Education and Urban Society 43(3) 339–369 © The Author(s) 2011 Reprints and permission: http://www. sagepub.com/journalsPermissions.nav DOI: 10.1177/0013124510380418 http://eus.sagepub.com



Motivations for Involvement and Student Proximal Achievement Outcomes in Homeschooling and Public Schooling Settings

Linking Parental

Christa L. Ice¹ and Kathleen V. Hoover-Dempsey²

Abstract

A notable increase in the number of U.S. families choosing to homeschool their children in recent years has underscored the need to develop more systematic knowledge about this approach to education. Drawing on a theoretical model of parental involvement as well as research on families' social networks, this study longitudinally examines home- and public-school parents' motivations for home-based involvement in their fourth through eighth grade children's education at two time points. The study also examines whether involvement activities predicted student proximal achievement outcomes (academic self-efficacy, intrinsic motivation for learning, and selfregulatory strategy use) across the two groups. Results suggest that parental self-efficacy for involvement, specific invitations from the child, and parent social networks are positively related to home-based parental involvement across the groups, although home- and public-school parents recorded significantly different perceptions of personal self-efficacy, role activity beliefs, social networks, and child proximal achievement outcomes. Findings are discussed with reference to implications for future research and practice.

¹West Virginia University ²Vanderbilt University

Corresponding Author:

Christa L. Ice, WVU Health Science Center, Department of Pediatrics, Box 9214, Morgantown WV 26506 Email: cice@hsc.wvu.edu

Keywords

home-school, home education, parental involvement

Although homeschooling is growing in popularity in the United States (e.g., up from 850,000 students, or 1.7% of K-12 students in 1999—Bielick, Chandler, & Broughman, 2001—to 1.1 million students, or 2.2% of K-12 students in 2003—Princiotta, Bielick, & Chapman, 2004), little systematic research has focused on this population. In a recent study (Green & Hoover-Dempsey, 2007), we examined why parents decide to homeschool, grounded in Hoover-Dempsey and Sandler's (1995, 1997, 2005) model of the parental involvement process as well as research suggesting other kinds of beliefs relevant to parents' decisions about homeschooling (e.g., ideological and pedagogical beliefs; Van Galen, 1988). Results suggested that homeschooling parents appeared to be more strongly motivated by personal motivators identified in the general parental involvement literature, such as an active role construction and a strong sense of efficacy for helping the child learn, than by other explanations for homeschooling, such as parents' beliefs about the values, content, adequacy, and methods of public school education.

The goal of this study was to extend that good "first step" in systematic examination of parental involvement by homeschooling families in several ways. First, home- and public-school parents may manifest other similarities, as well as dissimilarities, in motivations for the kinds of schooling they select for their children's education. For example, parents who choose to homeschool may experience different community, family, or child influences different than those experienced by public school parents: Such differences may in turn cause variations in the salience of specific motivations for involvement across the two groups. Green and Hoover-Dempsey (2007), for example, reported that homeschool parents held stronger personal motivators (role activity and efficacy beliefs) for involvement than did those in a sample of involved public school parents. Other variables suggested by the Hoover-Dempsey and Sandler (2005) model of the parental involvement process, such as specific child invitations for involvement, may also differ between the home- and public-school groups. Thus, it was a goal of this study to further explore differences that may exist between home- and public-school parents motivations for involvement using the first level of the Hoover-Dempsey and Sandler's (Figure 1) model of parental involvement.

Research in the parental involvement field suggest that motivators of home-based involvement in children's schooling may be more extensive than those identified by Green, Walker, Hoover-Dempsey, and Sandler (2007; see

| Parents' Involvement Forms | | | | | | | | | |
|---|-------------------------------|----------------------------------|------------------------------------|----------------------------------|-------------------------|--------------------|--|--|--|
| Home Involvement | | | | School Involvement | | | | | |
| Level 1 Parents' Motivational Beliefs for Involvement from Others Context | | | | | | | | | |
| Parental Role Construction | Parental Self- Efficacy | General School Invitations | Specific Teacher Invitations | Specific Child Invitations | Skills and Knowledge | Time and Energy | | | |

Figure 1. Hoover-Dempsey and Sandler's revised theoretical model of the parental involvement process, Level 1

Source: Adapted from Hoover-Dempsey and Sandler (2005) and Walker, Wilkins, Dallaire, Sandler, and Hoover-Dempsey (2005).

also Hoover-Dempsey & Sandler; 1995, 1997, 2005). Sheldon's (2002) work, for example, suggests that parents' social networks may also provide social contextual invitations to involvement and substantial motivation for public school parents' involvement in their children's education. Homeschool parents) may have different community and family resources from which to draw in thinking about their involvement in their children's education, including the availability of church support, homeschool support groups, and larger family units (Lines, 2000; Ray, 2000; Van Galen, 1988). Examining the relative influence of this source of social contextual motivation on home- and public-school parents' involvement decisions may provide useful information on both groups of parents' thinking about choices for their children's education and their own role(s) in helping children learn. Thus, it was a second goal of this study to explore the use of social networks and social support in predicting home-based parental involvement.

