supports all children in pursuit of school readiness across all of these domains.

One approach to building more coordinated and accessible early childhood systems is through the use of multi-stakeholder collaboratives with the aim of making all children ready for school in every community. Collaboratives are community-wide efforts that bring together diverse groups of stakeholders to create venues for collective problem solving with the purpose of building more integrated systems (Gray, 1985; Zakocs & Edwards, 2006; Foster-Fishman et al., 2001). Research supporting collaboratives is mixed but they are primarily regarded across the literature and practice field as critical venues for promoting integrated service delivery efforts and system improvements (Roussos & Fawcett, 2000; Allen, Watt, & Hess, 2008; Smith et al., 2011). Thus, in the context of early childhood systems, a collaborative is effective when it is able to coordinate comprehensive supports for school readiness and make those supports accessible to all.

Given the mixed support for the use of collaboratives to build stronger systems, researchers have acknowledged the need to understand the circumstances under which they are most effective. In order for collaboratives to be effective at improving systems, certain capacities must be built across collaborative members. More specifically, related to building coordinated

and accessible systems, collaboratives do so more effectively when they first build relational capacity (Zakocs & Edwards, 2006; Foster-Fishman et al., 2001). Relational capacity consists of two components: a cohesive environment and interdependent providers. Interdependence among service providers involves buy-in and reliance on the collaborative members to provide comprehensive services. It is defined by commitment, mutual dependence, support, and accountability among organizations. Interdependence builds coordinated systems by promoting shared expectations and collaboration, mitigating conflict, and distributing power and accountability (Gray, 1985; Stegelin & Jones, 1991; Alexander et al., 2003). A cohesive environment involves more interpersonal components like mutual trust, a shared vision, and dedication to that vision. It helps coordinate systems by allowing for easier communication, conflict resolution, and alignment across various diverse organizations in multi-sector collaboratives (Stegelin & Jones, 1991; Purdue, 2001; Alexander et al., 2003; Butterfoss et al., 2006; Allen, 2005; Luque et al., 2010). There is consistent evidence in the literature demonstrating the importance of both elements of relational capacity in building more coordinated and accessible systems in various problem areas (Foster-Fishman et al., 2001; Allen, 2005; Zakocs & Edwards, 2006; Nowell, 2009).

In order to build on the current body of knowledge, the next step is to understand why relational capacity influences the effectiveness of collaboratives at building more coordinated and accessible systems. In the current literature, there is a link between relational capacity and key interorganizational relationships that form among diverse groups of stakeholders, such as those that facilitate the sharing of information or client referrals (Van de Ven & Walker, 1984; Chow & Chan, 2008; Acri et al., 2012). In other words, when collaboratives have more relational capacity, positive interorganizational relationships flourish. Members are then more likely to

engage in interorganizational exchanges with other member organizations. For example, the exchange of information from one service provider to another is promoted when there is a strong sense of mutual interdependence and cohesion (Van de Ven & Walker, 1984; Chow & Chan, 2008; Salazar et al., 2012). Relational capacity also promotes cross-agency client referrals by strengthening interpersonal relationships and encouraging collective functioning (Van de Ven & Walker, 1984; Fleury et al., 2012). Importantly, these exchange relationships facilitate collaborative effectiveness at building more coordinated systems by creating a relational infrastructure that supports interconnectivity (Heflinger, 1996; Hurlburt et al., 2004; Bai, Wells, & Hillemeier, 2009). Information exchanges build the universal awareness necessary for coordinated services. Client referral exchanges across providers also influence awareness and make services more accessible by directly connecting those in need to additional supports. In other words, the literature suggests that interorganizational relationships may mediate the predictive influence of relational capacity on collaborative effectiveness. However, research has yet to directly explore the mediating role of exchanges in the relationship between capacity and effectiveness of collaboratives. Given the need for collaboratives to better understand the *mechanisms* through which capacity helps them be more successful at achieving their goals, it is necessary to further explore these theoretical connections.

The purpose of the current study was to investigate the extent to which relational capacity promoted collaboratives' effectiveness at building coordinated, accessible early childhood service systems and the degree to which the development of interorganizational relationships mediated this relationship. With the use of longitudinal evaluation data, research questions were explored in the context of Michigan's Great Start initiative. Great Start is a collection of 54 early childhood collaboratives in Michigan focused on the goal of creating systems that are capable of

preparing every child to enter school ready to learn and succeed at age five. In line with the current literature, it was predicted that relational capacity would positively influence the effectiveness of these collaboratives at building coordinated and accessible early childhood systems; moreover, this relationship would be supported by interorganizational relationships in the form of information and referral exchanges.

LITERATURE REVIEW

History and Current State of School Readiness in the United States

In 1989, the United States Government established a set of goals for the future of education in America (Lewit & Shuurmann-Baker, 1995). One of these goals targeted having every child ready for school by the age of five. Currently, around three million children enter into kindergarten each year and, 25 years later, many are still not ready. Kindergarten teachers in the US have reported numbers up to and over 50% when describing the proportion of students who lack key readiness skills starting school at five (Gratz & Larwin, 2014). Many young children are entering school with insufficient academic skills and they have trouble following directions, staying organized, and being self-sufficient (Gratz & Larwin, 2014). The issues and skills accompanying children when they start school vary significantly from child to child but one thing is clear – the goal established in 1989 has not been met: all children are not ready for school.

Coupled with increasing public acknowledgement, cognitive, behavioral, and community sciences agree that in order to achieve school readiness for all, children require support from conception up to the day they enter school (Karroly et al., 1998; Shonkoff et al., 2009). Even in the earliest years of life, development forges the building blocks for school readiness. From a biological perspective, the state of rapid development in the first years of life make children the most susceptible to both positive and negative influences (Karroly et al., 1998; Purves, 1994; Shonkoff et al., 2009). This time is crucial to building a strong developmental foundation. In addition, the environmental influences in early childhood also shape behavioral, cognitive, emotional, and social attributes that will span a child's lifetime, making early childhood a period

of both vulnerability and great opportunity (Anderson et al., 2003; Karroly et al., 1998; Schwartz, 1994; Nelson et al., 2007; Shonkoff, 2009). Early experiences contribute to a child's ability, not only to learn, but to also be ready to enter the school environment with the necessary behavioral, cognitive, emotional, and social skills. In order to equip a child to develop these skills, while promoting optimal physical health (within his/her biological limits), it requires support for all of the child's needs in various domains of his/her life. Overall, in order to adequately prepare children to enter school by age 5, experts agree that effective school readiness preparation can be broken down into four distinct support domains: (1) Family Support; (2) Health, Mental Health, and Nutrition; (3) Early Education; and (4) Special Care and Early Intervention (Coffman, Stover-Wright, & Bruner, 2006; Bruner, 2012). These four domains must work together while offering a robust and diverse array of services in order to achieve the most optimal school readiness outcomes for all children:

Family Support

The first domain is the service sector that caters to family support. This involves, "economic and parenting supports to ensure children have nurturing and stable relationships with caring adults" (Bruner, 2012, p. 36). This domain includes ensuring the provision of the most basic needs of the child including food, clothing, shelter, and family income. For example, the Department of Human Services provides programs such as Temporary Assistance to Needy Families ("welfare") or monthly food assistance funds. The US Department of Housing and Urban Development funds the Housing Choice Voucher Program, which provides tenant-based rental assistance to help recipients maintain independent housing. Beyond these basic needs, this domain includes a myriad of supports for the parents and family to help them provide stable, nurturing environments for their children. Examples include programs that provide caseworker

home visits, substance abuse treatment, technical skills training, job placement, or education to parents. Targeted supports for parents facing challenges like mental illness or financial strain benefit not only the parents themselves but the children who are dramatically impacted by their household environments (Shonkoff, 2007). All of these sources of aid and support help to alleviate stressors on both the child and the family (Shonkoff, 2007).

Such basic supports are critical, given the prevalence of stressful environments in which American children live. Approximately 26% of children ages 0 to 5 years live below the national poverty level and an alarming 16.7 million American children live in households that report at least one instance of food insecurity in a year (National KIDS COUNT Program, 2011). Growing up in a dire economic situation is often accompanied by an array of detrimental environmental stressors (e.g. lack of food, unstable housing, emotionally taxed parents). These stressors, often compounded by the challenges of poverty, can promote and perpetuate health problems and developmental delays (Shonkoff & Phillips, 2000; Wight, Chau, & Aratani, 2011). For instance, persistently low family income is associated with lower test scores at age 5 (Duncan & Brooks-Gunn, 2000). Children in poverty are twice as likely to repeat grades than those not in poverty, 1.3 times as likely to have emotional or behavior issues according to parents, and 2.2 times as likely to experience violent crimes (Duncan & Brooks-Gunn, 2000). Mitigating the negative effects of the environmental stressors brought on by poverty can have implications on various aspects of a child's life and future. This is also true of environmental stressors that may not be associated with poverty. For example, when positive intervention is introduced to a child in an instable home environment, and most importantly early on, positive outcomes follow. For example, severely neglected children have greater gains in IQ when placed in supportive foster care environments before age 2 than those who were placed later in childhood (Nelson et al.,

2007; Shonkoff, 2009). These findings support the message that early intervention that provides stability at home is both beneficial and relevant to school readiness. With poverty touching nearly a quarter of America's children, and countless more facing other environmental stressors in the household, it is imperative to provide the supports needed to mitigate the negative consequences associated with living in dire circumstances such as these.

Health, Mental Health, and Nutrition

The second sector involved in early childhood systems encompasses health, mental health, and nutrition. This involves, "comprehensive health services that meet children's vision, hearing, nutrition, behavioral, and oral health as well as medical health needs" (Bruner, 2012, p. 36). In an effective early childhood system, both primary and preventative care are addressed across the entire spectrum of a child's healthcare needs (Bruner, 2012; Coffman, Wright, & Bruner, 2006). In Michigan, for example, MiChild (Medicaid) provides health insurance to children whose families would not otherwise be able to afford it. This sector also includes doctors, dentists, therapists, psychiatrists, school lunch programs, and any community resources that contribute to bettering the health, mental health, or nutrition of children. Supports like these are essential due to the fact that over 2.2 million children under 5 do not have health insurance. (National KIDS COUNT Program, 2011). Outside of just those facing economic barriers, the United States is faced with growing rates of chronic illness in children.

Covering the specific bases of health, mental health, and nutrition, approximately 9% of US children and adolescents have been diagnosed with asthma, 6% with attention-deficit/hyperactivity disorder, and at least 18% are obese (Perrin, Broom, & Gortmaker, 2007). Additionally, the 6% of children diagnosed with ADD/ADHD are only a fraction of those with mental health problems that inhibit their ability to adjust to the social and emotional environment

at school (National KIDS COUNT Program, 2011). These growing issues, which take root in early childhood, have long-term effects that impede a child's ability to grow, learn, and live a healthy life. Almost 10 million children have been diagnosed with at least one emotional, behavioral, or developmental condition (National KIDS COUNT Program, 2011). When a child is not adequately supported and prepared prior to entering into the school environment, the result is a higher likelihood to be withdrawn, inattentive, or disruptive once in school (Anderson et al., 2003). Resulting expulsions from early care programs have been cited as evidence of the lack of attention to behavioral and emotional conditions in early childhood (Bruner, 2010). In addition, the increasing rates of prescription drugs, and particularly those not approved or tested for young children, being used to mitigate these issues displays a lack of emphasis on intensive preventative efforts focused on the mental health of young America (Bruner, 2010). Services within this domain need to focus not only on physical health of children, but also mental wellbeing across the spectrum of prevention, promotion, and treatment. Programs including counseling, parent respite, public awareness efforts, screening and early identification, and properly trained professional providers all contribute to health in early childhood (Bruner, 2010).

Further, health services and supports for early childhood are not confined to the 0 to 5 years. Prenatal care for pregnant mothers is essential to building a foundation for health in young children. The benefits of proper prenatal care are both vast and well-documented, they include, "the positive effects…on healthy brain development; improved outcomes for young children with developmental delays (or impairments in vision or hearing) when their difficulties are detected and early intervention is initiated; and the developmental benefits for very young children when parental problems such as maternal depression are identified and treated effectively" (Shonkoff, 2007, p. 3). One example is the Women, Infants, and Children (WIC)

program, which provides supplemental food and nutrition assistance to mothers and pregnant women. Those who participate in WIC, "are less likely to bear low birth-weight or pre-term infants, both of which are associated with lower educational achievement, lower probability of employment, and lower earnings as an adult" (Shonkoff, 2007, p. 12). This domain, inclusive of health, mental health, and nutrition, clearly requires a complex and vast array of services and supports in order to ensure proper care for all children leading up to age five.

Early Education

The third domain, early education, is defined as "early care and education opportunities in nurturing environments where children can learn what they need to succeed in school and life" (Bruner, 2012, p. 36). This diverse and crucial sector includes parent training programs, childcare, and efforts that provide books and essential learning tools to families in need. Most prominently it includes state and federally-funded initiatives like pre-kindergarten, Head Start, and preschool special education as well as private early learning centers. There are roughly half of the 3-5 year olds in the US attending some sort of preschool program, although those rates vary greatly from state to state and from community to community (National KIDS COUNT program, 2012; Barnett, 2008). There is a growing recognition that children who are immersed in early learning environments providing quality developmental support, either inside or outside of the home, are more likely to be ready for school and experience various other positive outcomes (Barnett, 2008; Gilliam & Zigler, 2001). Several meta-analyses summarizing the volumes of studies on early childhood education initiatives draw the same conclusions; quality early education improves outcomes related to achievement test scores (Barnett, 2008), rates of grade repetition, school attendance, cognitive development, and overall education attainment (Gilliam & Zigler, 2001; Wong et al., 2008). For example, in a recent study of the Michigan School

Readiness Program (MSRP), a state funded pre-kindergarten program, kindergarten children who participated in the program scored 1.82 point higher (SD=.47) on the Woodstock-Johnson Applied Problems sub-test, which measures math skills, than those who did not (Wong et al., 2008). In addition, those who were in the pre-kindergarten program answered 22.14% more items correctly (SD=.96) on a measure of print awareness, assessing a child's ability to identify letters and sounds, which is essential to the development of reading skills (Wong et al., 2008). Another notable, longitudinal study displaying the impact of quality early education in Michigan was the Perry preschool study. In one study, participants (those enrolled in the preschool program) rated significantly better than non-participants at the age of 27 on graduation rates, employment rates, and housing status. The preschool participants from the Perry study also experienced fewer teen pregnancies and arrests, and generally received fewer social services than non-participants (Schweinhart et al., 2005).

To add to the importance of early education support, as the state of the economy and employment demands shift, steadily increasing numbers of children are being placed in early childhood development programs like childcare or preschool prior to entering school in the US (Satkowski, 2009). Amidst the evolution of the American workforce, more members of the family are working and parents are forced to work more hours to sustain themselves or remain competitive in their fields (Satkowski, 2009). Given both the positive impacts and the ever-growing need, these programs (i.e. Head Start, daycare) must be intentionally designed to support positive early childhood development (Coffman, Wright, & Bruner, 2006; Bruner, 2012). Still, intentional quality learning environments must be present for all children both in programs and inside the home (Bruner, 2012). The need for in-home learning environments is due to the fact that, at this time, many children still remain in the home or in family care during early

childhood. With only half of 3-5 year olds in programs, the other half is being guided through crucial development by parents and caregivers. Some parents choose not to send their children to preschool for various reasons but the need for education preparation is still there. This means that children must be presented with structured developmental guidance and positive early childhood experiences in order to gain the necessary skills for early learning, up to and far beyond the start of school at age five. Early education is not only essential to building an effective early childhood system by promoting school readiness, but the effects contribute to children's well-being far into the future.

Despite the necessity for quality early childhood education, the sector is yet to provide this to all young children. As summarized by Barnett, "[current] public policies for child care, Head Start, and state pre-K, do not ensure that most American children will attend highly effective preschool programs. Some attend no program at all, and others attend educationally weak programs. Children from middle-income families have the least access, but many children in poverty also lack preschool experiences" (Barnett, 2008, pg. 20). Programs are disjointed and vary dramatically in their curriculum and enrollment processes, making applications and school transition procedures increasingly difficult. There are not enough accessible slots available to get children into early childhood education settings and programs with available enrollments slots are often lacking in quality (Barnett, 2008). For children who do not attend early childhood education programs, parents are often not made aware of kindergarten expectations and children lack opportunities to develop the necessary school readiness skills (Bruner, 2012). Across the board, many children are missing the opportunity to be immersed in quality, effective early education experiences, both inside and outside of the home.

