National Center for Research on Rural Education (R^2Ed)

R^2Ed Working Papers

Family-School Connections in Rural Educational Settings: A Systematic Review of the Empirical Literature

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April, 2011

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Development of this report was completed at the National Center for Research on Rural Education (R^2Ed), funded by a grant from the U.S. Department of Education's Institute of Education Sciences (R305C090022). The statements made herein are those of the developers and are not meant to represent opinions or policies of the funding agency.

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Recommended citation:

Semke C. A., & Sheridan, S. M. (2011). *Family-School Connections in Rural Educational Settings: A Systematic Review of the Empirical Literature* (R²Ed Working Paper No. 2011-1). Retrieved from the National Center for Research on Rural Education website: http://r2ed.unl.edu

Abstract

Parental participation and cooperation in children's educational experiences is positively related to important student outcomes. It is becoming increasingly evident that context is a significant factor in understanding academic achievement, and the setting in which a child, family, and school is situated is among the salient contexts influencing performance. Although the family-school partnership research literature has increased over recent decades, it has been conducted primarily in urban and suburban settings. The goals of this paper are to (a) review the empirical literature on family involvement and family-school partnerships in rural schools, (b) provide a synthesis of the state of the science, and (c) point to a research agenda in this area. Eighteen studies were identified that met the criteria for this review. A critique of the research methods and analytical approaches is provided, along with a call for more research on the topic of family-school partnerships in rural settings, including rigorous and systematic studies pertaining to the effects of family-school involvement and partnerships in rural schools.

Family-School Connections in Rural Educational Settings:
A Systematic Review of the Empirical Literature

Parents and schools, separately and together, represent significant influences on and potential sources of support for children's learning and development. A concomitant focus on families *and* schools as foundations for child development and learning is grounded in ecological-systems theory (Bronfenbrenner, 1979, 1992). Accordingly, children develop within multiple contexts, and development is optimal when effective connections and continuities among these major systems are created (Hobbs, 1966). Methods for creating connections are manifest in programs promoting family involvement and participation in education, and in discussions promoting collaboration and partnership among families and schools.

Family involvement, family-school partnerships, and school-community partnerships all play important roles in educational programming[1]. Given that each serves unique functions and may address different needs, distinctions between them are meaningful. *Family involvement* is characterized by active, meaningful overtures by parents to engage in activities and behaviors at home and at school to benefit their child's learning and development (Fantuzzo, Tighe, & Childs, 2000). It is a multidimensional construct that recognizes the multiple pathways by which families participate in supporting their child's learning, including at home, at school, and through communications across home and school (Fantuzzo et al., 2000). The focus in programs addressing family involvement tends to be the engagement of families, targeting methods for increasing the actions among parents and other family members to play an active and prescribed role in education. *Family-school partnerships* extend the concept of family involvement to recognize shared roles and responsibilities among families and schools. Programs that promote partnerships involve collaboration and cooperation between individuals across home and school settings and articulate shared responsibilities (Christenson & Sheridan, 2001). Whereas family involvement is concerned primarily with unique roles for parents, family-school partnerships are concerned with promoting constructive connections and relationships recognizing complementary roles among systems. *School-community partnerships* go a step further and place an emphasis on engaging community resources to offer programs and services that support the academic success of students and their families.

Parental participation and cooperation in their child's educational affairs is related to several outcomes deemed important in educational arenas: increased student achievement and academic performance, stronger self-regulatory skills, fewer discipline problems, better study habits, more positive attitudes toward school, improved homework habits and work orientation, and higher educational aspirations (Aeby, Thyer, & Carpenter-Aeby, 1999; Galloway & Sheridan, 1994; Grolnick & Slowiaczek, 1994; Ma, 1999; Masten &

[1] We use the term "family-school connection" throughout this manuscript as a general term denoting the variety of labels used in the literature, including and especially parent/family involvement and family-school partnerships. Several authors include collaborations with the community in this realm; thus, our notion of family-school connections includes school-community connections as well.

Coatsworth, 1998; Trusty, 1999). For students living in disadvantaged conditions, parent involvement has been found to be associated with lower rates of grade retention, drop-out, and years in special education (Barnard, 2003; Miedel & Reynolds, 2000). Students with both externalizing and internalizing behaviors whose families are involved in their education have been shown to demonstrate decreases in disruptive behaviors and improvements in adaptive and social skills (Colton & Sheridan, 1998; Sheridan, Glover, Bovaird, Garbacz, & Kwon, 2009; Sheridan, Kratochwill, & Elliott, 1990). Meta-analyses investigating the effects with students representing racial diversity (Jeynes, 2003), urban children (Jeynes, 2005a), and adolescents (Jeynes, 2005b) have found effect sizes of parent involvement models in the .70s. Benefits to students are evident after students' abilities and socioeconomic status are taken into account (Barnard, 2003; Miedel & Reynolds, 2000), and some research has suggested magnified effects for families of low socioeconomic status (Domina, 2005). It is clear that children benefit when meaningful connections are made between meaningful adults in their environment.

Most of the research base pointing to the relevance and efficacy of involvement and partnerships has been conducted in urban settings (e.g., Chicago Child-Parent Centers; Reynolds, 2000). Despite increasing attention to the topic of family-school partnerships, relatively little information is known about their use and effects in rural communities. Rural settings present unique conditions that influence the availability and delivery of coordinated family-school services. Unique contextual realities facing rural educators heighten the need for research on family-school partnerships within rural schools. By definition, rural schools are geographically isolated, presenting a particular problem among rural educators (Arnold, Newman, Gaddy, & Dean, 2005; Howley & Howley, 2004) and challenges for certain forms of school-based collaborations and partnerships. Rural schools tend to be hard-to-staff with high teacher turnover, a high percentage of inexperienced or poorly prepared teachers, inadequate resources, and poor facilities (Jerald, 2002).