Third, varied motivators of involvement may be differentially predictive of students' proximal achievement outcomes (e.g., student's intrinsic motivation to learn, academic self-efficacy, and self-regulatory strategy use) in ways that are systematically related to parents' choices about the kinds of schooling their children receive. To our knowledge, homeschooling has not been examined in conjunction with students' proximal achievement outcomes, although some (albeit controversial) research has suggested that homeschool students on average do better than public school students on distal (summary) measures of achievement (e.g., standardized test scores; Boulter, 1999; Ray, 2000). While

neither homeschool nor public school parents are assisting the students while they take summary tests of achievement, homeschool parents—unlike public school parents—are in the "classroom" while children study and learn. This difference may result in different skills and beliefs that students in the two schooling conditions bring to their performance on summary or standardized tests of learning. Thus, a third goal of this study was to examine similarities and differences between home- and public-school students' proximal achievement outcomes, including self-regulatory skills and beliefs, intrinsic motivation, and self-efficacy for learning. Of particular interest was exploring whether parental involvement was predictive of student proximal achievement outcomes when controlling for prior student proximal achievement.

A Model of the Parental Involvement Process

Social learning theories, social cognitive theory (Bandura, 1986), and sociocultural theory (Rogoff, 1990; Vygotsky, 1978) suggest that specific parental beliefs and social contexts may influence parents' decisions about involvement in their children's education as well as the influence of their involvement choices and activities on students' educational outcomes. Based on these broad psychological theories, Hoover-Dempsey and Sandler's (1995, 1997, 2005) model provides a strong, specific theoretical framework from which to examine specific predictors of parental involvement. The model proposes three major sources of motivation for parents' involvement in their children's education: parent's motivational beliefs (role construction for involvement, sense of selfefficacy for helping the child succeed in school), contextual invitations (general invitations to involvement from school, specific invitations to involvement from the teacher(s), and specific invitations from the child), and life context variables (parent's skills and knowledge, time and energy; see Figure 1.)

This study focused on three of these model-based sources of parent's motivations for becoming involved in their children's education: personal motivational beliefs relevant to involvement (specifically, parental role construction for involvement and parental self-efficacy for helping the child succeed in school) and one type of model-based contextual invitation to involvement (specific invitations to involvement from children). This study also included two social-contextual constructs not in the model but particularly pertinent to this inquiry: parent's social networks and social support from which parents may draw in ways that influence their decisions about involvement and their choices of specific involvement activities. The study additionally assessed parents' home-based involvement activities in order to examine (a) links between motivators and parents' choice of involvement activities, and (b) links between parents' involvement activities and students' proximal achievement outcomes. Thus and finally, the study also assessed selected model-based student proximal achievement outcomes (self-regulatory strategy use, academic self-efficacy, and intrinsic motivation for learning).

The Constructs

Parents' Motivational Beliefs

Hoover-Dempsey and Sandler's (1995, 1997, 2005) model suggests that major personal motivators of parental involvement included parents' role construction for involvement and parents' sense of efficacy for helping the child learn. As reported in Hoover-Dempsey and Sandler (2005), considerable work with the construct of role construction led to conceptualizing it as made up of role activity beliefs (how active a parent believes he or she should be in relation to supporting his or her child's education) and role valence (the general positive-to-negative valence characterizing the parent's experiences with schools and the influence of those experiences on the parents' emotional orientation toward engaging with schools). The two components may be used separately or in combination. Consistent with this study's purposes, we assessed parents' role activity beliefs: parents' beliefs about how active they should be in supporting their children's education.

Role Activity Beliefs for Involvement

Studies of diverse groups of elementary and middle school students have suggested that role activity beliefs do influence parents' decisions about becoming and being involved in their children's education involvement (e.g., Chrispeels & Rivero, 2001; Drummond & Stipek, 2004; Grolnick, Benjet, Kurowski, & Apostoleris, 1997; Hoover-Dempsey et al., 2005; Sheldon, 2002). Green and Hoover-Dempsey (2007), for example, reported that most homeschool parents had particularly strong role activity beliefs related to involvement in their children's education.

Parental Self-Efficacy for Helping the Child Succeed in School

Hoover-Dempsey and Sandler's model (1995, 1997, 2005) also suggested that parents' self-efficacy for helping the child succeed in school may

influence their decisions about becoming involved in their children's education. *Self-efficacy* is defined as a person's belief that he or she can act in ways that are likely to produce desired outcomes; it is a significant factor shaping the goals an individual chooses to pursue and his or her levels of persistence in working toward those goals (Bandura, 1997). Applied to parental involvement, self-efficacy theory suggests that parents make involvement decisions based in part on their thinking about the outcomes likely to follow their involvement activities (Hoover-Dempsey & Sandler, 1997; Walker, Wilkins, Dallaire, Sandler, & Hoover-Dempsey, 2005). Personal self-efficacy beliefs have been associated with parental involvement for elementary, middle, and high school students (e.g., Grolnick et al., 1997; Hoover-Dempsey, Bassler, & Brissie, 1992; Shumow & Lomax, 2002). Green and Hoover-Dempsey (2007) found that most homeschool parents in their sample recorded a particularly strong sense of self-efficacy for helping their children succeed in school.