Special Needs and Early Intervention

The final sub-system deals with special needs and early intervention, which encompasses "early identification, assessment, and appropriate services for children with special health care needs, disabilities, or developmental delays" (Bruner, 2012, p. 36). The focus here is identifying environmental, cognitive, or health anomalies that could lead to future developmental obstacles before they cause such harm. This domain includes specific health screenings, disability accommodations, community interventions to decrease environmental risk factors, or institutionalized developmental assessments by trained professionals. For example, targeted developmental assessments can help identify children who may be at risk of developing certain learning disorders. Identifying these risk factors early on can prepare families for a child's special needs and perhaps guide them to further interventions that will mitigate a poor prognosis.

Past suggestions to expand preventative efforts in early childhood have included, "lead abatement education and action strategies specifically within neighborhoods with older housing stock and high rates of blood-lead levels in young children" (Bruner, 2009, p. 9). Resulting efforts led to "the reduction of lead in gasoline and paint", which "is one example that has reduced a preventable cause of mental retardation, hyperactivity, and learning disabilities" (Bruner, 2010, p. 4). The idea is to emphasize the importance of "wellness" and to shift away from exclusively focusing on "injury and illness" (Bruner, 2009, p. 10). This can include regulations on pesticides, efforts to mitigate the effects of increasing mercury levels in the food chain, or increased public awareness via warning labels and education (Bruner, 2010). In theory, some of the barriers faced by young children could be identified and prevented - or reversed before causing harm - through these interventions. Perhaps by doing so, the other domains, like

health and mental health services, could be less burdened and have more resources to allocate to more complex challenges.

Accessible, Coordinated Early Childhood Systems in Support of School Readiness

School readiness is clearly a very complex and broad issue, which requires an expansive array of services and supports across all four domains. In order for these supports to reach and serve all the needs of a child, the four domains must function as a cohesive system. Following the failure to meet the goal of school readiness for all by the year 2000, researchers, funders, and policy makers began to increasingly acknowledge the necessity of a system's perspective in order to better support all children in pursuit of this goal. In 2006, the Early Childhood Systems Working Group (ECSW) was formed from stakeholders around the US representing each of those constituencies in areas of health, education, social services, and prevention. Together, a framework was created around the four domains of school readiness to guide the call for the practice of early childhood system building in each state (Bruner, 2009). States have addressed this call with varying approaches but across the US, early childhood systems are a top priority.

The key to optimizing and understanding school readiness, from a systems perspective, is to move beyond a view of discrete domains and services to a unified system, wherein all services and supports operate in a coordinated manner (Bruder et al., 2005; Kagan & Kauerz, 2012). According to Ackoff and Rovin, "a system is understood by considering the whole, not the parts separately" (2003, p. 2). The performance of a system depends on all of the components functioning interdependently, like that of a complex organism. Ackoff and Rovin cite the incredibly effective analogy of an automobile as a system. There are many, conservatively hundreds, of parts that make up an automobile from the bolts to the battery. If one part breaks, say the windshield or a tire, the overall performance of the machine can be stymied dramatically.

Other seemingly small components, like a head gasket, can immobilize the automobile altogether should it cease to serve its purpose. Keeping a car moving, safe, and comfortable depends on the simultaneous interaction of many pieces that could, by no means, do it alone. Following this systems theory, the goal of the early childhood service systems (ECSS) approach is to have *all* of the services and supports operating in concert in order make sure that *all* of the developmental needs of *all* children are being met. Current best practice thinking suggests that the answer to comprehensively addressing school readiness is a system that coordinates the various services and supports across the four domains and makes them accessible to all (Bruner, 2012; Coffman, 2007; Selden, Sowa, & Standfort, 2006; Trute, Heibert-Murphy, & Wright, 2008).

In relation to preparing children in the United States for school, the importance of a coordinated and accessible early childhood service systems is clear. Service coordination occurs when organizations align their activities or services while still maintaining a level of independence (Gajda, 2004; Himmelman, 2001; Selden, Sowa, & Standfort, 2006; Sowa, 2008). Himmelman (2001) describes coordinating as distinct organizations "altering activities for a common purpose…[it] is often used to create more user-friendly access to programs, services, and system" (p. 277). Across the literature, coordination is considered an important component of collaborative efforts (Daka-Mulwanda et al., 1995; Himmelman, 2001; King & Meyer, 2005; Bruder & Dunst, 2008; Kagan, 1991). Coordination ensures families are aware of available services and that those services work together to provide comprehensive support. These services can then be accessed more readily in order for families in need to benefit from them. From a service delivery perspective, a lack of accessible, coordinated efforts can leave gaps wherein children who require multiple services in concert or succession may fall through the cracks (Glisson & Hemmelgarn, 1998). For example, if a child is in an exemplary early learning

program but has not received proper care for poor vision, he/she is not likely to fully benefit from the educational support. In addition to these gaps, a disjointed system can also result in overlapping services. If two or more organizations provide the same, or even similar services without being aware, time and funding are wasted and children in need may be receiving redundant care when they are still missing out on crucial aspects that are not available as a result (Bruner, 2005; Selden et al., 2006). An accessible and coordinated early childhood service system allows providers to communicate and be knowledgeable of one another in order for the system to comprehensively service all children (Bruner, 2012; Coffman et al., 2012). An accessible, coordinated system also helps children and their families navigate and benefit from the complex and diverse network of services, which is a key contributor to preparing children for school by the age of five (Dunst & Bruder, 2002; Dunst & Bruder, 2006; Harbin et al., 2004; King & Meyer, 2006). In sum, in order to promote school readiness for all, early childhood service systems must not only exist but must also offer coordinated and accessible supports.

Despite the necessity of accessible and coordinated services and supports in early childhood, these systems are currently not successful to the extent that they holistically support all children in the pursuit of school readiness in a coordinated manner (Harbin et al., 2004; Bruder et al., 2005; Coffman et al., 2006; Selden et al., 2006; Bruner, 2012). Based on conversations with Part C coordinators from every state (individuals appointed to oversee the coordination of multi-sector services for children; mandated by the Individuals with Disabilities Education Act 1997), "more than half of the states' policies specify a stated philosophy (63%) of service coordination, and 57% of state policies specify the desired outcome of service coordination" (Harbin et al., 2004, p. 93). Despite these policies, according to the coordinators, 70% of states only rated between 1 and 3 on a 6-point scale (1 being "very little coordination", 6

being an “integrated collaborative service system for all young children”) based on their service system for infants and toddlers (Harbin et al., 2004, p. 94). Coordinators also reported that most states are challenged by the task of building coordinated systems and they themselves are not fully aware of their duties and responsibilities in doing so. Finally, and perhaps most importantly, parents of children receiving these services report they are not satisfied with the level of accessibility and coordination among services and supports (Harbin et al., 2004). Despite the push for the use of a systems perspective to promote school readiness for all children, both providers and recipients of services acknowledge the need for early childhood service systems to be more accessible and coordinated. One approach to improving the state of early childhood service systems in various communities across the US is the implementation of multi-stakeholder collaboratives. States including Illinois, Florida, Massachusetts, Oklahoma, Michigan, Washington, and North Carolina have launched statewide initiatives to create local collaboratives focused on building stronger early childhood systems.

Collaboratives in Early Childhood Service Systems

Across multiple problem domains including cancer, domestic violence, and vulnerable children, collaboratives are embraced as effective community problem solving and system building venues. These collective endeavors go by many names (e.g. coalitions, interorganizational alliances, coordinating councils, collaborative partnerships, collective impact) but all serve the same purpose. This purpose is to promote integrated efforts among diverse entities with a shared mission (Allen, 2005; Zakocs & Edwards, 2006; Nowell, 2009; Nowell & Foster-Fishman, 2011). They do so by bringing together various stakeholders involved in pursuing that mission and creating a collaborative infrastructure with the goal of building a more effective system (Foster-Fishman et al., 2001; Nowell, 2009). This collaborative infrastructure

allows members to communicate, build relationships, and begin to develop a comprehensive view of the systems in their communities (Foster-Fishman et al., 2001). Broadly, they provide venues for members to identify areas for improvement and collectively work to make community-wide change. Collaboratives have been used to promote coordinated support for issues like cancer (Wells et al., 2007; Luque et al., 2012), asthma (Clark et al., 2006; Smith et al., 2011), violence (Chavis, 1995), child abuse (Cardazone et al., 2014), domestic violence (Allen, 2005; Nowell, 2009), substance abuse (Rowe, 1997; Lindholm et al., 2004; Stevenson & Mitchell, 2003), tobacco control (Rogers et al., 1993; Letlow, 2008), HIV/AIDS/STDs (Penner, 1995; Sieverding et al., 2005; Doll et al., 2012), teen pregnancy (Kegler et al., 2005), and vulnerable children (Foster-Fishman et al., 2001; Glisson & James, 1993).

Evidence exists of collaboratives influencing positive shifts in outcomes related to their overall missions like decreasing community rates of STDs in adolescents (Sieverding et al., 2005) and slowing the growth of low birth-weight rates (Darnell et al., 2013). Darnell et al. (2013) observed 25 counties in Georgia with collaboratives addressing low birth-weight rates compared to a matched sample of those without. Using National Kids Count data from 1997 to 2004, county-level rates of births under 5 lbs. 8 oz. were compared across groups. The results of a latent growth model demonstrated significantly less growth in low birth-weight rates in counties with collaboratives compared to those without (Darnell et al., 2013). Overall though, findings related to collaboratives' influence on population-level health outcomes like these is mixed (Allen, Watt, & Hess, 2008; Javdani & Allen, 2011). Merzel and D'Affitti (2003) present a review of 32 health promotion and disease prevention collaborative initiatives covering issues including smoking, cancer, heart health, and HIV. They discuss the "modest impact" of these efforts reported over the last 20 years and begin to explore reasons for these findings such as

methodological issues and program limitations (Merzel & D'Afitti, 2003, p. 557). Researchers have since agreed that relating the work of collaboratives to such distal outcomes does not paint an accurate picture of their influence on community change. In order to accurately assess shifts associated with collaborative efforts, it is now understood that more proximal, systems-related outcomes, like accessibility and coordination of supports within the system, better reflect the influence of collaboratives (Brown et al., 2007; Allen, Watt, & Hess, 2009; Javdani & Allen, 2011; Yang et al., 2012). Emerging community problem solving theory suggests that in order to shift population-level outcomes, there must first be key changes in the system, brought forth by collaborative efforts (Yang et al., 2012). Collaboratives must maintain their overarching mission, yet be able to assess their impact on shifts in the system that will subsequently create higher-order change (Javdani & Allen, 2011). In terms of early childhood service systems, the shared vision of the collaborative is to promote school readiness. However, in pursuit of that goal, these collaboratives are assigned the specific mission of creating a more coordinated, accessible early childhood system with the belief that an improved service system is a necessary step towards promoting school readiness. In other words, collaboratives within the early childhood sector are considered most effective when they successfully promote more coordinated and accessible early childhood service systems.

A growing body of literature is emerging that demonstrates the important role collaboratives play in systems building and systems change. Roussos and Fawcett (2000) review the documented benefits of collaboratives and provide support and examples of their role in broader systems change. Of the literature they reviewed that measured systems changes, "[all] of the studies reported evidence of new programs, services, and practices" and "[some] studies also found evidence of policy changes to which collaborative partnerships contributed" (Roussos &

Fawcett, 2000, p. 377). Specifically related to more coordinated and accessible services, collaboratives have demonstrated positive influences in domains like domestic violence (Allen, Watt, & Hess, 2008), asthma (Smith et al., 2011), and adolescent health and behavior (Brown et al., 2007). For example, Smith et al. (2011) outlined a case study of five collaborative partnerships that were formed to address the public health issue of childhood asthma. The Merck Childhood Asthma Network sites across the US and Puerto Rico were observed over time and all reported positive shifts in the system. Using the systems perspective offered by their network of relationships, one site in California identified a critical gap in the services that they were offering in the community. They then worked collectively to develop strategies that successfully filled the gap and coordinated the system (Smith et al., 2011). In a comparative study, Brown et al. (2007) observed the service practices of 24 communities (12 with efforts dedicated to improving the youth development system and 12 without) from 2001 to 2004. Compared to the control communities, who exhibited similar baselines, those with the system-based collaborative efforts demonstrated significantly greater increases in coordination both within and across service sectors (Brown et al., 2007). Emshoff et al. (2007, p. 256) suggest the explanation for findings like these is that "[a] collaborative structure has the potential to increase the individual and collective efficiencies of existing services, plug gaps in services and resources, share information, and create a means by which a variety of perspectives and stakeholders can share power and decision-making." By definition, and in the present study, effective collaboratives in early childhood service systems promote more coordinated and accessible services for all children.

Despite these promising outcomes, it is important to note that collaboratives are not always effective at promoting positive shifts within systems and researchers have recently

acknowledged that the existence of collaboratives alone is not enough to build more coordinated, accessible systems (Nowell & Foster-Fishman, 2010). As a result, there is a growing body of literature that investigates the specific conditions under which collaboratives are most effective (Foster-Fishman et al., 2001; Allen, 2005; Zakocs & Edwards, 2006; Nowell, 2009; Yang et al., 2012). This literature suggests that certain capacities drive collaborative successes and that capacity must be considered when trying to promote systems change.

The Role of Relational Capacity in Effective ECSS Collaboratives

Various skills, resources, and conditions – or elements of capacity – within collaboratives have been implicated in broad community systems change. Given the goal of ECSS collaboratives to promote accessible and coordinated service systems, the literature supports the role of two specific aspects of capacity related to relational infrastructure. In other words, in order to make a service system more interconnected and user-friendly, there first must be an infrastructure that houses specific relational conditions conducive to building connections across many diverse stakeholders. Collaboratives' relational capacity, as it will be referred to in the current study, can be defined by two key elements: (1) a cohesive environment and (2) interdependence among service providers (Foster-Fishman et al., 2001; Zakocs & Edwards, 2006; Allen, 2005). Research in various domains has explored the concept of relational capacity and its role in the success of collaboratives. The vast body of literature has been compiled into reviews outlining the relationship between elements of capacity and collaborative effectiveness (see: Foster-Fishman et al., 2001; Zakocs & Edwards, 2006). The 2001 review by Foster-Fishman et al. highlights the role of relational capacity in collaborative successes like retaining members, implementing strategies effectively, and sustaining in the long-term. In identifying

indicators of coalition success across multiple studies, Zakocs and Edwards (2006) note several studies that implicated elements of both cohesion and interdependence.

Cohesive Environment

As defined in the current study, a cohesive environment in a human service system involves the relationship building components of mutual trust, a shared vision, and dedication to that vision. There is consistent evidence in the literature demonstrating the importance of cohesion in building successful, effective collaboratives (Stegelin & Jones, 1991; Purdue, 2001; Alexander et al., 2003; Butterfoss et al., 2006; Allen, 2005; Luque et al., 2010). One specific example that assesses the influence of cohesion on effectiveness focused on domestic violence coordinating councils (DVCCs) (Allen, 2005). In a study of 43 DVCCs, the shared vision element of a cohesive environment was significantly related to both members' ratings of effectiveness and key informants' ratings of goal accomplishment (Allen, 2005). A shared vision has also been linked to success in collaboratives focused on issues like community health (Alexander et al., 2003) and asthma (Butterfoss et al., 2006). Trust is yet another element of cohesion with demonstrated impact on the effectiveness of collaboratives at coordinating service systems (Purdue, 2001; Luque et al., 2010). In a study of a community cancer network in Florida, the capacity building efforts of the collaborative yielded growth in trust over time, and this trust was related to its successes in creating a more coordinated network (Luque et al., 2010).

The development of a cohesive environment allows for easier communication, conflict resolution, and alignment across various diverse organizations in multi-sector collaboratives (Gray, 1985). These facilitators promote the necessary systems changes that are required to make collaboratives effective at reaching their collective goals (Nowell, 2009). In Nowell's (2009) study of 48 domestic violence response collaboratives in Michigan, a cohesive environment was

positively related to systems-related outcomes. Social networks assessing the relational capacity shared between all members of the collaboratives revealed that increased cohesion improved the coordinated response to domestic violence. Nowell argued the importance of this association is the role of collective action in facilitating further major shifts in the system and the community at large (2009). By promoting trust, a shared vision, and dedication, members of collaboratives build the interpersonal aspects of capacity and support the relational infrastructure necessary to build a more coordinated, accessible system.