The composition of the rural student body in America is also changing, with increasing rates of poverty, migrant families, poorly educated parents, and single parent homes in rural communities (Grey, 1997; Schafft, 2008). Services for families in low-density rural locations tend to be either unavailable, inaccessible, or unacceptable (DeLeon, Wakefield, & Hagglund, 2003). The geographic and social contexts of rural communities often require schools to serve many functions beyond their primary mission of education (NEA, 2008). Most rural teachers indicate that beyond providing basic academic and instructional programs for students, supporting their behavioral and mental health needs is part of their role (Roeser & Midgley, 1997). Simultaneously, , rural teachers report feeling unprepared to meet the range of educational, social, and behavioral needs of students and struggle to provide specialized services to serve students with learning or behavior problems (Monk, 2007).

Quality relationships between home and school in rural settings, and meaningful involvement of rural family members in educational decision making, are often difficult to achieve. There is frequently stigma associated with identification of child or family needs, and rural culture often posits dealing with problems internally rather than pursuing

professional help. Fears about being judged, distrust of professionals, and lack of privacy hinder parent engagement in services (Beloin & Peterson, 2000; Owens, Richerson, Murphy, Jageleweski, & Rossi, 2007). Additionally, many rural families are forced to travel a distance to access necessary services, with little or no public transportation. Time and scheduling challenges were reported by both rural parents (Kushman & Barnhardt, 2001) and teachers (McBride, Bae, & Wright, 2002) as inhibiting factors for parent involvement and home-school partnership activities.

Rural parents have been found to talk with their children about school programs, attend school meetings, and interact with teachers *less frequently* relative to their counterparts in suburban and urban schools (Prater et al., 1997). In the National Household Education Surveys Program of 2007 (NCES, 2007), only 54% of rural parents reported being satisfied with the way that school staff interacted with them. Contributing to the challenges associated with family-school connections in rural settings is the lack of research providing empirical guidance since the majority of research on family-school connections has been conducted in urban and suburban settings to date (Prater et al., 1997). Compared to research in non-rural settings, the state of empirical research on the effects of and processes contributing to family involvement and family-school partnerships in rural schools is unclear. This dearth of research attention greatly limits our ability to understand the differential role and impact of family-school partnerships within school contexts that vary in their location, size, access, and other salient characteristics. The purposes of this paper are to "take stock" of the literature on family-school partnerships in rural education. Specifically, our intent is to (a) review the research literature on family involvement and family-school partnerships in rural schools, (b) provide a synthesis of the state of the science, and (c) point to a research agenda in this area. Procedures used to identify and extract relevant research will be described, methodologies used in the relevant studies will be discussed, and general findings for rural communities summarized. A critique of the research methods and analytical approaches will be provided, along with a call for rigorous and systematic studies pertaining to the effects of family-school involvement and partnerships in rural schools.

Method

Selection of Articles

We attempted to provide a summary of the state of the research related to family-school connections in rural settings by carefully reviewing and critiquing previous studies. Studies included in the review were those conducted from 1995 to 2010 that were related to family-school partnerships and/or family or parent educational involvement in rural settings. Studies were limited to current research, as the structure and composition of rural educational systems have significantly changed over time (Grey, 1997; Monk, 2007; Schafft, 2008). No parameter was provided for the definition of "rural" setting; therefore, all articles that reported having a rural sample qualified as rural. However, populations examined in the studies needed to be completely rural, or include comparative groups with one group being completely composed of a rural sample. That is, studies that included a combined sample of individuals from rural and urban settings were not included in this

review, as no interpretations about practices or outcomes exclusive to the rural context could be drawn. Studies included in this review were limited to those that were examining North American rural settings to reduce variability in educational structure and functioning, which may alter as a function of worldly location. An additional criterion for inclusion was that the study was published in a refereed journal.

Search Procedures

A variety of procedures were utilized to locate articles included in this review. Specifically, search procedures involved computer searches, select journal searches, and reference searches. In all, these procedures resulted in 18 studies that were included in this review.

Computer searches. A computer-aided search was completed for the electronic databases of PsychInfo, Academic Search Premier, and Education: A SAGE Full-Text Collection for studies published in 1995 to 2010. A combination of key words was entered into the search engine for each electronic database to generate a list of relevant articles. Key words included a combination of *rural* and *family-school*, *family-school partnership*, *parent-school partnership*, *family-school relationship*, *parent-school relationship*, *family involvement*, or *parent involvement*. Abstracts of the generated articles were reviewed to assess relevancy and appropriateness for inclusion based on selection criteria. Nine studies were identified via computer searches (i.e., Brody, Stoneman, Flor, 1995; Caspe, 2003; Chavkin, Gonzalez, & Radar, 2000; Dalton, 1996; McBride, Brae, Wright, 2002; Meyer & Mann, 2006; Porter DeCusati & Johnson, 2004; St. Clair & Jackson, 2006; Xu, 2004).

Select journal searches. One journal, the *Journal of Research in Rural Education,* was more thoroughly reviewed for the years 1995 to 2010 as the subject matter of this journal is particularly relevant to this review. The authors first previewed all of the titles and abstracts of the selected journal. The articles that appeared relevant (e.g., contained family, parent, family-school, or similar terms in the title or abstract) were then carefully read by the first author for appropriateness for inclusion based on the focus (i.e., family-school partnerships; family/parent involvement in education) and setting (i.e., rural). Articles that dealt with school-community partnerships were uncovered in this process and were also included given their conceptual closeness. Eight additional studies were identified via select journal searches (i.e., Agbo, 2007; Barley & Beasley, 2007; D'Amico & Nelson, 2000; Howley, Bickel, & McDonough, 1997; Keith et al., 1996; Kushman & Barnhardt, 2001; Prater, Bermudez, & Owens, 1997; Weiss & Correa, 1996).