Social Contextual Motivators of Involvement

Specific invitations to involvement from the child. Hoover-Dempsey and Sandler's (1995, 1997, 2005) model also suggested that parents' perceptions of contextual motivators, including specific invitations to involvement from the child, can be powerful in prompting parental involvement, in part because parents generally want their children to succeed and are motivated to respond to their children's needs (e.g., Grusec, 2002; Hoover-Dempsey, Bassler, & Burow, 1995). Implicit invitations to involvement may emerge as students experience difficulties in school or with aspects of schoolwork (Hoover-Dempsey et al., 2001; Xu & Corno, 1998). Explicit requests or invitations from children also often result in increased parental involvement (e.g., Ball et al., 1998; Shumow, 1997). As true of all types of invitations to involvement, invitations from the child may be increased by school actions to enhance family engagement in children's schooling (e.g., Epstein & Van Voorhis, 2001 Gonzalez, Andrade, Civil, & Moll, 2001). Green and colleagues (2007) reported that among personal, contextual, and life context variables, invitations to involvement from the child were the strongest predictor of home- and school-based involvement in a large and diverse sample of public school parents.

Parents' social networks and social support. Although not explicitly included in the Hoover-Dempsey and Sandler model of parental involvement, parents' social networks and related social support systems offer another perspective on the influence of social context on parents' beliefs and behaviors regarding involvement. Various investigators have examined social networks and social support grounded in other models of parental involvement in children's public school education. For example, one study found positive social support to be particularly important to involvement decisions made by mothers of boys (Grolnick et al., 1997). Examinations of parental involvement in children's education from socioeconomic, cultural, and ethnic perspectives have suggested that when parents better understand school expectations (through better ties to teachers and other families in the school), they experience more opportunities for parental involvement (Auerbach, 2004; Delgado-Gaitan, 1992; Lareau, 1987; Lareau & Shumar, 1996). The availability of social networks may also differentially influence parental involvement in school choice (Neild, 2005; Reay, 1996), in addition to types of parental involvement (Sheldon, 2002), for families of different SES backgrounds (Graue, 1993; Lareau, 1987).

Overall, these findings suggest that the integration of social networks and the social support they provide into a model of parental involvement might offer additional power for understanding the parental involvement process. There are also indications in the literature that social networks may be particularly important for homeschool parents. Although public acceptance of homeschooling has risen steadily in recent years (Rose & Gallup, 2001), it remains a somewhat controversial practice. For example, when homeschooling first became legal (in many states, not until the 1980s), it received little general support, and many parents homeschooled against immediate family wishes (Van Galen, 1988). Today, support groups are available for many homeschool parents, particularly those who hold relatively strong religious beliefs.

Parental Involvement

Parental involvement has been described in varied ways (Epstein, 1986; Fan & Chen, 2001) but can be generally defined as a parents' investment of various resources in their children's education. These resources may include a wide range of activities, including supplying school materials, communicating with teachers, participating in school events, and stating achievement expectations (Fan & Chen, 2001; Fehrmann, Keith, & Reimers, 1987). Other researchers have defined *parental involvement* as varied types of engagement in children's schooling, such as cognitive involvement (e.g., help with homework), school involvement, and personal involvement (Grolnick & Slowiaczek, 1994). Although parental involvement in children's education is a complex process that often transcends the geographic boundaries of home and school, pragmatic issues have often underscored

researchers' decisions to characterize involvement as primarily home-based or school-based (e.g., Christenson & Sheridan, 2001). Such categories are useful because they represent relatively common but distinct sets of activities expected by schools and families in many public school systems. Because home- and public-school parents participate in relatively similar home-based involvement activities, this study focused on parents' homebased involvement.

Student Proximal Achievement Outcomes

Student achievement, as measured by grades or standardized achievement tests, has often been correlated with parental involvement measures. Many researchers have reported positive relationships between involvement and such summary measures of achievement (i.e., Christenson, Rounds, & Gorney, 1992; Epstein, 1991; Fan & Chen, 2001; Jeynes, 2003, 2007; Singh et al., 1995), whereas others have found no relationship or a negative relationship between parents' involvement and students' achievement (i.e., Fan & Chen, 2001; Ford, 1989; Keith, Reimers, Fehrmann, Pottebaum, & Aubey, 1986; Natriello & McDill, 1989; Reynolds, 1992; Storer, 1995). This pattern of mixed findings has suggested that student performance on summary measures of achievement may increase as a result of parental involvement (i.e., a positive correlation), and that parental involvement may increase as a result of poor child achievement (i.e., a negative correlation, as parents become more involved in order to support lagging achievement). Such apparently bidirectional effects may cancel out positive correlations between involvement and summary measures of student achievement unless prior achievement is controlled for.