Interdependent Providers

Interdependence among service providers is the other element of relational capacity that contributes to the effectiveness of collaboratives at fostering coordinated efforts. This involves the more procedural aspects related to joint work efforts like conscious buy-in and a level of reliance on the collaborative infrastructure to provide comprehensive services. It includes, and is defined in the present study as commitment, mutual dependence, support, and accountability among organizations (Gray, 1985; Van de Ven & Walker, 1984). This interdependence is essential to building more coordinated and accessible systems (Gray, 1985; Stegelin & Jones, 1991; Alexander et al., 2003). In the most basic sense, Gray (1985) explains that without it, "collaborative problem-solving efforts make no sense" (p. 921). Interdependence among service providers is so crucial to success because it promotes shared expectations and collaboration, it mitigates conflict, and it distributes power and accountability (Gray, 1985). Across the state of Ohio, stakeholders dedicated to serving preschoolers with special needs were surveyed to assess the contributors to coordinated efforts (Stegelin & Jones, 1991). Questions were designed for the survey based on interviews with members of collaboratives statewide that focus specifically on this vulnerable population. When asked to identify the most helpful factor in successful

coordinated efforts, survey respondents identified commitment as top priority - at a rate second to only networking with others (Stegelin & Jones, 1991). In a qualitative study of four community health partnerships, Alexander at al. (2003), concluded that building an interdependent, systems-oriented infrastructure contributes not only to the value of collaborative work but also to the sustainability of the collaborative itself. When service providers are interdependent, the capacity for working together toward their goal is supported and collaboratives are more successful at coordinating to effectively serve their constituents and doing so sustainably.

For the current study, a research question was posed to investigate whether these two components of relational capacity, cohesion and interdependence, promote the effectiveness of collaboratives at building more coordinated, accessible early childhood service systems.

Q1: Does relational capacity predict the effectiveness of ECSS collaboratives, specifically the extent to which collaboratives promote service coordination and access to services?

Given the findings reviewed above it is predicted that both cohesion and interdependence positively influence the success of ECSS collaboratives at building more accessible, coordinated systems.

While there is general agreement that relational capacity facilitates collaborative effectiveness, there has been a recent call to understand the mechanisms *through which* relational capacity exerts this influence. By investigating what it takes to make relational capacity positively affect collaborative effectiveness, the process mechanisms that help to build accessible and coordinated systems can be better understood and implemented. This is important given the need for coordination in early childhood systems to promote school readiness, and the inability

to adequately build it as of yet (Bruder, 2008; Harbin et al., 2004). A crucial next step is to identify and assess the processes through which relational capacity contributes to ECSS collaboratives effectively promoting coordinated, accessible systems in order to more readily produce them.

One possible mediating mechanism is the formation of interorganizational relationships. Interorganizational relationships refer to the connections that exist between members of a system through which exchanges occur (information, referrals, resources etc.) (Bai et al., 2008). Relational capacity has been linked to building key interorganizational exchange relationships within networks of service providing organizations (Van de Ven & Walker, 1984; Chow & Chan, 2008; Fleury et al., 2011; Acri et al., 2012). Further, there is evidence that these exchanges among providers facilitate systems building and effective collaboratives (Heflinger, 1996; Hurlburt et al., 2004; Bai, Wells, & Hillemeier, 2009; Van Dijk, Anderko, & Statzer, 2010). Thus, by synthesizing these two bodies of literature, an additional research question emerged of whether exchange relationships mediate the predictive influence of relational capacity on ECSS effectiveness?

Q2: Do interorganizational exchange relationships among service providers mediate the influence of relational capacity on the effectiveness of ECSS collaboratives at building more coordinated, accessible systems?

Exchanges as the Mechanisms Through Which Capacity Facilitates Effectiveness

The relational capacity of collaboratives influences their effectiveness by promoting key interorganizational relationships, which subsequently predict success in system building (Foster-Fishman et al., 2007). In order for communities to build more coordinated, accessible early childhood systems using collaboratives, a better understanding is presently needed of the

mediating role of these relationships in doing so. Returning to the car example, solitary parts do not propel the actions of a vehicle, it is truly the connectivity that gives each piece purpose and results in full functionality. Interorganizational exchange relationships, specifically how dense they are throughout a group of organizations, embody the interconnectivity that is the guiding principle within systems theory. In early childhood systems, and the present study, those relationships are defined by the exchanges of both information and referrals, which together coordinate the available services and make them more accessible (Acoff & Rovin, 2003; Bruder et al., 2005).

Relational Capacity Facilitates Interorganizational Exchanges

According to previous research, the elements of relational capacity that have been linked to effective collaboratives have also been shown to promote exchanges of information and referrals among service providers (Van de Ven & Walker, 1984; Wells et al., 2007; Salazar et al., 2012; Misener & Doherty, 2013; Fleury et al., 2012; Chow & Chan, 2008). A cohesive environment and interdependence together build the relational infrastructure necessary to overcome barriers to coordinating and facilitate relationship formation. Barriers that inhibit exchange relationships across organizations include: misaligned practices, competing interests, lack of time, distrust, and competition for funds, clients, or various resources (Stegelin & Jones, 1991; Bruder et al., 2005; Foster-Fishman et al., 2001; Glisson & James, 1992). Specifically, "in children's service systems, collaborating across diverse service sectors presents particular barriers related to categorical funding, multiple jurisdictions and entry points into service systems, incompatible client eligibility, varying structural and operational boundaries, and differing philosophical and professional values" (Ruvard & Morrissey, 2003, p. 398). In sum, creating exchange relationships across organizations in a community comes at a high cost.

Organizations must relinquish time, resources, and control in order to form these relationships on their own (Morrissey et al, 1985). The ability of collaboratives to build relational capacity helps service systems mitigate these barriers and become more densely connected (Foster-Fishman et al., 2001). This relational infrastructure lessens the time and resources organizations must put forth in order to coordinate (Van de Ven & Ferry, 1980). Thus, relational capacity is necessary for the formation of exchange relationships in diverse systems like that of early childhood services in order to coordinate and be more accessible.

Previous research supports the facilitating role of capacity in relationship formation (Van de Ven & Walker, 1984; Wells et al., 2007; Salazar et al., 2012; Misener & Doherty, 2013; Fleury et al., 2012; Chow & Chan, 2008). For example, such was the case in a longitudinal study observing the shifts in relationships between child care and health organizations in a Texas community (Van de Ven & Walker, 1984). Researchers observed that both cohesion and interdependence fostered the growth of information and referral exchange relationships throughout the system. More recently in a general study of managers in Hong Kong, Chow & Chan (2008) supported that cohesion significantly contributes to a person's decision to share information. Findings like these suggest that, while interdependence is important as well, cohesion is a particularly strong predictor of information exchanges (Chow & Chan, 2008; Salazar et al., 2012). The interpersonal aspects of cohesion form an environment conducive to communication and sharing. On the other hand, the literature implicates interdependence among organizations as being particularly influential on the practice of referral exchanges (Van de Ven & Walker, 1984; Fleury et al., 2012). Given that the components of interdependence are focused on formal joint processes, it is supportive of the more procedural and service delivery-based exchanges of referrals. Among 168 health and social service agencies in Quebec, researchers

found that interdependence across organizations generated more inter-organizational client referrals (Fleury et al., 2012). Currently, limited empirical research investigates the specific, independent influence of cohesion *or* interdependence on either information *or* referral exchanges alone. As in Van de Ven & Walker's (1985) study, research does support the positive impact of relational capacity as a whole on facilitating interorganizational exchanges (Evans et al., 2014; Wells et al., 2007; Salazar et al., 2012; Misener & Doherty, 2013; Fleury et al., 2012; Chow & Chan, 2008). A better understanding is needed of how the elements of relational capacity independently influence information or referral exchanges in order to more intentionally build effective relational infrastructures in community collaboratives. Building a relational infrastructure of exchanges is critical in these settings as it implicated in the success of collaboratives at supporting more coordinated and accessible services.

Interorganizational Exchanges Promote Collaborative Effectiveness

The importance of interorganizational exchange relationships in producing effective collaboratives has been supported by research in various fields. Multiple studies have explored the concepts of information and referral exchanges across a diversity of problem domains including domestic violence (Nowell, 2009), child and family well-being (Foster-Fishman et al., 2001), mental illness (Provan & Milward, 1995; Morrissey, Tausig, & Lindsey, 1985), homelessness (Greenberg & Rosenheck, 2010; Mares & Rosenheck, 2009; Tsemberis & Eisenberg, 2000), and child welfare (Glisson & Hemmelgarn, 1998; Kagan, Rivera, & Parker, 1991). These exchanges have been linked to indicators of successful collaboratives including improved outcomes among service recipients and broader systems changes like access, service use, and quality (see Table 1 for a review of studies assessing the role and influence of interorganizational relationships in service system coordination).

Table 1. Studies Assessing the Effects of Interorganizational Relationships

Author	Year	Problem Area	Theories of Coordination and Relationships	Measure of Interorganizational Relationships	Key Findings
Glisson	1992	Coordination via service coordination teams for children in state custody	Coordination requires children being both (1) placed in and (2) receiving services across their full spectrum of needs. It is facilitated by teams who collectively assess, place, refer, and monitor children in the system.	Interorganizational exchanges were manipulated with the use of 2 pilot sites implementing service coordination teams tasked with creating them and 2 control sites without coordination teams. The number of placements, type of placements, and services received by each child were measured to assess system-wide exchanges	More children with clinical-degree physiological functioning (as reported by teacher observations) received needed services in the pilot area (32%) than the control (14%). Further, children in general in the pilot area received needed mental health services more often (25%) than those in the control area (16%) across the first year of service
Heflinger	1996	Coordination in child and adolescent mental health service systems for military children	2 exchange types: service delivery (referrals and staff interaction) and planning (activity coordination), coordination is dependent upon the pattern of these activities	Network analysis of 3 relationships: confirmed referrals, staff interaction, and activity coordination; with which a score was calculated representing relationships both within and across sector-specific clusters of agencies	Based on a survey of various agency representatives, the service system with the most relationships of those observed reported significantly better system performance related to: problems for children and youth, adequate and available services, responsiveness to needs of the community, system goal alignment
Rosenheck et al.	2001	Integration of mental health services for homeless individuals	Service integration, of which coordination is a key component, requires exchanges of clients, information (coordination), and funds	Key agency informants rated their relationships with all other agencies on a social network measure that separately assessed the sending and receiving of clients, information, and funds	Over a one year period, service integration was related to homeless clients being independently housed for at least 30 days. Although relationships were related to housing outcomes, no relationship was observed to clients' clinical outcomes
Hurlburt et al.	2004	Coordination as a predictor	Coordination is dependent upon	Interviews were used to assess 26 indicators	Increased exchange relationships were

Table 1. (cont'd)

		of mental health service use in child welfare systems	several different types of linkages formed by communication, awareness, referrals, co-location, and information sharing	of connections between the child welfare system and mental health services (e.g. shared space, joint training, joint service provision).	related to (1) increased likelihood of mental health service use for children above the clinical behavioral cutoff point and (2) decreased rates of differences in use between African American and white children.
Selden, Sowa, & Sandfort	2006	Collaboration in early care and education	Coordination, as a key component of collaboration, occurs when organizations "calibrate their actions" but are essentially independent	Collaborative relationships were assessed by the researchers based on the intensity of collaborative management strategies (structure, mandates, and funding of collaborative efforts) of different early childhood education systems	Collaborative relationships increased the diversity of services offered to children and families, and classroom quality was highest in the system with the most collaborative relationships. In a regression analysis predicting school readiness, collaboration had a significant impact on readiness while controlling for other important factors (e.g. prenatal demographics, quality of care)
Bai, Wells, & Hillemeier	2009	Coordination and access in mental health treatment systems for vulnerable children	Coordination is depends on the intensity of interorganizational relationships across 7 dimensions of coordination approaches (e.g. joint budgeting and resource allocation, discussion and information sharing, cross-training of staff)	The total number of linkages connecting child welfare agencies with mental health service providers across all 7 dimensions of coordination (as reported in an interview by child welfare agency directors).	The number of interorganizational relationships was positively related to both mental health service use and child improvement in mental health status. For both, additional types of relationships meant better outcomes.
Van Dijk, Anderko, & Statzer	2010	Coordination of prenatal care for mothers on Medicaid	Coordination is based on the provision of Prenatal Care Coordination (PNCC), or case management, that	The intensity of information and referral flow was measured by the number of hours billed to Medicaid for these acts, which are	Time spent providing cross-system information and referrals was related to decreased risk of low-weight births (16%), very low-weight births (17%), and births after

Table 1. (cont'd)

	involves assisting with access to multiple prenatal services and obtaining information from various sources to improve the pregnancy	required to coordinate services	which the baby was transferred to the natal intensive care unit (17%)

As an example of interorganizational relationships improving service systems, in a study of children with mental health issues involved with the child welfare system, exchanges were associated with increased use and a more equitable provision of services (Hurlburt et al., 2004). Across 97 counties in the United States, researchers reviewed 2823 child welfare cases via interviews with key informants. The interviews were conducted at baseline with caseworkers and caregivers and again 12 months later with the current caregivers at that time. For additional county-level data, agency informants were interviewed throughout the course of the study. The assessment of interorganizational relationships was based on 26 indicators of connections between mental health services and the child welfare system (e.g. shared space, joint service provision, joint training) (Hurlburt et al., 2004). The study found that increased relationships were related to (1) increased likelihood of mental health service use for children above the clinical behavioral cutoff point and (2) decreased rates of differences in use between African American and white children. In other words, more children who needed mental health services were using them and the gap of service use between African American children and white children narrowed when services were provided in a more coordinated manner (Hurlburt et al., 2004)

In order to fully understand the importance of information and referral exchange relationships in collaborative successes, it is sometimes necessary to look to studies observing

larger, more inclusive constructs (see: Rosenheck et al., 2001; Selden, Sowa, & Sandfort, 2006 in Table 1 for examples). Interorganizational exchanges of information and referrals are a key component in larger collective efforts like collaboration or service integration. Literature that demonstrates the positive effects of collaboration or integration speaks to the importance of information and referral sharing, as it is essential to their existence. Specifically notable is the observed relationship between collaboration and school readiness outcomes observed by Selden, Sowa, & Sandfort (2006). Collaborative relationships in early childhood care and education increased the diversity of services offered to children and families. Further, classroom quality was highest in the system with the most relationships. In a regression analysis predicting school readiness, collaboration had a significant impact on readiness while controlling for other important factors (e.g. prenatal demographics, quality of care) (Selden, Sowa, & Sandfort, 2006). In the long-term, improved school readiness outcomes are indicators of an effective early childhood system. These findings support the influence of interorganizational relationships on the ultimate mission of ECSS collaboratives, school readiness; and thus, its role in their effectiveness. In order for ECSS collaboratives to be effective in helping communities achieve their goals and overcome the challenges, there needs to be a better understanding of the role of interorganizational exchange relationships.

The next step in understanding the influence of collaboratives on building more coordinated systems is to further investigate how cohesion and interdependence promote crucial exchanges of information and referrals, which subsequently result in effective coalitions. The current study sought to investigate how these crucial exchange relationships are formed and their place in helping the relational capacity of collaboratives successfully build more coordinated early childhood systems.

CURRENT STUDY

Study Aims

The purpose of the current study was to investigate the extent to which relational capacity promotes collaboratives effectiveness at building coordinated, accessible early childhood service system and the degree to which the development of interorganizational relationships mediate this relationship. With the use of longitudinal evaluation data from 2010 and 2012 gathered from 54 early childhood collaboratives in Michigan, the research questions were explored in the context of Michigan's Great Start initiative. It was predicted that:

Q1: Does relational capacity predict the effectiveness of ECSS collaboratives, specifically the extent to which collaboratives promote service coordination and access to services?

H1: A more cohesive collaborative environment in 2010 would be predictive of more collaborative effectiveness in 2012

H2: More interdependence among organizations involved in the collaborative in 2010 would be predictive of more collaborative effectiveness in 2012

Q2: Do interorganizational exchange relationships among service providers mediate the influence of relational capacity on the effectiveness of ECSS collaboratives at building more coordinated, accessible systems?