Reference searches. Studies that were identified by the previous two procedures (i.e., computer searches and select journal searches) were closely reviewed to identify further studies of family-school partnerships in rural schools. Specifically, the introduction or literature review and reference sections of each article were examined to identify and locate additional relevant studies, based on the title and/or description within the primary article. These secondary studies were then extracted from their published source and carefully read for their appropriateness. Studies identified in this way often overlapped

with those identified through other means or did not meet selection criteria; however, one additional study was identified in this manner (i.e., Owens et al., 2008).

Analysis of Studies

Context for review. Two research summaries describing the current state of rural education research and the research agenda for future rural education studies (i.e., Arnold et al., 2005; Coladarci, 2007) were used to guide the analysis and interpretation of the studies included in this review. Arnold and colleagues (2005) conducted a comprehensive literature search of rural education studies and summarized topics and quality of research. Specifically, Arnold et al. (2005) found that (a) a paucity of high and medium quality studies exists on parent involvement in rural education; (b) much more research on rural education is necessary; (c) rural research areas need conceptual refinement around rural research questions and more rigorous studies; (d) rural education research is dominated by descriptive research; and (c) approximately one-third of research conducted in rural settings is not intended to identify a rural phenomenon per se. Coladarci (2007) also summarized challenges inherent in rural education research and provided suggestions for how to improve the state of the science. Similar to Arnold et al. (2005), Coladarci (2007) asserted that (a) it is often unclear whether rural education researchers uncover a rural phenomenon, or if the phenomenon is observed incidentally in a rural setting; (b) research questions fail to establish research as rural in nature; (c) rural education researchers fail to describe the context of "rural" in sufficient detail; and (e) and no current reviews of the literature exist. Thus, assertions made by Arnold et al. (2005) and Coladarci (2007) were used to identify important variables in the articles identified for this review of the literature. Specifically, the variables of interest were: definition of rural used in the study, intent to study a rural phenomenon per se, whether research questions specified were rural in nature, and the study's design. In addition, we coded studies for definitions and/or descriptions of the family-school partnership construct under investigation and the studies were summarized regarding the location and description of the rural sample and study findings.

Coding procedures. The authors coded each article on variables identified as important to rural educational research, based on previous reviews (Arnold et al., 2005; Coladarci, 2007). The first author coded all articles uncovered in the search, and the second author coded a random sample of 80% of them. Articles were first coded based on whether or not (i.e., yes/no) the author(s) provided a definition or description of "rural" for their study. Second, each article was examined as to whether or not (i.e., yes/no) the study was rural specific. *Rural specific* is defined as research that is conducted to specifically study rural education issues. In contrast, *rural context only* is research that is conducted in a rural context with no intent to investigate a rural education issue or explain how rurality influences some aspect of schooling (Arnold et al., 2005). Third, the research questions and/or purpose statement for each study were assessed for whether or not (i.e., yes/no) the research questions were clearly phrased as rural in nature. Lastly, the research design of each of the 18 studies was reviewed. The research design for each study was classified as either descriptive, single-group pre-/post-test, causal-comparative (i.e., comparing two groups, without invoking an experimental design), correlational, quasi-experimental, or

experimental. In addition to those variables examined based on reviews of rural education, we also assessed the family-school construct under investigation in each study to gain a better understanding of the manner in which the construct has been conceptualized. The construct under investigation for each study was classified into one or more of the following categories: parent/family involvement, family-school partnership, or community-school partnership.

Results

The studies included in this review are listed in Table 1. Each study is classified with respect to each variable of interest (i.e., definition of rural, rural specific versus rural context only, research questions rural in nature, study design, and construct under investigation) and summarized based on location and description of the sample and study findings. In addition, Table 1 provides a summary of the proportion of studies categorized on each of the identified variables and the general findings. Two-thirds of the studies were coded independently by the two authors to ascertain interrater agreement. In the initial coding, there was 84% agreement between coders across all study variables. The main area of disagreement was in the category defining the parent/family/school construct being addressed in each study, with agreement between coders totaling 60%. Further discussion of the definitions of constructs within this variable and recoding of the studies yielded 100% agreement within the category. In the final analysis, overall agreement between coders totaled 92%.

Defining Rural

Twenty-eight percent (5) of the reviewed articles specifically defined rural for their sample (Barley & Beesley, 2007; Brody, Stoneman, & Flor, 1995; McBride, Bae, & Wright, 2002; Prater, Bermudez, & Owens, 1997; Weiss & Correa, 1996), albeit utilizing various definitions. For example, one study used the National Center for Education Statistic's (NCES) definition of rural which includes open country and small settlements of less than 2,500 persons that are not in the vicinity of the densely populated suburban areas known as urban clusters (Barley & Beesley, 2007). Similarly, Brody and colleagues (1995) used a sample that was drawn from rural areas with populations less than 2,500. Prater et al. (1997) and Weiss and Correa (1996) described rural as areas outside the Metropolitan Statistical Area (MSA), defined as "at least (a) one city with 50,000 or more inhabitants, or (b) a Census Bureau-defined urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000." Overall, approximately three-quarters of researchers failed to define rural, and when they did, there was no consensus of "rural" in rural family-school partnership research.