A large body of research, however, suggests that parental involvement may have its most direct and critical influence not on summary measures of achievement but on student attributes that lead to achievement. As some researchers have suggested (e.g., Grolnick & Slowiaczek, 1994; Hoover-Dempsey et al., 2001; Steinberg, Elmen, & Mounts, 1989), students' development of such attributes that are important for learning and may mediate the relationship between parental involvement and more distal or summary measures of achievement and school success. Because student proximal achievement outcomes are likely more closely linked to parental involvement than are summary or distal measures of achievement, this study examines parental involvement in relation to selected proximal indicators of student achievement outcomes. (Another reason for examining proximal achievement outcomes in this study of parental involvement in home- and public-school groups is that homeschool students, unlike their public school counterparts, are not required in all states in the United States to take statemandated standardized tests of achievement tests; Boulter, 1999).

The Hoover-Dempsey and Sandler (2005) model of parental involvement identified four student proximal achievement outcomes that (a) are susceptible to parental influence through involvement activities, and (b) are likely to be causally related to school success. We included three of the identified proximal learning outcomes in this study: academic self-efficacy, intrinsic motivation to learn, and self-regulatory strategy use (we did not include the fourth outcome included in the model, social self-efficacy for relating to teachers, because home- and public-school children likely have much different experiences of the construct).

Academic Self-Efficacy

Including academic self-efficacy among the proximal achievement outcomes linked to parental involvement and student achievement is consistent with Bandura's (1997) work on the role of efficacy in human behavior. This work suggested that if a person believes that he or she can be successful, the person is more likely to continue performing in ways consistent with that belief. Academic self-efficacy includes beliefs about one's abilities to complete schoolwork successfully (e.g., Ryan & Patrick, 2001; Schunk, 1991). In general, students with stronger academic self-efficacy (i.e., students who believe they have the ability to act in ways that produce valued academic outcomes) are likely to realize better performance in a variety of academic tasks than are students with poorer academic self-efficacy (e.g., Corno, 2000; Gutman & Midgley, 2000).

Intrinsic Motivation to Learn

In general, the construct refers to children's interest in learning for its own sake, in contrast with learning for the external consequences or rewards it may yield (Ryan & Deci, 2000). Children's development of intrinsic motivation for learning is influenced by patterns of parental behavior, and variations in motivation for learning have been associated with different patterns of school achievement (e.g., Baumrind, 1989; Gottfried, Fleming, & Gottfried, 1998; Steinberg, Lamborn, Darling, Mounts, & Dornbusch, 1994).

Self-Regulatory Strategy Use

Varied investigators have defined *self-regulation* as a relatively wide-ranging set of cognitions, metacognitions, and behaviors that promote learning and developmental success (e.g., goal-setting, self-monitoring, evaluation of strategy effectiveness, adjustments in strategy use, active attention to and engagement in learning; Martinez-Pons, 1996; Schunk & Zimmerman, 2003; Stipek & Gralinski, 1996). In the case of children's school learning, self-regulatory strategy use pertains to their knowledge of and ability to use general tactics that support learning, including self-monitoring, structuring time and location for study, and asking for assistance when needed. Parental involvement behaviors have been linked to students' knowledge and use of these self-regulatory strategies (e.g., Brody, Flor, & Gibson, 1999; Grolnick & Ryan, 1989; Walker & Hoover-Dempsey, 2006), and stronger self-regulatory skills have been associated with higher levels of school success (e.g., Zimmerman & Martinez-Pons, 1988, 1990).

Purpose and Research Questions

This study examined the relationship between parents' motivations for involvement in their children's learning, parents' home-based involvement activities, and children's proximal achievement outcomes first on the parents as a whole. This study also explored whether home- and public-school parents and children had significantly different beliefs on these variables. Children and parents both completed measures at two time points in order to assess the influence of parental involvement on children's proximal achievement outcomes while controlling for prior standing on those outcomes.

In order to examine these relationships, the home- and public-school parents were first examined as a whole. Three research questions were examined with the entire group of parents: (1) Are parents' reports of personal (role activity beliefs, efficacy) and selected social-contextual motivators (invitations from the child, parental social network, and social support) of involvement positively related to their home-based involvement (as reported by parents and children) and to student proximal achievement outcomes (as reported by parents and children)? (2) Are parents' social network connections and support related to other motivators of parental involvement, particularly role activity beliefs, in both homeschool and public school parent groups? (3) Do parents' reports of home-based involvement predict student proximal achievement outcomes? Finally, the home- and public-school parents were separated into their respective schooling group in order to examine the final research question: (4) Do home- and public-school parents have significantly different perceptions of these constructs?

Method

Participants and Procedures

Participants included parent-student dyads from home- and public-school settings. Homeschool participants were recruited by e-mail and postcard requests to those who agreed to be contacted again in a prior study (n = 100; response rate for this study 33%). Public school participants were recruited through flyers left at local libraries, museums, and parent-support groups. Students and parents were assessed late in the spring semester (Time 1, n = 64), and again 6 months later, in the fall semester of the following school year (Time 2, n = 33). All students were in fourth through seventh grade at Time 1, and in fifth through eighth grade at Time 2.