H3: A more cohesive collaborative environment in 2010 would be predictive of more information exchanges across organizations involved in the collaborative in 2012

H4: More interdependence throughout the collaborative in 2010 would be predictive of more information exchanges across organizations involved in the collaborative in 2012

H5: A more cohesive collaborative environment in 2010 would be predictive of more referral exchanges across organizations involved in the collaborative in 2012

H6: More interdependence throughout the collaborative in 2010 would be predictive of more referral exchanges across organizations involved in the collaborative in 2012

H7: Information exchanges across organizations involved in the collaborative in 2012 would mediate the relationship between relational capacity in 2010 and collaborative effectiveness in 2012

H8: Referral exchanges across organizations involved in the collaborative in 2012 would mediate the relationship between relational capacity in 2010 and collaborative effectiveness in 2012

In sum, in the early childhood collaboratives of Michigan, it was predicted that relational capacity would influence the effectiveness of ECSS collaboratives by promoting stronger information and referral exchange networks.

Setting Context

In response to the growing acknowledgement that early support is key, the Early Childhood Investment Corporation (ECIC) was founded in 2005 to lead the effort of improving the lives of children from birth to age five in Michigan. ECIC was charged with creating an early childhood system, present at both the state and local levels, which holistically supports young children and their families. From this charge grew the Great Start system, consisting of 54 local Great Start Collaboratives (GSCs) and Great Start Parent Coalitions (GSPCs) in counties across the state. These collaboratives are composed of local stakeholders that contribute to the early childhood effort and promote school readiness across various domains. Much like the four domains presented by Bruner (2012), Great Start utilizes five similar areas of service and support to

encapsulate the multiple dimensions of early care: Pediatric and Family Health; Social and Emotional Health; Parenting Education and Family Support; Early Care and Education; Basic Needs and Economic Security. Given these diverse domains, GSCs are composed of multiple stakeholders including social service agency leaders (public and private), educators, early learning providers, parents, business owners, funders, political representatives, and community leaders. In addition to the Great Start Collaboratives, each community has a corresponding Great Start Parent Coalition (GSPC) comprised of parents who bring the much-needed voice of the families to the table.

METHODS

Evaluation

In order to assess the impact of the Early Childhood Investment Corporation and the Great Start Initiative's efforts, these entities partnered with researchers from Michigan State University to conduct a practical-participatory evaluation spanning from early 2010 to the end of 2012. Following ECIC's initial charge to build a more effective early childhood system, the evaluation was designed to both assess the system and help to further improve upon the effectiveness of Great Start. A practical-participatory evaluation was chosen due to its ability to maximize the utilization of findings and include several diverse perspectives. These perspectives were obtained with an evaluation that included multiple stakeholder groups (parents, funders, collaborative members, community members, etc.) in the development process as well as gathering their input via individualized survey versions for each group. Participatory evaluation is based on the thought that knowledge is rooted in social contexts and it takes the contribution of a diverse group of active stakeholders to successfully extract it (Brisolara, 1998). Beyond that, the process of doing so simultaneously educates those stakeholders and promotes future systematic inquiry within that context. It is a vehicle for social systems change that all at once evaluates, educates, and empowers to produce lasting changes (Brisolara, 1998; Cousins & Whitmore, 1998). Given the aims to both asses and build the early childhood systems in Michigan, a practical-participatory approach offered an evaluation and a continuous learning opportunity. The MSU team, ECIC, and the GSCs and GSPCs of Michigan worked collaboratively on all aspects of the evaluation ranging from the definition of the problem to interpreting data.

This partnership was used in the initial stages of the evaluation to define its purpose and develop a theory of change. The researchers engaged key stakeholders in order to better understand the early childhood systems in Michigan and to build a theory around which to model the evaluation. A framework for change emerged that detailed the conditions within the system contributing to the ultimate identified goal of school readiness for all children (see Appendix A for Great Start Framework for Change). This theory of change included elements similar to those in the Community Problem Solving Model. This model emphasizes that in order for collaborative efforts to create population-level change (i.e. improving school readiness outcomes), changes must first occur across those system conditions (Yang et al., 2012). The theory of change outlines the necessary shifts that must first occur in order to achieve the goal of school readiness for all. The hypotheses of the current study followed this model by assessing relational capacity, its influence on interorganizational relationships, and their subsequent influence on building a more coordinated system within the context of the collaborative.

Following the planning stages, the partnership continued to guide the evaluation throughout its four-year duration. The partners helped design the research including measurement development, construct operationalization, and sampling design. During the collection stages, key stakeholders boosted response rates by spreading the word in the community and encouraging their colleagues to participate. Customized feedback reports were then designed in partnership with ECIC and Great Start in order to maximize their accessibility and use in the community. The partnership between ECIC, Great Start, and the evaluation team was a constant vehicle for feedback and learning throughout the evaluation and beyond. Communication and feedback were crucial to the success of the evaluation and the collaborative process spawned opportunities like authorship and presentations for the community partners.

Sample and Recruitment

GSC directors and parent liaisons provided the names and contact information of GSC/GSPC members and key community organizations critical to the early childhood system building efforts but not yet engaged as members in the GSC collaborative to be included in a survey. Based on the framework for change, the survey was constructed to assess key characteristics and conditions across the Great Start system, including the community within which it is imbedded. In order to gather perspectives across all aspects of the system, eight survey versions were developed to target the unique knowledge and experiences of specific groups of stakeholders. The survey measured the extent to which systems changes were occurring, the strategies being used to promote those changes, and the capacity needed in order to implement the change strategies. The stakeholder groups were the following: GSC directors, GSPC parent liaisons, GSPC parent members, GSC parent members, both GSC and GSPC parent members, GSC service/support providers, GSC non-service/support providers (e.g., local businesses, faith based organizations), and non-GSC service/support providers. As an incentive, gift cards were awarded via a random lottery to those who completed the survey. In addition, a random lottery was also used to award monetary donations to communities with the highest response rates. Across all versions, 3205 surveys were administered in 2010 and 3145 in 2012. Of these, 2137 usable surveys were returned in 2010 and 2194 in 2012. Across the two years, shifts in GSC/GSPC memberships and key stakeholders who were considered important to the work account for the change in sample size. These shifts reflect the natural evolution of community systems and at the core, 54% of participants remained the same from 2010 to 2012. Table 2 outlines the statewide response rates for the surveys relevant to the current study. The variables that were analyzed: relational capacity, interorganizational relationships, and collaborative effectiveness were drawn

from surveys completed by GSC members who provide services. Table 3 displays basic demographic information for the provider organizations' respondents averaged across all 54 GSCs (the data provided for 2010 is intended to illustrate that provider demographics remained relatively the same across time points).

Table 2. Response Rates for Collaborative Members in 2010 and 2012

Respondent Group	2010	2012
All GSC Members	76.1%	85.4%
GSC Service Providers	67.7%	88.7%

Table 3. Service Provider Demographics Averaged Across All GSCs

	2010	2012
N	454	565
Gender		
Female	83.1%	84.4%
Male	16.9%	15.6%
Race		
White	86.3%	92.2%
African American	2.2%	2.3%
American Indian	2.2%	2.1%
Hispanic/Latino	.9%	1.4%
Asian	.2%	.2%
Other	.4%	.9%
Organizational Role		
Funder		1.8%
Director/Leader		51.7%
Middle Management		27.4%
Direct Service Provider		11.9%
Other Staff		7.2%
GSC Member Since		
2006		36.7%
2007		22.5%
2008		17.9%
2009		12.7%
2010		10.2%

Survey

In May 2010 the first wave of the survey was administered both online and through the mail by the MSU evaluation team. Reminder emails, letters, phone calls, and peer-to-peer encouragement from Great Start were all used to promote survey completion by the stakeholders. In August 2010, first round survey collection ended and the data was analyzed. Customized feedback reports were provided to each GSC and GSPC in May 2011. Technical assistance and training was also offered in 2011 and early 2012 that focused on using the data and building coalition effectiveness. The second wave of data collection began in May 2012 using the same online and mail format. Once again letters, emails, and calls were used by the MSU team and Great Start to promote survey completion. In August 2012, the data was compiled by the MSU team and prepared for analysis. Feedback reports were once again provided, along with TA and support, in February 2013 outlining the second wave of data as well as results of longitudinal comparisons. In order to explore the questions presented by the present study, the following scales and measures were constructed to be used in the analysis:

Relational Capacity

To assess the relational capacity within the GSCs, two subscales were drawn from the survey. Both of these subscales were created based on the theoretical construct of relational capacity presented in the review by Foster-Fishman et al. (2001) and the ECIC framework for change. They separately assess the two elements of relational capacity as it was defined in the literature review.

First, the cohesive environment component of capacity was measured using a 4-item scale drawn from the surveys taken by GSC members. The items were adapted from a previously developed scale from the widely used Wilder Research Center collaboration scale assessing

community collaboratives (Mattessich & Monsey, 1992). Individuals' scale scores were averaged across each collaborative providing mean ratings of cohesion for every GSC. The following questions were rated on a 6-point scale (not at all; a little; somewhat; mostly; quite a bit; a great deal):

To what extent does the following describe the members of your Great Start Collaborative? The members of our GSC:

1a. Have a shared vision

1b. Are dedicated to making the Great Start vision a reality

1c. Agree on what needs to happen in our community to improve the Early Childhood system

1d. Trust each other

To measure the interdependence of the providers in the GSC, 4 items were adapted from a scale measuring autonomy and mutuality in a previous survey (Thomson et al., 2008). Again, scale scores were averaged across all respondents in each collaborative for mean ratings of interdependence for every GSC. The following questions (drawn from the surveys taken by GSC members who provide services) were rated on the same 6-point scale:

Thinking about your involvement in the GSC, to what extent do you agree with each of the following statements?

2a. You, as a representative of your organization, are allowed to make commitments to the GSC

2b. Your organization, to accomplish its goals, needs the resources, services, or support of other service providers on the GSC

2c. You feel what your organization brings to your GSC is

appreciated and respected by other service providers in the GSC

2d. Your organization can count on other service providing organizations on the GSC to meet their obligations to the GSC

In line with current literature, the strength of the components of these scales was assessed based on intercorrelations between items within the measures (DeVellis, 2012; Field, 2005). Intercorrelations below .40 are considered weak and do not support an adequate theoretical association to a common construct (Kim & Mueller, 1978; Armenakis et al., 2007). Thus, any items with correlations below .40 were considered for removal. Table 4 displays the intercorrelations between items in both the cohesion and interdependence scales. The correlations were moderate to strong and no items were removed prior to further analysis. Upon confirming the items in each measure, Cronbach's alphas were calculated to assess the internal reliability of each subscale. The alphas for the cohesion (.88) and interdependence (.85) subscales both demonstrated high reliability.

Table 4. Item Descriptives and Correlations for 2010 Relational Capacity Subscales

Item	Mean	SD	a	b	c	d
Cohesive Environment Subscale						
1a	4.85	1.04	-			
1b	4.88	1.09	.85**	-		
1c	5.05	1.02	.77**	.71**	-	
1d	4.70	1.08	.66**	.64**	.68**	-
Interdependent Orgs Subscale						
2a	5.15	1.08	-			
2b	4.49	1.43	.47**	-		
2c	5.00	1.14	.59**	.53**	-	
2d	4.82	1.12	.55**	.55**	.72**	-

Note: *p<.05, **p<.01

Interorganizational Exchange Relationships

As previously defined, service coordination requires a dense network of exchanges throughout the system, of both information and client referrals. This definition follows theoretical constructions in the current body of literature. In order to correctly measure these relationships throughout the entire system, they must be viewed as the comprehensive collection of exchanges among all the actors within it. Essentially, interorganizational relationships are a web of exchanges that create the interconnectivity necessary for the system to coalesce. For this reason, in order to measure interorganizational relationships accurately in a systems context, social network analysis has emerged as an increasingly popular method. When theoretically considering systems and network analysis, the two are a natural marriage. Hanneman (1988) explains that, "[theories] that focus on 'process' or social dynamics", like systems change "…must have (at least implicitly) models of structure embedded in them. There is little meaning in assertions about change in general…without referring to the structures that are connected by such processes" (Hanneman, 1988, p. 18). As noted here, the dynamic nature of a system may be best observed through its all-encompassing structure. Thus, in order to evaluate the system as a whole, the most accurate option is to shift analysis from the attributes of the individual units in the system to the relations between them. Through network analysis, the system becomes observable as one distinct entity with a pattern of relationships that can collectively impact outcomes (Hanneman & Riddle, 2005). From a theoretical perspective, network analysis, "is a comprehensive paradigmatic way of taking social structure seriously by studying directly how patterns of ties allocate resources in a social system" (Wellman, 1988, p. 20). This approach takes the existing relational configuration of the system, maps it out, and offers insights into collaborative efforts like the exchanges of information and client referrals.

Two items (drawn only from the surveys of GSC members who provide services) were used to separately measure the two types of interorganizational relationships, information and referral exchanges, for each collaborative. The measures were adapted from the Foster-Fishman et al. (2001) study, which also assessed interorganizational exchange relationships among members of a collaborative. The boundaries for the collaborative networks were drawn using a realist approach via membership lists that were provided by each collaborative (Lauman et al., 1983; Marsden, 1990). Through the evaluation partnerships, the MSU team acquired lists of all of the GSC members who provide services or are critical to the work in each individual community. Each provider received a customized question on his/her survey that listed every other provider in that particular community. The providers were asked to rate the frequency at which they exchange either information or client referrals with the others in their communities:

REFERRALS

This question asks about how often children and families gain access to services at organizations/agencies affiliated with the Great Start Initiative.

- Think about your interactions with each listed organization/agency over the past 90 DAYS. Think about whether or not you have referred children and/or families to each organization/agency.
- If you HAVE referred children or families to the organization/agency: Choose the response that indicates the degree to which your clients are able to access their services.
- If you HAVE NOT referred children or families to the organization/agency: Choose "We do not refer to this organization" to indicate that your

organization/agency doesn't refer children or families to this organization/agency.

When we refer children and families to this organization/agency, the children and families:

LIST OF SERVICE PROVIDERS AND RESPONSE OPTIONS FOR EACH:

We do not refer to this organization; Never gain access; Rarely gain access; Sometimes gain access; Often gain access; Usually gain access

INFORMATION

This question asks about the organizations/agencies with which services are coordinated via information exchanges:

- Exchange of information includes:
    - Receiving or providing information about agency services
    - Discussing/resolving service delivery dilemmas, service coordination, or service strategies
    - Exchanging information about clients
- Information exchanges can occur in person, in letters, through electronic communication, via voice mail, or over the telephone.
- Think about your interactions with each listed organization/agency over the last 90 DAYS.
- Please choose the response that indicates the frequency of your information exchanges with each organization/agency.

We coordinate programs and services with this organization/agency:

LIST OF SERVICE PROVIDERS AND RESPONSE OPTIONS FOR EACH:

Never; Once a month; About twice a month; About weekly; Several times a week; Daily

Collaborative Effectiveness

A scale of 4 survey items was compiled to assess the effectiveness of the collaboratives at building more coordinated, accessible early childhood systems in their communities. This scale was constructed by adapting items from previous surveys measuring service coordination (Perkins & Borden, 2003), collaborative efforts (Cramer et al., 2006), access (Allen, 2001), and awareness (Hayes et al., 2000). Like the relational capacity scales, scale scores were averaged across respondents in each GSC for mean ratings of effectiveness for every collaborative. The following questions were rated on a 6-point scale (not at all; a little; somewhat; mostly; quite a bit; a great deal):

Because of the Great Start Collaborative and Great Start Parent Coalition efforts in our community:

3a. Access to services for young children and families is easier

3b. Organizations/agencies work together in a more coordinated, efficient manner

3c. Local organizations who serve young children are more aware of each other's programs, strengths and limitations

3d. Parents are more aware of the early childhood services and supports available

Following the processes used for the relational capacity subscales, inter-item correlations were used to determine the strength of the items relative to the common construct. Again, the correlations were moderate to strong and no items were removed prior to analysis (See Table 5 for correlations and item descriptives). Upon confirming the items, Cronbach's alpha was calculated to assess the internal reliability of the collaborative effectiveness scale. The alpha (.88) demonstrated high reliability.

Table 5. Item Descriptives and Correlations for 2012 Collaborative Effectiveness Scale

Item	Mean	SD	a	b	c	d
3a	4.51	1.27	-			
3b	4.89	1.20	.67**	-		
3c	4.86	1.12	.59**	.71**	-	
3d	4.31	1.20	.62**	.62**	.64**	-

Note: *p<.05, **p<.01

RESULTS

Scaling

Before aggregating the individual items into scale scores, the items were assessed for missing data. Within each scale, items displayed varying rates of missing responses (cohesion 12.6-13.2%; interdependence 9.3-10%; effectiveness 2.7-3% missing per item). In order to eliminate missing data from further analysis, while still maximizing the amount of data contributing to the scale scores, multiple imputation was used in the process of creating scale scores for each respondent. The chosen imputation strategy allowed for missing items in a scale to be approximated and filled in based on a respondent's scores on the other items of the scale. Through the use of multiple imputation, the amount of missing data was significantly reduced for the 2010 scales to 1.3% and 6 respondents were eliminated from further data analysis (N=448 for cohesion and interdependence). For 2012 effectiveness, missing data was reduced to 0% and all respondents were maintained for further analysis (N=565). The respondents' scale scores were then aggregated at the county level, creating cohesion, interdependence, and effectiveness scores for each of the 54 counties (See Tables 6 and 7 for descriptive information).