Rural Specific vs. Rural Context Only

Arnold and colleagues (2005) defined *rural specific* as research that is conducted to specifically study rural education issues. *Rural context only* is defined as research that is conducted in a rural context, without intent to investigate a rural education issue or explain how rurality influences some aspect of schooling. Seventeen percent (3) of the reviewed

articles were identified as rural-specific (Howley et al., 1997; Keith et al., 1996; Prater et al., 1997). For example, the study by Howley and colleagues (1997) was identified as rural specific because it specifically examined the effect of place of residence (i.e., rural, urban, suburban) on levels of parent involvement as reported by high school students. Alternatively, 80% of the reviewed studies were classified as rural context only. For example, St. Clair and Jackson's (2006) study was considered rural context only because it investigated the relationship of the intensity of family participation in a rural Migrant Education Even Start parent education program on children's language outcomes. The goal of the study was not to directly assess the impact of rurality; rather, it simply utilized a rural sample to investigate the effect of a parent involvement program on children's language. Very few research studies concerning family-school partnerships have been conducted that are intended to specifically study the influence of rurality on family-school partnerships or their effects.

Research Questions

A problem with rural education research in general is that poorly framed research questions fail to establish research as rural in nature (Coladarci, 2007). Of the 18 studies examined for this review, 44% (8) articulated research questions or purpose statements that were rural in nature (Barley & Beesley, 2007; D'Amico & Nelson, 2000; Howley et al., 1997; Keith et al., 1996; Kushman & Barnhardt, 2001; McBride et al., 2002; Prater et al., 1997; Weiss & Correa, 1996). In studies where research questions or purpose statements may be framed in this way (i.e., the author(s) establishes the relevance of rural to the goal of their study), they may not be considered rural specific. In fact, 62.5% of studies that have research questions or a purpose statement that are clearly stated as rural in nature are considered rural context only, and not rural specific (Barley & Beesley, 2007; D'Amico & Nelson, 2000; Kushman & Barhardt, 2001; McBride et al., 2002; Weiss & Correa, 1996). Consequently, although authors of research studies may articulate a goal to investigate a rural phenomenon via their research questions, the study design may not allow for interpretations regarding how rurality influences some aspect of schooling. For example, Barley and Beesley (2007) articulate one of their questions as rural in nature: "What characteristics describe a successful rural school?" and investigate elements of success by interviewing principals in high-performing rural schools. However, this study is considered to be rural context only because the sample includes all rural schools and the design of the study is descriptive; therefore, inferences cannot be drawn regarding how rurality influences some aspect of schooling.

Study Design

Of the 18 studies examined in this review, the majority of the studies (56%, or10) were descriptive (Agbo, 2007; Barley & Beesley, 2007; Chavkin et al., 2000; Dalton et al., 1996; D'Amico & Nelson, 2000; Kushman & Barnhardt, 2001; McBride et al., 2002; Meyer & Mann, 2006; Porter et al., 2004; Weiss & Correa, 1996); 17% (3) of the studies were correlational (Brody et al., 1995; Howley et al., 1997; Keith et al., 1996); 11% (2) of the studies were causal-comparative (Prater et al., 1997; Xu, 2004); 11% (2) of the studies were quasi-experimental (Porter et al., 2004; St. Clair & Jackson, 2006); 6% (1) were

considered experimental (Owens, Murphy, Richerson, Girio, & Himawan, 2008); and 6% (1) were qualitative (Caspe, 2003). Approximately 6% (1) study used multiple research methods to explore their research questions (Porter et al., 2004). No studies used a single group pre/post test design. The lack of experimental studies in this area renders firm conclusions about the effects of family-school connections in rural schools premature; thus, findings of the available studies should be interpreted with caution. For example, Owens et al. (2008) utilized an experimental design (i.e., participants were randomly assigned to treatment and control groups) to investigate the effectiveness of a collaborative family-school intervention program for youth with disruptive behavior problems in a rural, Appalachian region; however, all participants in both treatment and control groups were considered rural and the research questions were not rural in nature. Therefore, the study used an experimental design to describe the effects of a collaborative family-school program in a rural setting, but it is considered rural context only as there was no intent to investigate a rural education issue or explain how rurality influences some aspect of education. Indeed, most study designs did not allow for generalized conclusions regarding the role of rurality.

Construct Examined

Due to the exploratory nature of this review, the authors used inclusive descriptions of family-school connections to include a large array of studies. Therefore, we categorized descriptions of the family-school construct under examination in each study to describe the topics typically under investigation in rural settings. Studies could potentially fall under more than one category depending on the procedures provided by the author(s) for each study. Seventy-two percent (13) of the articles targeted parent or family involvement (Agbo, 2007; Brody et al., 1995; Dalton et al., 1996; Howley et al., 1997; Keith et al., 1996; Kushman & Barnhardt, 2001; McBride et al., 2002; Meyer & Mann, 2006; Porter et al., 2004; Prater et al., 1997; St. Clair & Jackson, 2006; Weiss & Correa, 1996; Xu, 2004); 22% (4) investigated community-school partnership (Agbo, 2007; Barley & Beesley, 2007; Chavkin et al., 2000; D'Amico & Nelson, 2000), and 17% (3) targeted family-school partnership (Caspe, 2003; Chavkin et al., 2000; Owens et al., 2008). Eleven percent (2) studies (Agbo, 2007; Chavkin et al., 2000) examined multiple constructs. Thus, most studies conceptualized the role of families in rural education as one of "involvement," rather than "partnership."

Findings

As the research on family-school connections in rural communities is limited to only 18 published studies with various methodologies, designs, treatment targets, and research questions, it is difficult to summarize the findings at this time and premature to draw widespread conclusions. However, the importance of family-school connections in rural areas is a theme throughout the available studies. In fact, several studies identified positive outcomes of family-school connections for rural children. For example, Brody et al. (1995) found that maternal involvement was linked to rural African American youth's academic competence via the child's development of self-regulation. Keith et al. (1996) found that parental involvement significantly influenced student achievement in rural, urban, *and*

suburban schools. In addition, relative to students who received no homework help, rural students whose families were involved in homework help reported more frequently working to manage their workspace, taking more initiatives in managing time, making more attempts to avoid internal distractions, using more self-motivation strategies, and monitoring and controlling their emotions (Xu, 2004).