A total of 64 parent–child dyads completed the survey at Time 1, including 30 public school parents and 34 homeschool parents. Of these participants, a larger percentage of the homeschool parents were self-reportedly of White ethnicity than were public school parents (74% vs. 57%), homeschool parents reported more children under the age of 19 currently living at home (for greater than 4 children; 25% vs. 3%), and home- and public-school parents reported fairly equivalent family incomes per year (> 50k, 56% vs. 60%). Half of the students were boys, and 39% of the students were in fourth grade, 23% were in fifth grade, 19% were in sixth grade, and 19% were in seventh grade.

Thirty-three of the original 64 participants again completed the survey at Time 2 (54% of the participants). Due to the small number of participants in each schooling group at Time 2, all analyses were conducted with the full group. Thus, home- and public-school differences were only explored at the first time point, whereas full-group analyses were done at Time 1, Time 2, and with longitudinal analyses from Time 1 to Time 2.

Measures

Measures from prior research (Green & Hoover-Dempsey, 2007; Hoover-Dempsey & Sandler, 2005), adapted from the parent involvement literature (e.g., Hoover-Dempsey et al., 1992; Walker et al., 2005) or modified based on information derived from qualitative studies of homeschooling (e.g.,

| _ | Time I Time | | Tim | īme l | | |
|---|---------------------|---------------------|---------------------|------------------------|--|--|
| Scale | Full-group α (N) | Full-group α (N) | Homeschool α (N) | Public school α (N) | | |
| Parent-reported scales | | | | | | |
| Role activity beliefs | .73 (60) | .68 (33) | .74 (31) | .58 (29) | | |
| Parental self-efficacy | .85 (62) | .85 (33) | .82 (32) | .82 (30) | | |
| Specific invitations from the child | .69 (64) | .76 (33) | .67 (34) | .73 (30) | | |
| Social network | .98 (47) | .95 (32) | .97 (30) | .93 (17) | | |
| Social support | .92 (52) | .94 (32) | .93 (29) | .91 (23) | | |
| Parents' home-based involvement | .55 (64) | .67 (33) | n/a | n/a | | |
| Student proximal achievement outcomes | .89 (53) | .89 (32) | .87 (29) | .90 (24) | | |
| Student-reported scales | 5 | | | | | |
| Parents' home- based involvement | .67 (43) | .60 (28) | .68 (24) | .71 (19) | | |
| Student proximal achievement outcomes | .91 (43) | .93 (28) | .90 (24) | .93 (19) | | |

 Table I. Scale Information, Alphas Reported Here From Spring 2007 (Time I) and

 Fall 2007 (Time 2) Data Collection

n/a: not available

Knowles, 1988; Van Galen, 1988), were used to gather information on all study constructs. All measures used a 6-point Likert-type response scale, with higher scores indicating more frequent use of or more agreement with standings on the construct. All underwent face and content validity evaluations by a panel of five persons who have expert knowledge of the constructs being evaluated. Home- and public-school families received the same survey. Alpha reliabilities were assessed for each scale for homeschool, public school, and all participants at Time 1 as well as for all participants at Time 2 (Table 1). In addition, test-retest reliabilities were assessed (Table 2). All the correlations were significant and ranged from .35 to .79. Two of the smaller correlations (parent-reported specific child invitations, r = .35; student-reported parental home involvement, r = .48) were expected as they both relied on participants responding on someone else's behavior.

| Scale | N | Pearson r |
|--|----|-----------|
| Parent-reported scales | | |
| Role activity beliefs | 28 | .73** |
| Parental self-efficacy | 28 | .79** |
| Specific invitations from the child | 28 | .35* |
| Social network | 23 | .58** |
| Social support | 23 | .58** |
| Parents' home-based involvement | 28 | .67** |
| Student proximal achievement outcomes | 28 | .79** |
| Student-reported scales | | |
| Parents' home-based involvement | 25 | .48* |
| Student proximal achievement outcomes | 25 | .53** |

Table 2. Test-Retest Reliabilities

Personal Motivators of Involvement

Measures for the two indicators of parents' personal motivation for involvement were adapted from the model (Hoover-Dempsey & Sandler, 2005; Walker et al., 2005) and related parental involvement literature and have been successfully used with both homeschool (Green & Hoover-Dempsey, 2007) and public school parents (Green, Walker, Hoover-Dempsey, & Sandler, 2007; Hoover-Dempsey et al., 1992). The Parental Role Activity Beliefs (Green et al., 2007; Hoover-Dempsey & Sandler, 2005) Scale assessed parents' beliefs about how active they should be in their students' education. It included 10 items (sample, "I believe it is my responsibility to help my child with schoolwork"). Self-Efficacy for Helping the Child Succeed in School focused on parental beliefs about personal ability to help the child learn and succeed in school (Green et al., 2007; Hoover-Dempsey et al., 1992). The scale included 7 items (sample, "I know how to help my child do well in school")

Parents' perceptions of social contextual motivators. The Parental Perceptions of Specific Child Invitations to Involvement Scale (Walker et al., 2005) was used to assess parents' perceptions of child invitations to involvement (e.g., explicit requests for parental help or engagement in school-related activities or for requests implicit in having difficulties with some learning tasks; 5 items, sample: "My child asked me to help explain something about his or her

homework"). Items were adapted for use with homeschool parents (e.g., "homework" was replaced with "daily learning activities").