Network Analysis

One of the most prominently utilized measures for evaluating interorganizational relationships like exchanges of information and referrals is density. Network density describes how connected collaborative members are to one another. More specifically, it is a proportion of the ties that exist in the collaborative compared to the total number of ties that are possible (Hanneman & Riddle, 2005). In previous research, this measure has been considered the best approach to assessing information and referral exchanges in service systems across the literature

(Hanneman & Riddle, 2005; Provan & Milward, 1995; Provan & Milward, 2001; Foster-Fishman et al., 2001; Nowell, 2009). This is because "[a] dense network is one characterized by a pattern of closely knit ties, signifying more and stronger relationships among stakeholders" (Nowell, 2009, p. 198). Density of provider relationships has been theoretically linked to diffusion of information, social capital, cohesion, and other important collaborative contributors (Hanneman & Riddle, 2005; Provan & Milward, 1995; Provan & Milward, 2001; Foster-Fishman et al., 2001; Nowell, 2009).

Density scores were calculated for information and for referral sharing inside each GSC provider network in 2012. Because information and client referrals move from one organization to another, thus producing a transaction and movement of the resource in question, ties were treated as directional and did not need to be confirmed by both parties to be counted as an exchange relationship. The cutoff point for salient ties for referrals was: "sometimes gain access" or greater, indicating they do exchange referrals and clients gain access to services sometimes, often, usually, or always. This cutoff was the lowest threshold for both exchanging referrals *and* gaining access to services (responses below this indicated referral exchanges but no subsequent client access). The cutoff for salient ties for information exchange was: "about twice a month" or more, as determined by conversations with partners regarding best practices. Points below this (once a month or less) were considered by the community partners to not be indicative of a frequency that would support consistently coordinated services and may have simply been due to chance. By determining the total number of reported ties and dividing it by the number of possible total ties (producing a rate of exchange), density scores for both information and referral exchange were produced for each of the GSCs.

Missing data is incredibly detrimental to network measures, so it must be considered when using survey data to assess density (Neal, 2008). Multiple steps were taken to attempt to minimize the effects of missing data prior to calculating the density scores. First, only organizations that were considered active members in the GSCs (attending at least 1 meeting within the 12 months prior to administration of the survey) were included in the calculation of the density scores. Second, only one report of exchange relationships was needed from each individual organization; thus, if a respondent did not complete the network items but someone else from his/her organization did, the second respondent's ratings were used to represent that organization (if two or more respondents completed network items for a single organization their ratings were averaged together). Third, if an organization completed the network items but exchange ratings were missing for individual organizations within the matrix, those missing values were replaced with zeros. The rationale was that if the item was completed, an absence of certain individual ratings depicted an absence of exchanges. Despite these steps, some active provider organizations simply did not respond to the network items and response rates after these adjustments varied across the 54 counties (30-100% for both information and referral networks), requiring additional steps to address missing network data. Theoretically, a density score that is supposed to represent exchanges throughout the entire GSC provider network cannot be considered valid if the majority of the GSC providers did not contribute to its calculation. Given this, and the relatively small network sizes, the decision was made to eliminate GSCs with low response rates from further analysis. A response rate of 70% was deemed appropriate for maintaining an ample sample size while representing a majority contribution of GSC providers[1]. Thus, in the models including the exchange networks, 9 counties were excluded from analysis

[1] Given the literature on robustness of density with missing network data, all analyses were also run using the commonly suggested 80% response rate (further decreasing the sample size) and regression coefficients did not exhibit any major changes.

(N=45; see Table 8 for descriptive information) due to response rates less than 70% (the response rates of the excluded counties ranged from 30% to 69% with the majority in the 40's and 50's).

Descriptive Information

A summary of the descriptive statistics is presented in Tables 6 and 8 for each model sample (based on the full sample and the sample size adjustment for missing network data). Tables 7 and 9 display correlations between the variables in each model, again based on the full sample and then the counties that were included in the analyses containing the network variables. By comparing the tables for both sample sizes, it was concluded that no significant changes occurred in the variable descriptives or correlations by decreasing the sample size to 45. The bounded sample exhibited the same characteristics as the original sample, thus bounding the sample by network response rate did not create any problematic systematic differences.

Table 6. Descriptive Information for Full Sample

Statistics	GSC Size	GSC Age*	Cohesion 2010	Interdependence 2010	Collaborative Effectiveness 2010	Collaborative Effectiveness 2012
N	54	54	54	54	54	54
Mean	15.81	49.90	4.78	4.82	4.04	4.67
Std. Dev.	4.90	8.00	.38	.39	.59	.51
Range	26	22	1.79	2.03	2.26	2.54
Min.	8	37	3.81	3.83	2.70	3.12
Max.	34	59	5.60	5.85	4.96	5.66
Skewness	1.21	-.02	-.49	-.30	-.57	-.79
Kurtosis	2.70	-.1.52	.48	.58	-.48	1.05

*In months

Table 7. Variable Correlations for Full Sample

Variable	1	2	3	4	5	6
GSC Size	-					
GSC Age	.19	-				
Cohesion 2010	-.11	-.23	-			
Interdependence 2010	.04	-.02	.60**	-		
Collaborative Effectiveness 2010	.08	.23	.53**	.49**	-	
Collaborative Effectiveness 2012	-.13	.15	.27*	.30*	.50**	-

Note: *p<.05, **p<.01

Table 8. Descriptive Information for Information and Referral Exchange Models

Statistics	GSC Size	GSC Age*	Cohesion 2010	Interdependence 2010	Collaborative Effectiveness 2010	Information Exchange 2012**	Referral Exchange 2012**	Collaborative Effectiveness 2012
N	45	45	45	45	45	45	45	45
Mean	15.44	49	4.79	4.84	4.05	.17	.49	4.71
Std. Dev.	4.21	7.92	.38	.40	.59	.08	.12	.48
Range	19	22	1.79	2.03	2.26	.33	.59	2.54
Min.	8	37	3.81	3.83	2.70	.05	.23	3.12
Max.	27	59	5.60	5.85	4.96	.38	.82	5.66
Skewness	.53	.15	-.36	-.40	-.48	.62	.03	-.98
Kurtosis	.35	-1.41	.25	.53	-.57	.07	.24	1.75

*In months

**Network density scores calculated as a percent

Table 9. Variable Correlations for Information and Referral Exchange Models

Variable	1	2	3	4	5	6	7	8
GSC Size	-							
GSC Age	.06	-						
Cohesion 2010	-.04	-.16	-					
Interdependence 2010	.16	.04	.58**	-				
Collaborative Effectiveness 2010	.07	.22	.54**	.50**	-			
Information Exchange 2012	-.49**	.17	.07	.06	.14	-		
Referral Exchange 2012	-.49**	.09	.27	.22	.29	.69**	-	
Collaborative Effectiveness 2012	-.12	.09	.39**	.32*	.50**	-.05	.09	-

Note: *p<.05, **p<.01

Relation between Relational Capacity and Collaborative Effectiveness

A hierarchical regression analysis was used to answer research question 1 (Is relational capacity predictive of the effectiveness of Great Start Collaboratives?) and to test hypotheses 1 and 2. These hypotheses predicted that increases in both cohesion and interdependence in 2010 would be predicative of increased collaborative effectiveness in 2012. In the first block of the analyses, three control variables were included. Relational capacity is known to vary based on the developmental stage of collaboratives (Foster-Fishman et al., 2001), so the age of the each collaborative was used as a control variable. Great Start collaboratives were implemented in four phases across the state; thus, the age (in months) was determined by the phase of each collaborative (phase 1: established June 2007, phase 2: established April 2008, phase 3: established October 2008, phase 4: April 2009). Collaborative effectiveness in 2010 was also used as a control variable to account for the longitudinal nature of the model. The second block included cohesion and interdependence in 2010 as predictors of collaborative effectiveness in 2012 (N=54). The full regression model was not significant ($F(2,48)=.15$, $p=.87$, $r^2=.286$) and neither element of relational capacity in 2010 was predictive of collaborative effectiveness in 2012. In this model, the only significant predictor of collaborative effectiveness in 2012 was effectiveness in 2010, suggesting that where the collaboratives ended up in 2012 was dependent upon where they started in 2010 (see Table 10 for hierarchical regression coefficients). Given these results, hypotheses 1 and 2 were not supported by the data.

Table 10. Hierarchical Regression Analysis Predicting GSC Effectiveness in 2012

	Block 1	Block 2	
	Standardized β	Standardized β	t
GSC Size	-.174	-.180	-1.43
GSC Age	.063	.060	.44
Collaborative Effectiveness 2010	.500**	.481**	2.95
Cohesion 2010		-.041	-.23
Interdependence 2010		.086	.54
Variance Explained (%)	*28.2*	*28.6*	

Note: *p<.05, **p<.01 N = 54

Relation between Relational Capacity and Exchanges

Hierarchical regression analyses were also used to answer a portion of research question 2 (To what extent do exchanges mediate the relationship between relational capacity and collaborative effectiveness?) and to test hypotheses 3-6. Baron and Kenny's (1986) first condition of mediation states that the independent variable (relational capacity) must affect the mediator (interorganizational exchanges). Two regression models were used to assess this, one that identified cohesion and interdependence in 2010 as predictive of information exchanges in 2012 and one that identified cohesion and interdependence in 2010 as predictive of referral exchanges in 2012. Once again, GSC developmental phase was controlled for. In addition, given the significant influence of network size on density scores, the size of the active member networks in 2012 were also used as control variables. The first model, containing the elements of relational capacity and information exchanges (N=45) was not significant ($F(2,40)=0.52$, $p=.58$, $r^2=.30$) . The second model, containing the elements of relational capacity and referral exchanges (N=45) was also not significant ($F(2,40)=3.04$, $p=.06$, $r^2=.35$). Although this model approached significance, the coefficients for cohesion (B=.05, p=.14) and interdependence (B=.21, p=.20) did not display that they were powerful predictors of referral exchanges. In both models, the only significant predictor was GSC size, which was expected given that density

scores are greatly dependent upon network size (See Table 11 and 12 for all hierarchical regression coefficients). Hypotheses 3-6 were not supported by the data and neither element of relational capacity was related to information or referral exchanges.

Table 11. Hierarchical Regression Analysis Predicting GSC Information Exchanges in 2012

	Block 1	Block 2	
	Standardized β	Standardized β	t
GSC Size	-.501**	-.521**	-3.83
GSC Age	.203	.200	1.47
Cohesion 2010		.007	.04
Interdependence 2010		.133	.79
Variance Explained (%)	*28.0*	*30.0*	

Note: *p<.05, **p<.01 N = 45

Table 12. Hierarchical Regression Analysis Predicting GSC Referral Exchanges in 2012

	Block 1	Block 2	
	Standardized β	Standardized β	t
GSC Size	-.494**	-.521**	-3.98
GSC Age	.118	.134	1.02
Cohesion 2010		.143	.88
Interdependence 2010		.212	1.30
Variance Explained (%)	*25.1*	*35.0*	

Note: *p<.05, **p<.01 N = 45

Relational Capacity, Effectiveness, and the Mediating Role of Exchanges

Hypotheses 7 and 8 sought to further investigate research question 2 (To what extent do exchanges mediate the relationship between relational capacity and collaborative effectiveness?), which predicted that both information and referral exchanges in 2012 would mediate a relationship between relational capacity in 2010 and effectiveness in 2012. To assess this, two bootstrapped mediation analyses were planned to test these hypotheses. Bootstrapping is a variation of mediation testing that estimates the effects of the mediating variable on a series of random samples, computes the indirect effect for each sample, and uses a bootstrapped distribution of these effects to develop a 95% confidence interval (Preacher & Hayes, 2004). For

the current analyses 10,000 random samples were used for the indirect effect confidence intervals. If zero does not fall between the upper and lower bounds of the 95% confidence interval, the indirect mediated effect can be considered significant (Preacher & Hayes, 2004). Due to the small sample size of the study, the bootstrapping approach was chosen because it does not assume a normal distribution for the mediated values and has increased power with small sample sizes (Preacher & Hayes, 2004). A variation on the traditional bootstrapping approach was used in order to include multiple predictor variables (Hayes & Preacher, 2014). The model for hypothesis 7 identified the elements of relational capacity in 2010 as predictive of collaborative effectiveness in 2012 with that relationship mediated by information exchanges in 2012 (N=45). The model for hypothesis 8 identified the elements of relational capacity in 2010 as predictive of collaborative effectiveness in 2012 with that relationship mediated by referral exchanges in 2012 (N=45). All control variables: active member network size, collaborative age, and collaborative effectiveness in 2010 were included. According to Baron and Kenny (1986) in order for mediation to be established, regression equations must demonstrate that the following conditions hold true: (a) the independent variable must affect the mediator (b) the independent variable must affect the dependent variable (c) the mediator must affect the dependent variable. Because the analyses of hypotheses 1-2 and hypotheses 3-6 did not support conditions b and a (respectively), there was no longer a possibility for mediation in this case. Accordingly, neither bootstrapped mediation test displayed significant mediation of a relationship between relational capacity and collaborative effectiveness. The 95% confidence intervals for the direct effects of cohesion (.02, CI: -.14 to .29) and interdependence (-.04, CI: -.40 to .07) through information exchanges both included zero. The 95% confidence intervals for the direct effects of cohesion (-.02, CI: -.17 to .09) and interdependence (-.05, CI: -.28 to .02) through referral exchanges also

both included zero. Neither information exchanges nor referral exchanges in 2012 mediated a relationship between relational capacity in 2010 and collaborative effectiveness in 2012; thus, none of the proposed hypotheses were supported by the data. Further, the regression equations testing the conditions of mediation revealed that neither information (B= -.29, p=.07) nor referral exchanges in 2012 (B= -.25 p=.15) were significantly predictive of collaborative effectiveness in 2012 and condition c was also not met (see Tables 13 and 14 for regression coefficients). It can be noted that, in this regression model, information exchanges approached significance when predicting collaborative effectiveness. Contrary to the initial prediction, this relationship was negative suggesting that, when considering all the control variables, having larger information exchange networks may have actually impeded collaborative effectiveness.

Table 13. Hierarchical Regression Analysis Testing the Mediating Role of Information Exchanges in 2012 Predicting GSC Effectiveness in 2012

	Block 1	Block 2	Block 3	
	Standardized β	Standardized β	Standardized β	t
GSC Size	-.154	-.154	-.306+	-1.94
GSC Age	-.012	.032	.081	.55
Collab. Effectiveness 2010	.511**	.395*	.428*	2.47
Cohesion 2010		.131	.118	.64
Interdependence 2010		.071	.103	.60
Information Exchange 2012			-.290+	-1.84
Variance Explained (%)	*27.1*	*29.1*	*35.0*	

Note: +p<.10, *p<.05, **p<.01 N = 45

Table 14. Hierarchical Regression Analysis Testing the Mediating Role of Referral Exchanges in 2012 Predicting GSC Effectiveness in 2012

	Block 1	Block 2	Block 3	
	Standardized β	Standardized β	Standardized β	t
GSC Size	-.154	-.154	-.283+	-1.74
GSC Age	-.012	.032	.051	.35
Collab. Effectiveness 2010	.511**	.395*	.443*	2.48
Cohesion 2010		.131	.144	.76
Interdependence 2010		.071	.113	.65
Referral Exchange 2012			-.245	-1.46
Variance Explained (%)	*27.1*	*29.1*	*33.0*	

Note: +p<.10, *p<.05, **p<.01 N = 45

Post-Hoc Exploratory Analysis: The Influence of Changes in Relational Capacity

Following the lack of significant findings in relation to the proposed research questions, post-hoc analyses were conducted that included what the investigator felt to be an overlooked variable: change in capacity over time. In the collaborative literature, there is a wealth of discussion surrounding the importance of building capacity and various ways to approach doing so (Foster-Fishman et al.,2001; Butterfoss, 2002; Wandersman et al., 2008; Shapiro et al., 2014). Despite this, few studies have directly assessed the impact of capacity change on key collaborative outcomes like effectiveness (Watson-Thompson et al., 2014). Those that have assessed this impact provide support that growth in collaborative capacities promotes higher levels of effectiveness (Florin et al., 2000) including changes in the greater system and improved population-level outcomes (Foster-Fishman & You, 2015).