Participation in intervention programs in rural schools focused on improving the home-school connection was also reported to be beneficial in several studies. For example, involvement in the Parents and Partners program, a parent involvement program at a rural elementary school in West Virginia, resulted in increased child expectations about graduation from high school (Dalton et al., 1996). Owens et al. (2008) found significant improvements for children with ADHD (e.g., decreased aggression, improved symptoms, enhanced adult-child relationships) for children whose parents partnered with their children's teachers, relative to a control group. Rural teachers reported that rural home visit programs fostering family involvement delivered in a rural community yielded improved relationships, improved family communication, and enhanced teacher-child and teacher-parent relationships as reported by teachers (Meyer & Mann, 2006). Lastly, a parent involvement family literacy program delivered in a rural community was found to improve children's language performance compared to controls (St. Clair & Jackson, 2006).

Many studies also emphasized the importance of the connection of the school with the community, as a whole. For example, following interviews with community members, teachers, parents, students, principals, and administrators, a close, collaborative relationship with the community was identified as critical to school success (Agbo, 2007; Barley & Beesley, 2007; D'Amico & Nelson, 2000). Several studies went further to emphasize the importance of including community members in the development of research projects for rural communities (Agbo, 2007; Dalton et al., 1996; Kushman & Barnhardt, 2001).

Two studies reported that residence in a rural community did not predict parental involvement (Howley et al., 1997; Keith et al., 1996). However, several studies investigated *how* parents are involved in rural communities and how specific involvement practices may differ across settings (McBride et al., 2002; Prater et al., 1997). When examining teachers in a pre-kindergarten classroom, McBride and colleagues (2002) found that (a) teachers limited their parent involvement activities to helping parents meet their basic needs, (b) most parent involvement activities took place within the schools, (c) most parent involvement activities were administrative in nature, and (d) parents initiated most contacts between home and school. Prater and colleagues (1997) revealed that in comparison to suburban and urban parents, rural parents (a) talked less frequently about school programs with their children, attended school meetings less regularly, and interacted with teachers less frequently; (b) attended more school events; and (c) did not limit television viewing as habitually.

Barriers to parent-school connections in rural settings were also apparent across studies. For example, in a study by Brody et al. (1995) involving African American children, parental educational attainment was linked with parental involvement in school, indicating

that low parent educational achievement (often apparent in rural communities) predicted reduced parental involvement in education. A panel of school administrators and teachers in rural Florida reported problems with rural ecology (e.g., geographic isolation, poverty), family conditions (e.g., lack of parental involvement), professional staff (e.g., teacher competencies), and educational programs and funding as barriers faced by early intervention professionals in rural areas. Rural teachers reported that the most significant barrier to family involvement activities was parents' lack of time (McBride et al., 2002).

Discussion

Summary of the Research

The results of this study echo previously published gaps in the rural education research literature identified and summarized by Arnold et al. (2005) and Coladarci (2007). Research on family-school partnerships in rural educational settings tends to be nonsystematic on variables recommended as preeminent for advancing its scientific foundation. Further, the methodologies used have not fully grasped the benefits of rigorous designs from either quantitative or qualitative paradigms to understand the phenomenon or its effects in rural settings. Thus, many conclusions drawn from the reviewed studies are made cautiously.

First, research in family-school connections in rural education lacks a commonly accepted definition of "rural." Descriptions of rural communities, towns, and counties range from research-developed definitions to classifications suggested by the National Center for Education Statistics (NCES), the U.S. Department of Agriculture (USDA), or the U.S. Census Bureau. A consensus definition is necessary to collate or compare results across studies. Second, most studies do not specifically seek to investigate a rural phenomenon via their research aim or design. That is, studies may utilize a rural sample, but they do not purposefully aim to answer a rural education question at the outset. Alternatively, several studies seek to investigate a rural issue, but do not include a comparison group to facilitate inferences about the rural impact of the study's findings. As a result, it is unclear whether these studies have revealed phenomena unique to rural settings, or if the findings are simply incidental to rural schools. Third, the majority of studies summarized for this review were descriptive in nature. Thus, the conclusions drawn from the reviewed studies are narrowly limited by study design. To gain a more complete picture of the role of family involvement and school partnering in rural communities, it is imperative that research be extended to included rigorous, high-quality quasi-experimental and experimental studies. Fourth, research in family-school connections in rural education lacks a commonly accepted definition of constructs involved in family-school connections. The authors of this review provided definition for multiple constructs examined in the field of family-school connections in rural communities, including family/parent involvement, family-school partnerships, and community-school partnerships. The majority of the identified studies explored a construct best described as parent or family involvement in education, rather than family-school partnership, per se. Lastly, the research on family-school connections is limited to only 18 published articles

with various methodologies, designs, treatment targets, and research questions, preventing the ability to generalize results or infer widespread conclusions.

Research Agenda for Family-School Connections in Rural Settings

This review represents the first of its kind to investigate family-school connections in rural settings. Since the mid-1990s, very few studies have been completed that investigated rural family-school connections. In fact, only 18 studies were identified that met the criteria for this review. Preliminary findings from initial studies indicate that family-school connections may be important for fostering healthy child outcomes in rural schools. Interventions that support family-school connections have the potential to positively impact children, parents, and teachers, and the connection between the school and the community may be a critical component of effective rural schools. It is likely that parental involvement or partnership practices in rural schools may differ from other settings; however, too few studies have been conducted with research questions that investigate the unique and specific effects of rurality on family-school connections and outcomes. Finally, rural communities may present barriers to the development of family-school connections, warranting greater attention to the importance of uncovering specific and operational strategies fostering connections within rural school settings.