The Social Networks and Social Support Report was developed during the course of this study to assess parents' perceptions of relevant social networks and the kinds of social support they received from network members. The measure was grounded in a definition of social networks as the structure of social relationships and social support as the *function* of social relationships (Dunkel-Schetter & Bennett, 1990). A total of 16 items asked parents about specific forms of social support they receive from social network members; the items were based on research about the kinds of social support often provided by social networks: emotional, instrumental, informational, and companionship support (Cauce, Reid, Landesman, & Gonzales, 1990; Langford, Bowsher, Maloney, & Lillis, 1997). In assessing social support, the measure used a 5-point Likert-type response scale (1 = never true to 5 =*always true* response scale; sample item, "I can turn to [my support system] if I have concerns about my child's education"). Once each social support scale item was completed, parents were asked to note the initials of people or organizations in their support systems who (or that) would fill each of the specific types of support noted in each item. These answers were analyzed separately to evaluate one characteristic of social networks: average density.

Parents' home-based involvement activities. Hoover-Dempsey and Sandler's scale was used to measure parent-reported engagement in a sample of home-based involvement activities and adapted the scale slightly in creating the student-report version of the same scale. The scale included 7 items (sample item, "Someone in my family kept an eye on my progress"). The scale was adapted for use with public- and home-school parents and students (e.g., "school day" was replaced with "daily educational activities").

Student proximal achievement outcomes. Three proximal student achievement outcomes—academic self-efficacy, intrinsic motivation to learn, and selfregulatory strategy use—were assessed using measures reported by Hoover-Dempsey and Sandler. Individual measures of each component as well as the aggregate measure previously recorded satisfactory alphas for public-school parents and students (Hoover-Dempsey & Sandler, 2005; Walker et al., 2005. The scale was adapted for use with homeschool parents and students (e.g., "homework problems" was replaced with "educational problems" in the parent scale; for example, "My child goes back over educational problems he or she doesn't understand"; in the student scale, "I go back over things I don't understand")

| | I | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|--------|--------|--------|-------|--------|--------|--------|--------|--------|
| Parent-reported scales | | | | | | | | | |
| Role activity beliefs | 1.00 | 0.49** | -0.03 | 0.27* | 0.44** | 0.17 | 0.50** | -0.03 | 0.17 |
| Parental self-efficacy | 0.49** | 1.00 | -0.03 | -0.07 | 0.26 | 0.19 | 0.44** | 0.23 | 0.07 |
| Specific invitations from the child | -0.03 | -0.03 | 1.00 | 0.08 | 0.01 | 0.47** | -0.16 | 0.53** | 0.13 |
| Social network | 0.27* | -0.07 | 0.08 | 1.00 | 0.23 | -0.04 | 0.07 | -0.13 | 0.05 |
| Social support | 0.44** | 0.26 | 0.01 | 0.23 | 1.00 | 0.18 | 0.33* | 0.06 | 0.13 |
| Parents' home-based involvement | 0.17 | 0.19 | 0.47** | -0.04 | 0.18 | 1.00 | -0.06 | 0.57** | 0.21 |
| Student proximal achievement outcomes | 0.50** | 0.44** | -0.16 | 0.07 | 0.33* | -0.06 | 1.00 | -0.09 | 0.40** |
| Student-reported Scales | | | | | | | | | |
| Parents' home- based involvement | -0.03 | 0.23 | 0.53** | -0.13 | 0.06 | 0.57** | -0.09 | 1.00 | 0.44** |
| Student proximal achievement outcomes | 0.17 | 0.07 | 0.13 | 0.05 | 0.13 | 0.21 | 0.40** | 0.44** | 1.00 |
| Valid N | 60 | 62 | 64 | 47 | 52 | 62 | 53 | 43 | 43 |
| Minimum (mean) | 3.29 | 3.14 | 1.50 | 0.47 | 2.40 | 3.20 | 2.20 | 2.20 | 2.37 |
| Maximum (mean) | 6.00 | 6.00 | 6.00 | 17.73 | 6.00 | 6.00 | 5.90 | 6.00 | 5.65 |
| Mean | 5.02 | 5.18 | 4.26 | 3.26 | 5.21 | 5.43 | 4.50 | 5.02 | 4.41 |
| SD | 0.69 | 0.72 | 1.07 | 3.34 | 0.80 | 0.61 | 0.83 | 0.93 | 0.76 |
| Variance | 0.48 | 0.51 | 1.14 | 11.14 | 0.64 | 0.37 | 0.69 | 0.86 | 0.59 |

| Table 3. | Descriptive | Statistics.All | Participants: | Time I | |
|----------|-------------|----------------|---------------|--------|--|
| | | ••••••• | | | |

Results

Descriptive Statistics

Time 1. A total of 64 parent–child dyads completed the survey at Time 1, including 30 public school participants and 34 homeschool participants. Some participants did not complete all survey items, so the number of participants varied across scales. Descriptive statistics (including correlations, means, and standard deviations) are reported for all participants in Table 3. Descriptive statistics for public school participants and homeschool participants at Time 1 are presented in Tables 4 and 5, respectively.