In an attempt to build on these findings, a hierarchical regression analysis was used to explore the impact of growth in the relational capacity of the GSCs on collaborative effectiveness. In order to test this, change scores for both cohesion and interdependence were calculated by subtracting the 2010 scale scores from the 2012 scores (see Tables 15 and 16 for descriptive information and correlations). A regression model was used that identified the amount of change in cohesion and interdependence from 2010 to 2012 as predictive of collaborative effectiveness in 2012 (N=54). Control variables included collaborative age, size, and collaborative effectiveness in 2010 (to account for the longitudinal nature of the model). Because the amount of possible growth on each scale was contingent upon where the collaboratives started in 2010 (i.e. a collaborative with a score of 5 in 2010 could only have a maximum growth score of 1 given the 6-point scale) the 2010 scores for cohesion and interdependence were also included as control variables. This model was significant

($F(2,46)=56.447$, $p<.01$, $r^2=.793$). In this model, both change scores for cohesion ($B=.69$, $p<.01$) and interdependence ($B=.30$ $p<.05$) were significant predictors of collaborative effectiveness in 2012 (see Table 17 for all regression coefficients). Regardless of where the collaborative started in 2010, the amount of growth in cohesion and interdependence had a significant impact on its effectiveness in 2012. These results support the premise that growth in coalition capacity may be a key factor in determining the effectiveness of collaboratives.

Table 15. Descriptive Information for Post-Hoc Analysis Variables

Statistics	GSC Size	GSC Age*	Cohesion 2010	Interdependence 2010	Collaborative Effectiveness 2010	Cohesion Change	Interdependence Change	Collaborative Effectiveness 2012
N	45	45	45	45	45	54	54	45
Mean	15.44	49	4.79	4.84	4.05	.17	.14	4.71
Std. Dev.	4.21	7.92	.38	.40	.59	.44	.38	.48
Range	19	22	1.79	2.03	2.26	2.59	1.50	2.54
Min.	8	37	3.81	3.83	2.70	-1.40	-.49	3.12
Max.	27	59	5.60	5.85	4.96	1.19	1.01	5.66
Skewness	.53	.15	-.36	-.40	-.48	-.69	.28	-.98
Kurtosis	.35	-1.41	.25	.53	-.57	2.35	-.58	1.75

*In months

Table 16. Variable Correlations for Post-Hoc Analysis Variables

Variable	1	2	3	4	5	6	7	8
GSC Size	-							
GSC Age	.19	-						
Cohesion 2010	-.11	-.23	-					
Interdependence 2010	.04	-.02	.60**	-				
Collaborative Effectiveness 2010	.08	.23	.53**	.49**	-			
Cohesion Change	.02	.32*	-.52**	-.16	-.03	-		
Interdependence Change	-.02	.03	-.35**	-.63**	-.10	.53**	-	
Collaborative Effectiveness 2012	-.13	.15	.27*	.29*	.50**	.55**	.36**	-

Note: *p<.05, **p<.01

Table 17. Post-Hoc Hierarchical Regression Analysis Predicting GSC Effectiveness in 2012

	Block 1	Block 2	
	Standardized β	Standardized β	t
GSC Size	-.180	-.102	-1.45
GSC Age	.060	.003	.03
Cohesion 2010	-.041	.506**	4.02
Interdependence 2010	.086	.190	1.39
Collaborative Effectiveness 2010	.481**	.200*	2.12
Cohesion Change 2010 to 2012		.693**	5.85
Interdependence Change 2010 to 2012		.299*	2.38
Variance Explained (%)	*28.6*	*79.3*	

Note: +p<.10, *p<.05, **p<.01 N = 54

DISCUSSION

The purpose of this study was to investigate the influence of relational capacity on the effectiveness of early childhood collaboratives and to add to the current body of literature by attempting to understand the mechanisms that facilitate this relationship. Longitudinal evaluation data from 54 Great Start Collaboratives in Michigan was used to assess whether relational capacity was predictive of collaboratives' effectiveness at building more accessible, coordinated early childhood systems and whether this relationship was mediated by interorganizational exchanges.

The first research question asked whether relational capacity was predictive of collaborative effectiveness, specifically at building more accessible and coordinated early childhood systems. Based on previous research (Foster-Fishman et al., 2001; Allen, 2005; Zakocs & Edwards, 2006; Nowell, 2009), it was predicted that two elements of relational capacity, cohesion and interdependence, would influence GSC's success in this area. The first hypothesis posed that GSCs with higher levels of cohesion in 2010 would have more accessible, coordinated early childhood services in 2012. The second hypothesis similarly predicted that GSCs with higher levels of interdependence in 2010 would have more accessible, coordinated early childhood services in 2012. The analysis indicated that neither cohesion nor interdependence in 2010 predicted GSC effectiveness in 2012.

The second research question sought to explore whether a relationship between relational capacity and collaborative effectiveness was mediated by interorganizational exchanges. Following the literature, it was predicted that exchanges of information and client referrals act as the structural mechanisms through which relational capacity promotes effectiveness (Van de Ven

& Walker, 1984; Chow & Chan, 2008; Acri et al., 2012; Heflinger, 1996; Hurlburt et al., 2004; Bai, Wells, & Hillemeier, 2009). To satisfy the first condition of mediation, hypotheses three and four stated that both cohesion and interdependence in 2010 would be predictive of exchanges of information in 2012. Similarly, hypotheses five and six predicted both cohesion and interdependence in 2010 would be predictive of exchanges of referrals in 2012. According to the regression analyses, neither element of relational capacity was predictive of information or referral exchanges and the first condition of mediation was not met. Given this, and the lack of a predictive relationship between relational capacity and collaborative effectiveness to satisfy the second condition, mediation was not possible. Tests for mediation supported this and neither information nor referral exchanges mediated a relationship between relational capacity and GSC effectiveness at building a more accessible, coordinated early childhood system. Hypotheses 7 and 8 addressed the third condition of mediation and predicted that more information exchanges and referral exchanges in 2012 would be predictive of greater collaborative effectiveness in 2012. Although the relationship between information exchanges and effectiveness approached significance, the relationship was negative and these hypotheses were also not supported.

While the literature suggests that relational capacity is predictive of a collaborative's effectiveness, mediated by the level of exchanged information or client referrals (Van de Ven & Walker, 1984; Chow & Chan, 2008; Acri et al., 2012; Heflinger, 1996; Hurlburt et al., 2004; Bai, Wells, & Hillemeier, 2009), the data from the current study did not support the hypotheses. Although significant zero-order correlations did initially appear to support some of these relationships, the full regression equations, factoring in control variables, did not. While high levels of shared variance may offer some insight into these results, there are also theoretical and methodological explanations for what may have contributed to the findings of the current study.

Further research is necessary to explore the conditions under which these relationships hold true and how to better assess them.

Capacity Building

One possible theoretical explanation lies in the idea that understanding how capacity contributes to collaborative success requires the consideration of whether it grew or changed over time. In other words, in order to best assess the influence of capacity on a collaborative's effectiveness, it is necessary to observe growth or decline, which represents the ongoing work and evolution of the collaborative (Florin et al., 2001). The community collaborative literature demonstrates a growing support for collaborative capacity and its crucial role in making these collaboratives effective at achieving their goals (Foster-Fishman et al.,2001; Butterfoss, 2002; Wandersman et al., 2008; Shapiro et al., 2014). Implicit in this body of literature, yet often not directly measured, is the importance of a key process that may have contributed to the results of the present study: change in capacity over time (Shapiro et al., 2014; Florin et al., 2000). Capacity is often discussed alongside the term *building*, implying that it must be strengthened or built to reach an increasingly higher, yet often undefined, level of support for collaborative functions (Wandersman et al., 2008). Despite this, the majority of capacity research observes it in a static state.

Following the investigation of the proposed research questions in the present study, an additional question emerged in an attempt to challenge this and explain the absence of the predicted relationships: do shifts in relational capacity influence a collaborative's success at building a more coordinated and accessible early childhood system? This question grew from the thought that capacity may be best measured as the awareness of knowledge and skills and it is necessary to consider it alongside shifts in this awareness over time. These shifts demonstrate to

collaborative members that the coalition is effective in that it has an ability to change and grow (Florin et al., 2000). For example, in a study of predictors of effectiveness of substance abuse coalitions, Florin et al. (2000) used a measure in which the coalitions were rated by how much they "had increased their knowledge, beliefs, and skills" (Florin et al., 2000, p. 344). They found that coalitions with higher ratings of *increased* capacity were more likely to rate higher on measures of effectiveness like increasing interorganizational connections, shifting attitudes towards drugs and alcohol, and influencing policy (Florin et al., 2000). The key finding here is that capacity was not viewed via the levels at which it existed in the coalitions at a given time, but by the actual perceived change in this construct. The authors explain that by building members' perceived knowledge and skills, coalitions developed "a task-focused social climate" that felt competent to make change happen, which ultimately produced positive results (Florin et al., 2000, p. 345). By building collaborative capacity, an environment evolves that is more ready for change and where change is viewed as more feasible, thus making subsequent improvements more likely to happen (Parker, Alcaraz, & Payne, 2011; Florin et al., 2000). In line with this rationale, the assumption for the post-hoc analyses in the current study was that growth in cohesion and interdependence from 2010 to 2012 would produce more effective GSC collaboratives in 2012. The analyses supported these predictions and growth in both elements of relational capacity over time was related to greater GSC effectiveness in 2012.

The act of building capacity is already recognized as an important component of effective collaboratives across the literature (Florin et al., 2000; Foster-Fishman et al.,2001; Butterfoss, 2002; Wandersman et al., 2008; Shapiro et al., 2014). Further, there is a shared understanding of capacity as "…a term that is used to convey dynamic, adjustable, and transferrable nature of member and organizational characteristics" (Shapiro et al., 2000, p. 2). The idea for moving

forward is to assess capacity using this lens. There must be more emphasis placed on understanding this dynamic nature and the importance of change *alongside* the levels of capacities that exist within collaboratives. Collaborative evaluators and researchers are increasingly demonstrating that change is an important focus of the work; it influences subsequent systems changes and even promotes improvement in population level outcomes (Florin et al., 2000; Foster-Fishman & You, 2015). Future research should pursue identifying and better understanding the mechanisms through which shifts in collaborative capacity drive these improvements.

Relational Exchange Measures

For this particular study, the theoretical and methodological decisions related to the network measures may have presented additional barriers to accurately addressing the proposed research questions. Theoretically, although these associations are typical of past research (Nowell. 2009; Provan & Milward, 1995; Foster-Fishman et al., 2001; Glisson & Hemmelgarn, 1998), a concern emerges from the possibility that the density of exchanges of information and referrals may not adequately depict the mechanisms that facilitate improved service coordination and access to services. First, there may be a theoretical flaw in associating the sharing of information with coordinated services. The benefit of information sharing may be exclusive to certain types of information or only present with the addition of other actions; in other words, it is dependent upon contextual factors within the sharing network (Widen-Wulff & Ginman, 2004). While categories of information like other programs' range of services or intake eligibility may help with coordination, others like duration of the program or follow-up procedures may be superfluous and burdensome to remember. Also, intake eligibility, for example might not only need to be shared but also integrated into joint forms or processes in order to facilitate effective

coordination of services. Second, access (assessed through the referral measure) was being reported by the service providers in this study, which is again typical of research in this area. This perspective is not necessarily the most accurate; as it is the children and families who would be best able to say if access was achieved. Further, the service providers reporting on the relationships were those who participate in the GSC meetings and not necessarily all direct, front-line service providers (the majority were directors (51.7%) or middle management staff (27.4%)). By having these varied perspectives reporting connections across the organizations, it may be hard to say if they were all able to accurately report information or referral sharing if they did not experience it firsthand (there is not enough information present in the survey data to know whether they did or not).

Another possible confound associated with the network measures was the use of density. There is emerging evidence that higher densities of sharing relationships do not necessarily mean better results for networks of organizations (Burt, 2002; Valente, Chou, & Pentz, 2007). For example, if too many information exchange relationships exist across numerous organizations, they may be dedicating too much time to sharing information and losing out on precious time to serve clients or do other critical work. Too much sharing of information or referrals can lead to oversaturation, confusion, or overall inefficiency within the network (Valente, Chou, & Pentz, 2007). As in the present study for example, although not significant, there was a trend for higher densities of information sharing to be associated with lower levels of effectiveness. Given this, it is hard to say whether density is the best assessment of effective information sharing patterns within collections of organizations. Some argue that, under certain conditions, measures like centralization may better represent the structure necessary to effectively transfer information and

referrals within networks of service organizations[2] (Provan & Milward, 1995). Again, this is only true under certain conditions, and as network researchers become more knowledgeable, the conditions under which structural measures are predictive of different collaborative elements become more nuanced. The influence of density and centralization can vary based on a number of factors including time, network size, or leadership styles (Valente, Chou, & Pentz, 2007). Some network researchers believe that given the dynamic nature of the size and structure of networks, they offer far less insight when observed via static measures and thus need to be studied longitudinally (Provan et al., 2004; Provan, Fish, & Sydow, 2007; Provan, Huang, & Milward, 2009). In the present study for example, only 54% of GSC membership remained the same from 2010 to 2012. Future research could consider using density change scores to examine the influence of shifts in the network structure on collaborative effectiveness.

Study Limitations

In conjunction with possible theoretical explanations, the current study was also subject to methodological limitations that may have contributed to the findings. First, the integrity of the mediated predictions may have been strengthened by the use of three time points in the longitudinal models. In order to most accurately test the assumption that relational capacity predicts interorganizational relationships, which subsequently predict collaborative effectiveness, another time point would have been ideal. Unfortunately, given funding restrictions, data collection was only able to occur twice and the predictions were tested using the available data. The use of two time points was also limiting due to the shift in membership from time 1 to time 2. Only 54% of the respondents remained the same from 2010 to 2012. Although this was believed to be reflective of the expected turnover in the human service sector, it may have been

[2] Post-hoc analyses were conducted replacing the density measures with measures of centralization of information and referral sharing. No significant findings were discovered in this particular case.

problematic to make comparisons over time given the shift in respondents. A second limitation was that the relatively small sample size influenced the power available for the analyses. While zero-order correlations revealed some strong relationships related to the hypotheses (see Tables 7 and 9), those relationships did not hold in the regression analyses. Although there are many other factors at work aside from sample size, perhaps a non-parametric approach would have been more insightful into the variable effects given the assumptions of parametric tests, such as normal distribution, that often require larger samples (Pett, 2007). Future analyses may benefit from exploring the use of non-parametric tests.

The small sample for this particular study was symptomatic of two additional limitations, missing data and the use of collaborative-level aggregation for all analyses. Missing data is not only incredibly detrimental in basic quantitative analyses, but can be crippling to a study using network data. Due to the amount of missing data, the sample size had to be reduced from its original size, which was already quite small, further affecting the power. In addition, in network measures, low response rates or any degree of missing data can be detrimental (Provan, Huang, & Milward, 2009). Not only were there collaboratives included in analyses with incomplete input on the structure of their networks, but the cutoff for inclusion (>70% response rate) was low compared to the recommendations of many network researchers (Neal, 2008). Unfortunately, in order to fulfil the need for an adequate sample and to include as many collaboratives from around the state as possible, the cutoff point was chosen and the density measure may not have accurately represented the strength of the connections within some collaboratives. For comparative purposes, the analyses were run using an 80% cutoff, and ultimately a smaller sample size, and the regression coefficients did not exhibit any major changes.

Finally, all measures were aggregated at the collaborative level which may have contributed to a loss of variation and an influx in the statistical power. Depending on both within and between-group variation, analyses conducted solely at level 2 can prove to be the most accurate representation of the prediction but this is not always the case (Snijders, 2005). Given the theoretical assumption based on past research that aggregating at the collaborative level is appropriate for the given measures, all analyses were conducted at level 2. Future researchers should consider using a multi-level approach to further explore the hypotheses proposed in the current study

Directions for Future Research

Although the hypotheses were not supported by the proposed analyses, there is much to be learned from this study and to take forward into future community systems research. First, there is still a great deal that needs to be understood about the use of network measures before they can be accurately applied as predictors of organizational systems change. Density and centralization may not be enough to explain how the relationships between organizations influence positive change. Network structure is more complex in that it is guided by many contextual factors like membership changes, community size, organization types, number of sector-specific sub-networks, etc. It is the belief of the investigator that truly understanding phenomena like coordination and access via provider exchanges will require more than the static, two-dimensional view of transactions provided by measures like density and centralization. Much like the elements of relational capacity, it may be the call of future research to think of these variables more kinetically through a lens focused on change. Further, there is a need to understand the mechanisms through which changes in these constructs promote positive community outcomes. The future of systems research lies in understanding the complexity

inherent in their ever-changing nature. How to capture and study the role and implications of constant change may be the next step in helping communities improve as dynamic systems.