Given the dearth of studies conducted on family-school connections in rural settings, and the reliance on descriptive and qualitative methods, their distinctive role and efficacy at producing positive student outcomes for students in rural schools cannot be stated unequivocally at this time. It is essential that research in the area of rural family-school connections increase, particularly studies with a sound research design and deliberate intent to investigate rural phenomena. A research agenda is offered below that specifies empirical needs across these and other dimensions investigated in the present review.

Advances in methodologically rigorous research pertaining to family-school partnerships in rural schools. A significant challenge in much of rural education research is the lack of rigorous experimental designs that allow for conclusions regarding causality of educational strategies in rural contexts (Arnold et al., 2005). The area of family-school connections is not immune to this limitation. At present, few studies in the rural family-school literature have utilized experimental designs, and of those that have (i.e., Owens et al., 2008), the question of rurality is suspect given definitional problems or failure to define the questions or issues as rural specific. Much more research is needed that is designed to draw clear and causal relationships between variables under investigation within rural educational settings. There is a dire need for research that is designed to address questions of causality and efficacy using rigorous experimental designs. When testing the efficacy of interventions to promote family-school partnerships, evidence of random assignment, reliable and valid measures, implementation fidelity, and statistical validity is necessary. When comparing rural and nonrural samples, objective sampling criteria and relevant controls are necessary.

Experimental studies designed with attention to controls for internal and external validity are the cornerstone of high quality educational research. Nonetheless, they are not

capable of addressing all research questions that are relevant within rural settings. Certain questions regarding rural context and place-based education are best addressed through rigorous qualitative approaches or mixed methods designs. Any one type of research is not sufficient to advance a rich and broad agenda, and the strength of conclusions one can draw is bound by the rigor of the design used. A general call for increased sophistication and rigor in research related to family-school partnerships in rural schools is made, irrespective of the methodological paradigm employed.

Articulation of well-defined samples. Confusion in the literature on rural education in general, and certainly in the area of family-school connections, is due in part to the lack of specification on the definition of "rural" used in studies. Cursory or incomplete descriptions of the context within which studies take place preclude clear interpretations and sound conclusions regarding rural issues (Coladarci, 2007). This is compounded by the various definitions available and the fundamental differences between them. For example, some definitions emphasize school size or population base as the criterion for "rural," whereas others consider proximity to urban areas. Whereas we are not purporting to state with resolve the correct or most appropriate definition to be used in future research, we do charge researchers with the responsibility of clarifying for whom their writings are about, in what type of rural context, and for what purpose. In addition to definitional criteria, the regional characteristics surrounding the context within which studies take place likely influence the variables and sample of interest, and therefore require careful depiction. Descriptions can include features such as community size, density of the population, proximity to urban and suburban areas, economic dependencies, income levels, racial and ethnic composition of the community, population trends (e.g., stability, migration), school size and staffing patterns, services available to students and families, and other relevant features (Coladarci, 2007).

Uncovering and understanding "inherently rural" (Coladarci, 2007) phenomena in family-school connections. Like other areas of research on rural education, simply conducting family-school partnership research in rural settings does not necessarily allow for study conclusions to be characterized as "rural findings." Rather, it is possible and desirable to design and execute studies that compare approaches or perspectives in rural versus other geographic contexts to begin to unpack issues that are unique to the rural context. For example, studies might be designed that study the structure of family-school conferences and its effects in rural schools compared to their suburban or urban counterparts. Alternatively, in some circumstances, the variable under study may be unique to rural settings such that a comparative study is not possible. In such cases, it is possible to embellish studies with rich descriptions of the rural context under study and draw inferences cautiously based on measured and validated data. In the area of family-school connections, realities families face when desiring to work collaboratively with teachers, or configurations preschool teachers may use to engage in home visits in remote farming communities are worthy of investigation. Mechanisms to foster communication, support home/community learning opportunities, and promote parents' roles in school governance may be fundamentally different in rural contexts, and research is needed to investigate their efficacy in ways that inform rural education in a distinctive way. Within entirely rural samples, comparisons or relationships among variables that differ in relevant

ways (e.g., rural communities populated with English versus non-English speaking families or those characterized by high versus low degrees of migration or generational family stability) can cast light on differential patterns of family-school relations.

Types of family-school connections in rural settings. A significant issue plaguing research on family-school connections in general, and certainly within the rural education literature, is the definitional confusion surrounding the constructs under investigation. To advance science in rural family-school connections, it is first necessary to provide agreed upon operational definitions for practices related to the roles, responsibilities, and relationships among families and schools. Terms such as parent involvement, family-school partnership, and family-school-community collaboration are often used interchangeably, despite the fact that they can represent unique perspectives, promote different goals, and denote distinctive practices (Christenson & Sheridan, 2001). Certainly within rural schools, the distinctions of what type of family-school paradigm works for which students under what contexts or conditions is of significant import, and only possible with clear and objective specification of the independent variable under investigation.

In addition to clearly specifying the nature of family-school connections within rural education research, broadening the questions of interest is necessary. For example, Arnold et al. (2005) called for research that addresses parent expectations for student achievement, asserting that schools can improve student achievement by encouraging parents and community members to recognize the potential of high academic aspirations and expectations. This is one aspect of family/parent involvement, but certainly only a small component of what we envision as family-school partnerships to boost learning and achievement. Also necessary are broadened questions that begin to ask about relevant roles and novel practices for rural families and schools to work together to promote student achievement. For example, the efficacy of actions associated with joint decision making, collaborative problem-solving, complementary learning opportunities, and relevant out of school activities are ripe areas for research attention in rural schools.