In general, parents across the combined group recorded strong personal motivations for parental involvement (role activity, M = 5.02-6.00, SD = 0.69; parental efficacy for helping the child learn, M = 5.18-6.00, SD = 0.72; relatively strong student invitations to involvement, M = 4.26-6.00, SD = 1.07), strong social support beliefs (M = 5.31-6.00, SD = 0.80, and

| | Ι | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
|---|-----------------------|-------|-------|-------|-------|-------|-------|-------|--|
| Parent-reported scales | arent-reported scales | | | | | | | | |
| Role activity beliefs | 1.00 | 0.27 | -0.18 | 0.38 | 0.44 | 0.45* | -0.12 | 0.32 | |
| Parental self-efficacy | 0.27 | 1.00 | -0.28 | 0.11 | 0.20 | 0.22 | 0.17 | -0.02 | |
| Specific invitations from the child | -0.18 | -0.28 | 1.00 | -0.12 | 0.35 | -0.38 | 0.56* | 0.15 | |
| Social network | 0.38 | 0.11 | -0.12 | 1.00 | 0.27 | 0.54* | -0.40 | 0.29 | |
| Social support | 0.44 | 0.20 | 0.35 | 0.27 | 1.00 | 0.29 | 0.48 | 0.53* | |
| Student proximal achievement outcomes | 0.45* | 0.22 | -0.38 | 054* | 0.29 | 1.00 | -0.14 | 0.53* | |
| Student-reported scale | s | | | | | | | | |
| Parents' home-based involvement | -0.12 | 0.17 | 0.56* | -0.40 | 0.48 | -0.14 | 1.00 | 0.31 | |
| Student proximal achievement outcomes | 0.32 | -0.02 | 0.15 | 0.29 | 0.53* | 0.53* | 0.31 | 1.00 | |
| Valid N | 29 | 30 | 30 | 22 | 18 | 24 | 19 | 19 | |
| Minimum (mean) | 3.29 | 3.14 | 1.75 | 0.93 | 3.07 | 2.70 | 2.60 | 2.90 | |
| Maximum (mean) | 5.57 | 6.00 | 6.00 | 4.40 | 6.00 | 5.90 | 6.00 | 5.65 | |
| Mean | 4.62 | 4.87 | 4.13 | 1.92 | 5.14 | 4.24 | 4.96 | 4.42 | |
| SD | 0.63 | 0.76 | 1.01 | 1.09 | 0.77 | 0.96 | 0.93 | 0.85 | |
| Variance | 0.39 | 0.58 | 1.03 | 1.189 | 0.59 | 0.91 | 0.86 | 0.73 | |

Table 4. Descriptive Statistics, Public School Parents: Time I

medium-level density of social networks, M = 3.26, SD = 3.34). Parents also described themselves as *being very involved* in their child's education at home (M = 5.43-6.00, SD = 0.61) and reported that their children were relatively strong in proximal achievement attributes (M = 5.40-6.00, SD = 0.83). Students across the two groups, as true of their parents, reported that their parents were very involved in home-based educational activities related to their education (M = 5.02-6.00, SD = 0.93) and also reported relatively strong standing on proximal achievement attributes (M = 4.41-6.00, SD = 0.76).

Time 2. A total of 33 parent–child dyads (17 homeschool, 16 public school) from the first round of data collection completed the survey at Time 2. (The lower number of participants than anticipated at Time 2 precluded obtaining accurate scale alpha reliabilities for the two subgroups at Time 2). Instead, the second round of data collection was used to evaluate research questions that could be examined using the entire dataset. In addition, some participants did not complete all items in the survey, so number of participants varied across scales. Descriptive statistics for the full group are reported in Table 6. Patterns of descriptive findings were generally quite similar across the two time points, as indicated by strong test–retest reliabilities (Table 2).