CONCLUSION

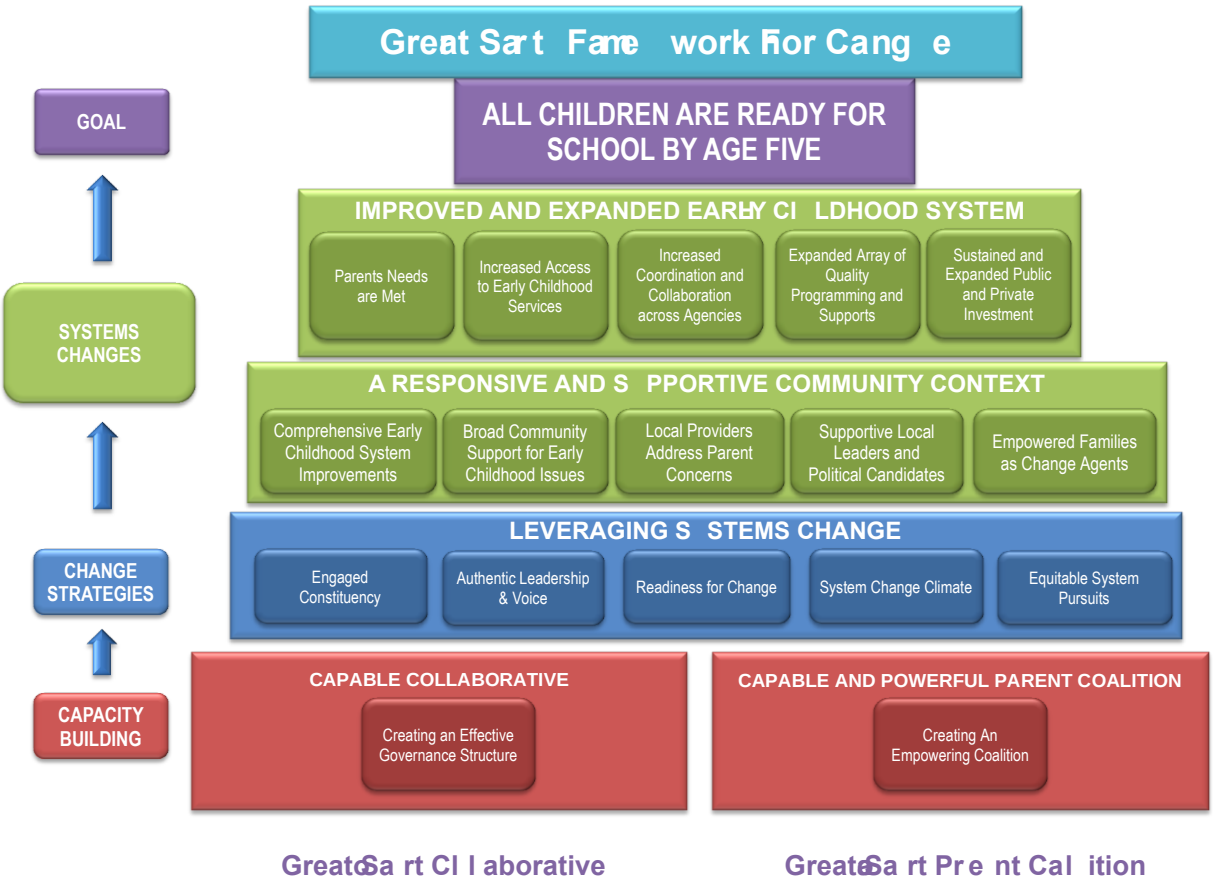
Preparing all of America's children to enter school ready to learn and succeed is a pressing and complex social issue that requires a continued and concerted effort for change. One approach to tackling the complexity of school readiness is to use early childhood collaboratives to help create a more coordinated and accessible support system for children and families. In order for collaboratives to achieve this, there needs to be a better understanding of what it takes to make collections of diverse supports function as effective systems. Communities, organizations, and researchers must work together to identify and define factors that both facilitate and inhibit the pursuit of "moving the needle" on broad issues like school readiness. Making real change requires digging deep into the layers of complex community systems to understand how mechanisms like capacity or relationships shift the ecology and allow systems to thrive. In the most literal sense, systems change research involves addressing the *entire system* to promote *positive change*. If all children are to someday be offered an equal and just opportunity to succeed, it will require work on every aspect of early childhood systems and a continued movement to make equality and justice a reality.

APPENDICES

APPENDIX A

Great Start Framework for Change

Figure 1. Great Start Framework for Change



APPENDIX B

Great Start Collaborative Provider Survey

Figure 2. Great Start Collaborative Provider Survey

Great Start Initiative: Service Provider Survey

This survey is designed to learn more about the Great Start Initiative in your community, including the work of your **Great Start Collaborative** (GSC). Your answers can help make the Great Start Initiative better at meeting the needs of young children and families in your community. Findings will be shared with your local GSC, GSPC, the Early Childhood Investment Corporation, and other key stakeholders.

This survey will take about 45 minutes to complete.

We thank you for completing this survey.

If you have any questions about this survey please contact the Great Start Evaluation Staff at Michigan State University at eciceval@msu.edu or toll free at 1-866-343-5279.

Figure 2. (cont'd) **HOW TO FILL OUT THE SURVEY**

Most questions can be answered by placing an X in the circle under your choice. ***For example:***

"How much TV do you watch every night?"

None	A Little	Some	Quite A Bit	A Great Deal
❍	❍	❍	❍	❍

Figure 2. (cont'd)

By selecting "I Accept" below, you indicate your voluntary agreement to participate in this study, with the understanding that you are free to end the survey at any time without penalty. You must be at least 18 years of age to participate in this study.

- ❍ I Accept
- ❍ I Decline

Part A: Demographic Information

A1. What county(s) does your Great Start Collaborative (GSC) serve? (If you sit on more than one GSC, select the GSC that you are most familiar with and participate in the most.)

_____GSC Name

A2. Which of the following best represents your role? Please think carefully about your involvement before making a selection.

- ❍ I am a member of the Great Start Collaborative and I represent a local organization that provides or funds programs, supports or services for young children and/or their families. Examples include school systems (public, private, and charter) Head Start, GSRP, Early On, health care providers, child care providers, social service agencies or programs such as CMH, WIC, etc.
- ❍ I am a member of the Great Start Collaborative but I do NOT represent a local organization that provides or funds programs, supports or services for young children and/or their families.
- ❍ I am not a member of the Great Start Collaborative.

A3. Are you part of a multi-county Great Start Collaborative or Great Start Parent Coalition?

- ❍ Yes
- ❍ No (continue to Part B)

A3a. Which county (or counties) do you feel you most represent at the GSC/GSPC meeting? (Because you interact the most with families and/or other organizations in that county.)

List counties here: _____

_____

Figure 2. (cont'd)

A3b. To what extent would you say the Great Start efforts benefit all of the counties covered by your GSC/GSPC?

Efforts benefit only one county					Efforts benefit all of the counties covered by our GSC/GSPC
❍	❍	❍	❍	❍	❍
1	**2**	**3**	**4**	**5**	**6**

Figure 2. (cont'd)

A4. Which type of organization do you represent on your GSC?

- ❍ Public Sector Organization (e.g. DHS, CMH, ISD, schools, etc.)
- ❍ Private or non-private organization that provides services to young children and/or their families
- ❍ Philanthropic and/or United Way
- ❍ Faith-Based Community
- ❍ Neighborhood-Based Organization (e.g., neighborhood center)
- ❍ Other (please specify) _____

A5. In which of the following areas does your organization **primarily** provide or fund services?

- ❍ Child Care & Early Education
- ❍ Pediatric & Family Health
- ❍ Social & Emotional Health
- ❍ Parenting Education and/or Leadership Development
- ❍ Family Support – including support for basic needs
- ❍ Other (please specify) _____

A6. In which of the following areas does your organization also provide or fund services? (Please select all that apply)

- ❑ Child Care & Early Education
- ❑ Pediatric & Family Health
- ❑ Social & Emotional Health
- ❑ Parenting Education and/or Leadership Development
- ❑ Family Support – including support for basic needs
- ❑ Other (please specify)
- ❑ We only provide services in one of the areas listed above

A7. At what level is your position within your organization/agency?

- ❍ Director/Top Administrator
- ❍ Middle-level Administrator/Supervisor/Coordinator
- ❍ Direct Service Provider

A8. How many years have you worked in your organization?

_____ Years

Figure 2. (cont'd)

A9. In what month and year did your organization/agency become involved with the GSC?

Month: _____ Year: _____

Part B: Current Community Context

For all of the questions in this survey, GSC refers to the Great Start Collaborative. GSPC refers to the Great Start Parent Coalition.

Please indicate the extent to which you agree with each of the following statements.

B1.In our community, the PROVIDERS who deliver services to young children (birth through 5) and their families (e.g., organizations that provide Early Childhood development services, mental and physical health care, etc.)…	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal	Don't Know
a. Want to improve services for children and families.	❍	❍	❍	❍	❍	❍	❍
b. Work hard to meet the unique needs of the children and families they serve.	❍	❍	❍	❍	❍	❍	❍
c. Are good at coordinating services with other agencies.	❍	❍	❍	❍	❍	❍	❍
d. Actively work to engage parents and make changes in services based on family input.	❍	❍	❍	❍	❍	❍	❍
e. Know where to refer families for needed services.	❍	❍	❍	❍	❍	❍	❍
f. Listen to and respect families' needs.	❍	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

B2. In our community, PARENTS of young children…	**Not at All**	**A Little**	**Some what**	**Mostly**	**Quite a Bit**	**A Great Deal**	**Don't Know**
a. Can get elected officials or political candidates to listen to their concerns.	❍	❍	❍	❍	❍	❍	❍
b. Are recognized as strong and effective leaders.	❍	❍	❍	❍	❍	❍	❍
c. Can influence decisions that are made by our GSC.	❍	❍	❍	❍	❍	❍	❍
d. Can get organizations that provide services to young children and their families to listen to and respond to their concerns.	❍	❍	❍	❍	❍	❍	❍

B3. In our community…	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal	Don't Know
a. The work of our GSC is valued.	❍	❍	❍	❍	❍	❍	❍
b. Local media sources turn to our GSC to inform them about Early Childhood issues.	❍	❍	❍	❍	❍	❍	❍
c. Our GSC has the strong support of local leaders and key organizations.	❍	❍	❍	❍	❍	❍	❍
d. Local funders understand that the problems facing children with high needs and their families require the efforts of many organizations.	❍	❍	❍	❍	❍	❍	❍
e. Providers understand that the problems facing children with high needs and their families require the efforts of many organizations.	❍	❍	❍	❍	❍	❍	❍
f. The local Great Start Parent Coalition serves as a resource for our GSC and other groups and organizations by providing access to parent perspectives about early childhood services.	❍	❍	❍	❍	❍	❍	❍
g. The Great Start Parent Coalition is effective at organizing parents for action.	❍	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

Part C: Accomplishments to Date

We would like to know what the Great Start Initiative - which includes the Great Start Parent Coalition and the Great Start Collaborative - has accomplished so far in your community.

For each of the following statements, please indicate the extent to which the Great Start Initiative in your community (meaning the efforts of your GSPC AND GSC) has achieved the outcomes listed.

C1. Because of the Great Start Collaborative and Great Start Parent Coalition efforts in our community…	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal	Don't Know
a. There are new or expanded programs or services for young children and their families.	❍	❍	❍	❍	❍	❍	❍
b. Access to services for young children and families is easier.	❍	❍	❍	❍	❍	❍	❍
c. Service quality is improving.	❍	❍	❍	❍	❍	❍	❍
d. Local organizations are more responsive to the needs of children and families.	❍	❍	❍	❍	❍	❍	❍
e. The early childhood workforce is more skilled and knowledgeable.	❍	❍	❍	❍	❍	❍	❍
f. Organizations/agencies work together in a more coordinated, efficient manner.	❍	❍	❍	❍	❍	❍	❍
g. Outcomes for young children and families are improving.	❍	❍	❍	❍	❍	❍	❍
h. More children are ready for school.	❍	❍	❍	❍	❍	❍	❍
i. Local organizations trust each other more.	❍	❍	❍	❍	❍	❍	❍
j. More people in our community are talking about Early Childhood issues.	❍	❍	❍	❍	❍	❍	❍
k. Local organizations who serve young children are more aware of each other's programs, strengths and limitations.	❍	❍	❍	❍	❍	❍	❍
l. The public is more aware of the importance of Early Childhood development.	❍	❍	❍	❍	❍	❍	❍
m. The public is more supportive of Early Childhood issues.	❍	❍	❍	❍	❍	❍	❍
n. City, county, or state elected officials are more supportive of Early Childhood issues.	❍	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

o. More local organizations value and use family voice and input.	❍	❍	❍	❍	❍	❍	❍
p. Public and private investments in Early Childhood are increasing.	❍	❍	❍	❍	❍	❍	❍
q. Parents are more active in the Early Childhood system building process.	❍	❍	❍	❍	❍	❍	❍
r. Parents are more effective at getting their voices heard.	❍	❍	❍	❍	❍	❍	❍
s. Parents are more aware of the Early Childhood services and supports available.	❍	❍	❍	❍	❍	❍	❍
t. Children and families with the highest needs in our community are gaining access to quality programs and supports.	❍	❍	❍	❍	❍	❍	❍
u. Organizations in our local early childhood system are considering the unique needs of different cultures, races, and incomes as they design and provide their services and supports.	❍	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

C2. Thinking about your organization/agency's involvement in the Great Start Initiative and the GSC, to what extent has your organization experienced the following benefits as a result of its participation on the GSC? Because of our involvement, my organization/agency has…	**Not at All**	**A Little**	**Some what**	**Mostly**	**Quite a Bit**	**A Great Deal**
a. Worked closer with funders and elected officials.	❍	❍	❍	❍	❍	❍
b. Worked closer with the faith and business communities.	❍	❍	❍	❍	❍	❍
c. Greater knowledge about how the Early Childhood system works and how organizations/agencies affect one another.	❍	❍	❍	❍	❍	❍
d. Increased understanding about how to best interact with other organizations in order to accomplish our organizational objectives.	❍	❍	❍	❍	❍	❍
e. Increased the level of respect and credibility we have with other organizations/agencies.	❍	❍	❍	❍	❍	❍
f. Increased how responsive other organizations/agencies are to our questions or concerns.	❍	❍	❍	❍	❍	❍
g. The opportunity to have a greater impact than my organization could have on its own.	❍	❍	❍	❍	❍	❍
h. Enhanced ability to meet the needs of our constituency or families.	❍	❍	❍	❍	❍	❍
i. Increased organizational effectiveness.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

C3. In the past 12 months, has your organization changed any of its policies or procedures as a result of your involvement in the Great Start Initiative?

❍ Yes
❍ No

C3a. Please indicate how many policies/procedures you changed, and please briefly describe at least one policy or procedure that was changed.

Number of Policies/Procedures: _____

Policy/Procedure Changed:

_____

C4. In the past 12 months, has your organization adopted or funded any evidence-based programs as a result of your involvement in the Great Start Initiative?

❍ Yes
❍ No

C4a. Please indicate how many evidence-based programs your organization has adopted or funded, and please briefly describe at least one program that was adopted or funded.

Number of Evidence-based Programs: _____

Evidence-Based Program Adopted or Funded:

_____

C5. In the past 12 months, has your organization added or funded any new program slots as a result of its involvement in the Great Start Initiative?

❍ Yes
❍ No

C5a. Approximately how many more children (age 0-5) and/or families can now be served by your organization?

Number of Children/Families: _____

Figure 2. (cont'd)

C6. In the past 12 months, as a result of your involvement in the Great Start Initiative, has your organization shifted where or when you provide services/supports so they are more accessible to children and families?