Intervention programs targeting family-school connections in rural communities. Directly related to clear specification of the various types of family-school connections relevant in rural schools is a need to test their efficacy both within and between geographic contexts (i.e., investigating unique rural issues impacting their delivery and between rural and non-rural settings). Whereas the literature on interventions supporting family-school partnerships is improving generally, the majority of intervention studies have been conducted in urban or suburban settings. It is clear that the findings to date support the benefits of family-school connections and various approaches to parent involvement; however, assumptions regarding efficacy and mechanisms regarding how or why they produce their effects cannot be generalized to rural contexts. Dedicated intervention research related to the unique conditions facing both schools and families, and the relationships among them, is warranted. As already impressed, conclusions regarding the efficacy of family-school interventions in rural schools are predicated on the quality and rigor of available studies. Thus, methodological sophistication in intervention research is called for.

Topically, research is needed that investigates the outcomes of family-school connections and interventions on student, family, and school outcomes. Indeed, the fundamental rationale for establishing family-school connections and testing their efficacy concerns the enhancement of rural students' academic, social-emotional, and behavioral outcomes. The investigation of family-school interventions aimed at producing a broad array of positive results for student learning and adaptation is necessary. It is also the case that much family-school research has demonstrated positive effects for schools, teachers, and families. Each of these areas is worthy of study.

Conclusions

Family-school connections, linking parents and educators and promoting shared responsibility for children's academic success, are instrumental in addressing the needs of students and may be important to student success in rural settings (Owens et al., 2008). Enhancing the availability of and access to cross-system (family-school) supports represents one means of augmenting the quality of education in rural settings (Barley & Beesley, 2007; Lowe, 2006). Coordinated, family-school interventions can address significant gaps evident for rural students by increasing the social capital available to support children's development (Crosnoe, 2004). At present, there lacks a common, integrated, research-based understanding of family-school connections in rural schools and outcomes associated with such practices. Empirical research testing claims on the effects of family-school partnerships for students, families, and schools in rural settings is limited by a lack of clear definitions of the rural context, few methodologically sound causal or comparative studies, underrepresentation of rural-specific investigations, and confusion regarding the family-school variable of interest. With the need for greater levels of high quality research, we exercise cautious optimism vis á vis the potential for family-school connections in rural settings.

Table 1
Summary of Rural Family-School Partnership Studies by Variable of Interest

Source	Location	Sample	Specified Definition of Rural?	Rural Specific?	Research Questions Rural?	Design[2]	Construct[2]	Findings Related to Family-School Connections
1. Agbo (2007)	Brown Lake, a small fly-in reserve in Northwestern Ontario, Canada	58 community members of First Nations people (Aboriginal people of Canada); 8 Euro-Canadian teachers	No	No	No	D	FI, CSP	• Interviews resulted in the identification of the lack of community participation in the affairs of the school • For school-community relations to thrive in First Nations communities, the school should partner with the community through collaborative efforts that foster respect for multiple perspectives
2. Barley & Beesley (2007)	Rural schools in Colorado, Missouri, and Wyoming	20 high-needs, high-performing schools at each level (i.e., elementary, middle, high)	Yes	No	Yes	D	CSP	• All schools reported a supportive relationship with their community as a critical aspect of their programming • A close relationship with the community was thought to help schools enact high expectations and facilitate principal leadership
3. Brody, Stoneman, & Flor (1995)	Non-metropolitan communities in Georgia and South	90 rural African American youths ages 9-12 and both parents (i.e., living in 2-parent homes); 19% poverty status	Yes	No	No	CO	FI	• Parental educational attainment was linked with family financial resources and with parental involvement with the adolescent's school • Maternal involvement was linked directly with adolescent academic

	Carolina							competence and mediated by the youth's development of self-regulation
4. Caspe (2003)	Subset from the School Transition Study (STS) in rural New England	13 teacher interviews regarding 7 children from 1st to 2nd grades	No	No	No	QA	FSP	• Teachers collected information about families through communication and observation • Teacher made meaning of the information collected through comparisons to other families, their own families, and the child's family over time
5. Chavkin, Gonzalez, & Rader (2000)	Rural district in Lyford, Texas	5 schools with more than 1600 students and their families; 95% Hispanic	No	No	No	P, D	FSP, CSP	• Parents, students, and staff reported that the MegaSkills home-school program: is a vehicle to improve home-school connections; links parents, teachers, and students; improves home-school communication; improves student citizenship; enhances parenting and teaching skills; improves school climate; improves discipline; and increases student achievement
6. Dalton et al. (1996)	Atenville Elementary School in small West Virginia community	1st, 2nd, and 3rd graders and their parents in Parents and Partners Program at Atenville Elementary School	No	No	No	D	FI	• The Parents and Partners program resulted in increased number of parent volunteers, more parent communication with the parent liaison, increased parental influence on educational policy, increased child expectations about graduation from high school and increased

								attendance at Title 1 parenting sessions
7. D'Amico & Nelson (2000)	3 rural Midwestern schools in Ohio, Michigan, and Iowa with school improvement initiatives	Interviewed a broad range of individuals from the 3 schools, such as teachers, administrators, parents, students, and community members	No	No	Yes	D	CSP	• Common elements underlying the success of school improvement efforts included: a culture stressing continuous improvement, reflection, and self-analysis; culture amenable to change and experimentation; attention to principles of change; solid research; local adaptation; and added resources • Aspects of the schools' context that significantly influenced success: rural, poor, and small; rural insecurity; and integration of school and community
8. Howley, Bickel, & McDonough (1997)	NELS[1] sample	4977 rural, 4855 urban, and 7071 suburban high school students	No	Yes	Yes	CO	FI	• Parent involvement in school was not predicted by place of residence (i.e., rural, urban, or suburban community)
9. Keith et al. (1996)	NELS[1] sample	16,378 students who were in 8th grade at base survey and 10th grade at follow-up and their parents	No	Yes	Yes	CO	FI	• Rural school attendance did not affect parental involvement or changes in student achievement • Parental involvement had the same effects on achievement of students in rural schools as in urban and suburban schools • The effect of parental involvement on student achievement was small, but significant

10. Kushman & Barnhardt (2001)	7 Alaskan communities involved in Alaska Onward to Excellence	Remote fly-in villages or towns and ranged in size from 125 to 750 residents; most communities are nearly 100% Alaska native	No	No	Yes	D	FI	• Reform efforts in small rural communities require an inside-out approach in which educators must first develop trusting relationships with the community • Parents and teachers need to expand their conceptions of parent roles beyond the role of parents supporting the school to include roles in which parents are active participants in school life and decisions • School and district leaders must move from top-down to shared leadership with the community • Educators and reformers must recognize that education in rural Alaska has a larger purpose than teaching academic skills and knowledge
11. McBride, Bae, & Wright (2002)	9 rural Illinois communities	21 pre-kindergarten at-risk programs; 3 to 4-year-old children from economically disadvantaged backgrounds; identified as at-risk for school failure	Yes	No	Yes	D	FI	• Teachers focused a majority of their efforts on “traditional” forms of parent involvement activities (e.g., helping parents meet basic needs) • Most parent involvement activities took place within the schools with the parent visiting the school • The majority of parent involvement activities were focused on administrative issues

								• Parents and family members initiated a majority of contacts between home and school • Parents' lack of time was identified as a significant barrier to family involvement activities • Most frequently cited benefits of parent involvement were (a) helps children realize the importance of education, (b) improves children's self-esteem, (c) increases parental understanding of the child, (d) increases parental commitment for future involvement, and (e) better teacher understanding of enrolled children and their families
12. Meyer & Mann (2006)	Rural school district in a Midwest state	26 early elementary (K-2) teachers (average experience 11.92 years) who conducted home visits prior to the beginning of the school year	No	No	No	D	FI	• Teachers reported that home visits resulted in improved relationships with children and families • Teachers reported that home visits lead to improved communication with parents, a better understanding of the child, and a better understanding of the influence of the home on school performance
13. Owens et al. (2008)	Ohio Appalachian counties	117 children (grades K-6) with inattention and disruptive behaviors; 78% male; 71%	No	No	No	E	FSP	• An intervention program with a family-school partnership component resulted in significant reductions in children's symptoms of ADHD and early aggressive and

		diagnosed with ADHD						delinquent behavior, as well as significant improvements in children's relationships with adults, setting-specific functioning, and overall functioning
14. Porter DeCusati & Johnson (2004)	Public school in rural, central Pennsylvania	56 Kindergarten students (57% female) and 18 parents (83% mothers; 82% 2-parent homes; 75% middle class)	No	No	No	D, CO, QE	FI	• Students who participated in parent-enriched reading groups had improved scores on word recognition compared to students who did not have parent support • Students indicated positive perceptions of parents in the classroom • Parents' reading practices with their children were associated with classroom participation of parents
15. Prater, Bermudez, & Owens (1997)	NELS[1] sample	18,000 8th grade students; 44% suburban; 31% rural; 25% urban; 51% males; 49% females; 11% Hispanic; 12% Black; 77% White	Yes	Yes	Yes	CC	FI	• Specific aspects of parent involvement varied across community settings • Suburban and urban parents talked more frequently about school programs with their children, attended school meetings with more regularity, and interacted with teachers more frequently than rural parents • Rural parents attended school events more often • Rural parents did not limit television watching as habitually as urban or suburban parents

16. St. Clair & Jackson (2006)	Midwestern Migrant Even Start Family Literacy Program	29 families and their children Children: grades K-1, 59% female, 97% Hispanic; Parents: 64% female, 97% Hispanic	No	No	No	QE	FI	• By the end of 1st grade, children from families participating in the parent involvement training program scored significantly higher on language measures than children in the control group
17. Weiss & Correa (1996)	Rural counties in Florida	14 rural counties; 14 administrators (mean rural residency 21.9 years) and 13 teachers (mean rural residency 8.5 years)	Yes	No	Yes	D	FI	• Major themes in problems faced by early intervention professionals in rural counties included rural ecology (e.g., geographic isolation, poverty), family conditions (e.g., lack of parental involvement), professional staff (e.g., excessive regulation, teacher competencies), and educational programs and funding • The panel suggested the following solutions: increase number of bus routes, provide incentives to rural teachers and support staff, parent liaison programs, increased counseling services for families, effective family and parenting education programs, increased home visit programs, uniform paperwork, use a transdisciplinary team approach, improved screening procedures in daycare programs.

18. Xu (2004)	Not reported	121 racially diverse middle school students in urban setting (grades 6-8), 81.1% free or reduced meals; 920 middle and high school students in rural setting (grades 5-12), majority Caucasian, 30.5% free or reduced lunch	No	No	No	CC	FI	• For the rural sample, family homework help related to all five features of homework management • Students who received family homework help reported more frequently working to manage their workspace than those who received no homework help, took more initiatives in managing time, took more attempts to avoid internal distractions, were more likely to use self-motivation or self-reward strategies, and were careful about monitoring and controlling emotions
Totals			Yes: 28%	Yes: 17%	Yes: 44%	D: 56% CO: 17% CC: 11% QE: 11% QA: 6% E: 6% P: 0%	FI: 72% CSP: 22% FSP: 17%	

Note. D = Descriptive, QA = Qualitative, CC = Causal-Comparative, CO = Correlational, QE = Quasi-Experimental, E = Experimental, P = Single-group pre- post-test, FI = Parent/family involvement, FSP = Family-school partnership, CSP = Community-school partnership

[1] National Education Longitudinal Study

[2] Total > 100% due to multiple coding on this variable.

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