- ❍ Yes
- ❍ No

C6a. In what ways has your organization shifted where or when you provide services/supports to children or families? Please select all that apply.

- ❑ Moved services closer to where families live
- ❑ Extended service hours into the evening or weekends
- ❑ Implemented sliding fee scale
- ❑ Actively outreached to families in places where they regularly spend time
- ❑ Used social media to inform families about basic services

Figure 2. (cont'd)

Part D: Connections Across Organizations

This section is designed to help us assess the kinds of relationships that organizations/agencies affiliated with the Great Start Initiative have with each other.

Each question in this section includes a list of organizations/agencies currently involved with the Great Start Collaborative and some of its efforts. Although we have tried to create a comprehensive list, we may have missed some of the organizations/agencies that are critical to the Great Start Initiative in your community. After answering a series of questions related to these agencies you will be given an opportunity to provide the names of other critical organizations within your community that we may have missed.

ACCESS TO SERVICES

This set of questions asks about how often children and families gain access to services at organizations/agencies affiliated with the Great Start Initiative.

- Think about your interactions with each listed organization/agency over the past 90 DAYS. Think about whether or not you have referred children and/or families to each organization/agency.
- If you HAVE referred children or families to the organization/agency: Choose the response that indicates the degree to which your clients are able to access their services.
- If you HAVE NOT referred children or families to the organization/agency: Choose "We do not refer to this organization" to indicate that your organization/agency doesn't refer children or families to this organization/agency.

Figure 2. (cont'd)

D1. When we refer children and families to this organization/agency, the children and families . . .	We do not refer to this organ-ization	Never Gain Access	Rarely Gain Access	Some-times Gain Access	Often Gain Access	Usual-ly Gain Access	Always Gain Access
a.	❍	❍	❍	❍	❍	❍	❍
b.	❍	❍	❍	❍	❍	❍	❍
c.	❍	❍	❍	❍	❍	❍	❍
d.	❍	❍	❍	❍	❍	❍	❍
e.	❍	❍	❍	❍	❍	❍	❍
f.	❍	❍	❍	❍	❍	❍	❍
g.	❍	❍	❍	❍	❍	❍	❍
h.	❍	❍	❍	❍	❍	❍	❍
i.	❍	❍	❍	❍	❍	❍	❍
j.	❍	❍	❍	❍	❍	❍	❍
k.	❍	❍	❍	❍	❍	❍	❍
l.	❍	❍	❍	❍	❍	❍	❍
m.	❍	❍	❍	❍	❍	❍	❍
n.	❍	❍	❍	❍	❍	❍	❍
o.	❍	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd) **SERVICE COORDINATION**

This set of questions asks about the organizations/agencies with whom your agency coordinates services via information exchanges:

- Exchange of information includes:
  - Receiving or providing information about agency services
  - Discussing/resolving service delivery dilemmas, service coordination, or service strategies
  - Exchanging information about clients
- Information exchanges can occur in person, in letters, through electronic communication, via voice mail, or over the telephone.
- Think about your interactions with each listed organization/agency over the last 90 DAYS.
- Please choose the response that indicates the frequency of your information exchanges with each organization/agency.

D2. We coordinate programs and services with this organization/agency . . .	**Never**	**Once a Month**	**About Twice a Month**	**About Weekly**	**Several Times a Week**	**Daily**
a.	❍	❍	❍	❍	❍	❍
b.	❍	❍	❍	❍	❍	❍
c.	❍	❍	❍	❍	❍	❍
d.	❍	❍	❍	❍	❍	❍
e.	❍	❍	❍	❍	❍	❍
f.	❍	❍	❍	❍	❍	❍
g.	❍	❍	❍	❍	❍	❍
h.	❍	❍	❍	❍	❍	❍
i.	❍	❍	❍	❍	❍	❍
j.	❍	❍	❍	❍	❍	❍
k.	❍	❍	❍	❍	❍	❍
l.	❍	❍	❍	❍	❍	❍
m.	❍	❍	❍	❍	❍	❍
n.	❍	❍	❍	❍	❍	❍
o.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd) **RESOURCE SHARING**

This set of questions asks about the organizations or agencies with whom your organization/agency shares resources.

- Sharing of resources includes sharing in-kind resources, funds and other supports such as:
  - Co-location of services
  - Personnel or co-location of staff
  - Facilities
  - Supplies
  - Training
  - Transportation
  - Blended funds
- Think about your interactions with each listed organization/agency over the last 90 DAYS.
- Please choose the response that indicates the frequency of resource sharing with each organization/agency.

D3. We share resources with this organization/agency . . .	**Never**	**Once a Month**	**About Twice a Month**	**About Weekly**	**Several Times a Week**	**Daily**
a.	❍	❍	❍	❍	❍	❍
b.	❍	❍	❍	❍	❍	❍
c.	❍	❍	❍	❍	❍	❍
d.	❍	❍	❍	❍	❍	❍
e.	❍	❍	❍	❍	❍	❍
f.	❍	❍	❍	❍	❍	❍
g.	❍	❍	❍	❍	❍	❍
h.	❍	❍	❍	❍	❍	❍
i.	❍	❍	❍	❍	❍	❍
j.	❍	❍	❍	❍	❍	❍
k.	❍	❍	❍	❍	❍	❍
l.	❍	❍	❍	❍	❍	❍
m.	❍	❍	❍	❍	❍	❍
n.	❍	❍	❍	❍	❍	❍
o.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

Part E: Actions to Date

Great Start Collaboratives and Great Start Parent Coalitions pursue a variety of strategies to achieve their goals. We are interested in learning more about the activities in your community.

E1. Thinking about your Great Start Collaborative and Great Start Parent Coalition, to what extent does the following describe their efforts?	**Not at All**	**A Little**	**Some what**	**Mostly**	**Quite a Bit**	**A Great Deal**	**Don't Know**
a. Our GSC and GSPC provide each other with feedback on how to improve each other's Early Childhood system building efforts.	❍	❍	❍	❍	❍	❍	❍
b. The goals and activities of the GSPC are informed by and support the efforts of the GSC.	❍	❍	❍	❍	❍	❍	❍
c. Our GSC works well with and is supportive of the GSPC.	❍	❍	❍	❍	❍	❍	❍
d. Our GSC understands the goals of the GSPC.	❍	❍	❍	❍	❍	❍	❍
e. Our GSC needs the support of the GSPC to succeed.	❍	❍	❍	❍	❍	❍	❍
f. Our GSC has the most important community leaders and organizations at the table.	❍	❍	❍	❍	❍	❍	❍
g. Our GSC has connected other Early Childhood groups or efforts in the community to our Great Start activities	❍	❍	❍	❍	❍	❍	❍
h. Our GSC regularly works with the leaders of underrepresented groups to ensure our efforts meet their concerns and needs.	❍	❍	❍	❍	❍	❍	❍
i. Representatives of the corporate sector are active partners in our GSC efforts.	❍	❍	❍	❍	❍	❍	❍
j. Representatives of the government sector are active partners in our GSC efforts.	❍	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

Part F: Your Great Start Collaborative

Now we would like you to think about your Great Start Collaborative (GSC). Please indicate the extent to which each of the following describes your GSC.

F1. To what extent does the following describe the members of your Great Start Collaborative? The members of our GSC...	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal
a. Have a shared vision.	❍	❍	❍	❍	❍	❍
b. Are dedicated to making the Great Start vision a reality.	❍	❍	❍	❍	❍	❍
c. Respect each other's work and efforts in the community.	❍	❍	❍	❍	❍	❍
d. Agree on what needs to happen in our community to improve the Early Childhood system.	❍	❍	❍	❍	❍	❍
e. Share lessons learned with each other.	❍	❍	❍	❍	❍	❍
f. Trust each other.	❍	❍	❍	❍	❍	❍
g. Actively work to coordinate their efforts with each other.	❍	❍	❍	❍	❍	❍
h. Understand the root or primary causes of children not being ready for school in our community.	❍	❍	❍	❍	❍	❍

GSC leadership refers to the official chair or co-chairs of your collaborative.

F2. To what extent do these leaders...	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal
a. Promote and value members' input.	❍	❍	❍	❍	❍	❍
b. Promote and value shared leadership.	❍	❍	❍	❍	❍	❍
c. Work to maintain a respectful and collaborative relationship with parent members.	❍	❍	❍	❍	❍	❍
d. Effectively resolve conflict among GSC members.	❍	❍	❍	❍	❍	❍
e. Plan effectively and efficiently.	❍	❍	❍	❍	❍	❍
f. Make GSC meetings a good use of your time.	❍	❍	❍	❍	❍	❍
g. Help members see the interconnections between the work of their organizations and the GSC.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

F3. Now, thinking about your GSC Director/Coordinator, to what extent does she/he . . .	**Not at All**	**A Little**	**Some what**	**Mostly**	**Quite a Bit**	**A Great Deal**
a. Facilitate communication and coordination across GSC members.	❍	❍	❍	❍	❍	❍
b. Promote the Great Start Parent Coalition (GSPC) as a valued partner in the Great Start effort.	❍	❍	❍	❍	❍	❍
c. Provide you with the information and resources you need to be an informed and active participant at the table.	❍	❍	❍	❍	❍	❍
d. Create various ways for parent members to make meaningful contributions at the GSC.	❍	❍	❍	❍	❍	❍
e. Support local data collection, evaluation, and learning efforts.	❍	❍	❍	❍	❍	❍
f. Provide overall strategic direction for the Great Start effort in your community.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

F4. Thinking about how your GSC typically operates, to what extent does your GSC...	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal
a. Take into account the points of view of all members when making decisions.	❍	❍	❍	❍	❍	❍
b. Have prioritized a few issues to guide your work.	❍	❍	❍	❍	❍	❍
c. Ensure that all members understand the GSC's purpose and its early childhood action agenda.	❍	❍	❍	❍	❍	❍
d. Effectively orient new members.	❍	❍	❍	❍	❍	❍
e. Tap into the skills, resources, and networks you bring to the table.	❍	❍	❍	❍	❍	❍
f. Spend meeting time discussing and solving critical issues	❍	❍	❍	❍	❍	❍
g. Adjusts its efforts through the use of data and ongoing learning about its collective efforts.	❍	❍	❍	❍	❍	❍
h. Identify and prioritize needed system changes in your community (for example, policies that need to shift, funding streams that should be altered, service coordination improvements).	❍	❍	❍	❍	❍	❍
i. Have some agreed upon outcomes and outcomes measures that local organizations use to track their progress towards the GSC's targeted goals.	❍	❍	❍	❍	❍	❍
j. Have a strategic plan that really challenges the status quo in your community.	❍	❍	❍	❍	❍	❍
k. Have a clear understanding of the needs in your community.	❍	❍	❍	❍	❍	❍
l. Have parent members who bring the parent voice to the table.	❍	❍	❍	❍	❍	❍
m. Have parent members who bring GSC items to the Parent Coalition (GSPC) for feedback.	❍	❍	❍	❍	❍	❍
n. Have parent members who represent the diversity (e.g. race, class, geographical differences) within your community.	❍	❍	❍	❍	❍	❍
o. Track and celebrate the small wins and changes it has accomplished along the	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

F4. Thinking about how your GSC typically operates, to what extent does your GSC...	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal
way.						

Figure 2. (cont'd)

p. Have a Parent Liaison who is respected by the GSC members.	❍	❍	❍	❍	❍	❍
q. Have parent members who understand they represent a larger group of parents.	❍	❍	❍	❍	❍	❍
r. Have strategies in your early childhood action agenda that will really address the primary causes of children not being ready for school.	❍	❍	❍	❍	❍	❍
s. Have several community leaders who really champion your collective work to the whole community.	❍	❍	❍	❍	❍	❍

F5. Thinking about your involvement in the GSC, to what extent do you agree with each of the following statements?	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal
a. You, as a representative of your organization, are allowed to make commitments to the GSC.	❍	❍	❍	❍	❍	❍
b. Your organization, to accomplish its goals, needs the resources, services, or support of other service providers on the GSC.	❍	❍	❍	❍	❍	❍
c. You feel what your organization brings to your GSC is appreciated and respected by other service providers in the GSC.	❍	❍	❍	❍	❍	❍
d. Your organization can count on other service providing organizations on the GSC to meet their obligations to the GSC.	❍	❍	❍	❍	❍	❍
e. Your organization's strategic plan is aligned with the GSC's early childhood action agenda.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

Part G: Perception of the Great Start Initiative

Now we would like to know more about your perceptions of the Great Start Initiative.

G1. To what extent do you agree with each of the following statements?	Not at All	A Little	Some what	Mostly	Quite a Bit	A Great Deal
a. I believe the Great Start Initiative will have positive impacts on children and families in my community.	❍	❍	❍	❍	❍	❍
b. The Great Start initiative has built a sense of urgency in our community around the need to improve conditions for young children and their families.	❍	❍	❍	❍	❍	❍
c. I believe our GSC and GSPC can successfully build an effective local Early Childhood system.	❍	❍	❍	❍	❍	❍
d. The Great Start Collaborative has the capacity to make a real difference in our community.	❍	❍	❍	❍	❍	❍
e. I believe our community wants a functioning Early Childhood system.	❍	❍	❍	❍	❍	❍
f. I believe we can build public support for Early Childhood issues.	❍	❍	❍	❍	❍	❍
g. The Great Start Parent Coalition has the capacity to make a real difference in our community.	❍	❍	❍	❍	❍	❍
h. Staff in my organization embrace the changes the Great Start Initiative may have on our community.	❍	❍	❍	❍	❍	❍
i. My organization has the capacity to implement the changes needed to better serve young children and families in our community.	❍	❍	❍	❍	❍	❍
j. Changing how my organization works with young children and families will make my organization more effective.	❍	❍	❍	❍	❍	❍
k. My organization needs to improve the way it works with other organizations.	❍	❍	❍	❍	❍	❍
l. The top leaders in my organization support the Great Start Initiative.	❍	❍	❍	❍	❍	❍
m. Staff in my organization understand the goals of our GSC.	❍	❍	❍	❍	❍	❍

Figure 2. (cont'd)

G2. In the last 3 months, how many other local organizational leaders or staff members who are currently NOT involved in your GSC, have you told about your GSC's efforts?

_____

Part H: Involvement in Your Great Start Collaborative

Now we would like to know a bit more about you and your involvement in your GSC.

H1. How long have you been involved in your Great Start Collaborative? (Choose one)

- ❍ 0-6 months
- ❍ 7-12 months
- ❍ 13-18 months
- ❍ 19-24 months
- ❍ 2-3 years
- ❍ 3-4 years
- ❍ Over 4 years

There are many ways to be involved in the Great Start Initiative in your community.

H2. Thinking about your involvement with your GSC, DO YOU…	**Yes**	**No**
a. Talk at GSPC meetings (make comments, express ideas, etc.)?	❍	❍
b. Help organize GSPC activities (other than meetings)?	❍	❍
c. Attend events on behalf of the Great Start Initiative?	❍	❍
d. Communicate your concerns about Early Childhood by writing letters to the editor, publicly speaking, and/or holding conversations with elected officials or political candidates?	❍	❍
e. Advocate for policy change to increase services or access to services?	❍	❍
f. Talk to other parents/people you know about Early Childhood issues?	❍	❍
g. Participate in GSPC meetings or activities?	❍	❍

Figure 2. (cont'd)

H3. Are you:

- ❍ Male
- ❍ Female

H4. In what year were you born? _____

H5. What is the highest degree you have received?

- ❍ Did not graduate from high school
- ❍ GED
- ❍ High school diploma, trade, or training certificate
- ❍ Associate's degree
- ❍ Bachelor's degree
- ❍ Master's degree.
- ❍ Ph.D., M.D. or J.D.
- ❍ Other (please specify) _____

Figure 2. (cont'd)

H6. What is your ethnic or racial background? (Please select all that apply)

- ❍ White
- ❍ Black or African American
- ❍ American Indian or Alaska Native
- ❍ Native Hawaiian or Pacific Islander
- ❍ Asian
- ❍ Hispanic or Latino
- ❍ Other (please specify) _____

H6a. If you selected more than one in question H6: Which of the following do you consider to be your **primary** racial or ethnic group?

- ❍ White
- ❍ Black or African American
- ❍ American Indian or Alaska Native
- ❍ Native Hawaiian or Pacific Islander
- ❍ Asian
- ❍ Hispanic or Latino
- ❍ Other (please specify) _____

H7. Is there anything else you think we should know about the GSC, the GSPC, or the Great Start Initiative in your community? _____

_____

_____

_____

_____

_____

REFERENCES

REFERENCES

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