| | Ι | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|--|-------------|--------|-------|--------|-------|--------|--------|--------|
| Parent-reported scales | | | | | | | | |
| Role activity beliefs | 1.00 | 0.46** | -0.12 | 0.08 | 0.32 | 0.39* | -0.02 | 0.07 |
| Parental self-efficacy | 0.46** | 1.00 | 0.16 | -0.38* | -0.15 | 0.59** | 0.31 | 0.22 |
| Specific invitations from the child | -0.12 | 0.16 | 1.00 | 0.06 | 0.05 | -0.04 | 0.50* | 0.12 |
| Social network | 0.08 | -0.38* | 0.06 | 1.00 | 0.06 | -0.23 | -0.14 | 0.03 |
| Social support | 0.32 | -0.15 | 0.05 | 0.06 | 1.00 | 0.12 | -0.31 | -0.18 |
| Student proximal achievement outcom | 0.39* es | 0.59** | -0.04 | -0.23 | 0.12 | 1.00 | -0.06 | 0.27 |
| Student-reported scales | | | | | | | | |
| Parents' home-based involvement | -0.02 | 0.31 | 0.50* | -0.14 | -0.31 | -0.06 | 1.00 | 0.57** |
| Student proximal achievement outcom | 0.07 es | 0.22 | 0.12 | 0.03 | -0.18 | 0.27 | 0.57** | 1.00 |
| Valid N | 31 | 32 | 34 | 30 | 23 | 29 | 24 | 24 |
| Minimum (mean) | 3.71 | 4.14 | 1.50 | 0.47 | 4.53 | 2.20 | 2.20 | 2.37 |
| Maximum (mean) | 6.00 | 6.00 | 6.00 | 17.73 | 6.00 | 5.90 | 6.00 | 5.55 |
| Mean | 5.39 | 5.46 | 4.38 | 4.24 | 5.59 | 4.71 | 5.07 | 4.39 |
| SD | 0.53 | 0.54 | 1.11 | 4.04 | 0.38 | 0.66 | 0.94 | 0.70 |
| Variance | 0.28 | 0.29 | 1.24 | 16.36 | 0.14 | 0.43 | 0.89 | 0.50 |

Results by Research Question

Research Question 1: Are parental perceptions of personal and socialcontextual motivators of involvement positively related to parent and student reports of parents' home-based involvement and to parent and student reports of student proximal achievement outcomes?

Time 1. There were significant positive correlations between parent-reported invitations from the child and both parent-reported (r = .47, p < .01) and student-reported home-based parental involvement (r = .53, p < .01). There were also significant positive correlations between parent-reported efficacy (r = .44, p < .01), role activity (r = .44, p < .01), social support (r = .33, p < .05), and student proximal achievement outcomes.

Hierarchical regression analyses using parents' reports of personal and social contextual motivators as predictors of student-reported parental involvement suggested that parent-reported invitations from the child ($\beta = .53, p < .01$) emerged as the only significant variable in the prediction: F(1, 39) = 15.38, p < .01, adj. $R^2 = .28$. Hierarchical regression analysis

| | I | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|--------|--------|---------|--------|--------|--------|--------|--------|--------|
| Parent-reported scales | | | | | | | | | |
| Role activity beliefs | 1.00 | 0.52** | 0.29 | 0.61** | 0.47** | 0.30 | 0.56** | 0.33 | 0.30 |
| Parental self-efficacy | 0.52** | 1.00 | 0.23 | 0.23 | 0.10 | 0.44* | 0.66** | 0.50** | 0.35 |
| Specific invitations from the child | 0.29 | 0.23 | 1.00 | 0.33 | 0.41* | 0.67** | 0.17 | 0.60** | 0.07 |
| Social network | 0.61** | 0.23 | 0.33 | 1.00 | 0.38* | 0.06 | 0.40* | 0.02 | 0.09 |
| Social support | 0.47** | 0.10 | 0.41* | 0.38* | 1.00 | 0.16 | 0.16 | 0.29 | 0.21 |
| Parents' home-based involvement | 0.30 | 0.44* | 0.66** | 0.06 | 0.16 | 1.00 | 0.20 | 0.75** | 0.21 |
| Student proximal achievement outcomes | 0.56** | 0.66** | 0.17 | 0.40* | 0.16 | 0.20 | 1.00 | 0.20 | 0.67** |
| Student-reported scales | | | | | | | | | |
| Parents' home-based involvement | 0.33 | 0.50** | 0.60*** | 0.02 | 0.29 | 0.75** | 0.20 | 1.00 | 0.18 |
| Student proximal achievement outcomes | 0.30 | 0.35 | 0.07 | 0.09 | 0.21 | 0.21 | 0.67** | 0.18 | 1.00 |
| Valid N | 33 | 33 | 33 | 32 | 32 | 33 | 32 | 28 | 28 |
| Minimum (mean) | 3.57 | 3.29 | 1.50 | 0.93 | 2.33 | 2.80 | 2.90 | 3.40 | 2.90 |
| Maximum (mean) | 6.00 | 6.00 | 6.00 | 8.67 | 6.00 | 6.00 | 5.90 | 6.00 | 5.95 |
| Mean | 4.94 | 5.27 | 4.27 | 2.90 | 5.13 | 5.30 | 4.52 | 5.14 | 4.49 |
| SD | 0.59 | 0.67 | 1.15 | 2.18 | 0.86 | 0.78 | 0.74 | 0.70 | 0.85 |
| Variance | 0.35 | 0.45 | 1.33 | 4.75 | 0.73 | 0.61 | 0.55 | 0.49 | 0.72 |

Table 6. Descriptive Statistics, All Participants: Time 2

was then used with parents' reports of personal and social contextual motivators as predictors of parent-reported parental involvement; results suggested that parent-reported invitations from the child ($\beta = .43$, p < .01) and parent-reported social support ($\beta = .36$, p < .05) were significant variables in the prediction: F(5, 39) = 5.49, p < .01, adj. $R^2 = .67$.

Because there were no significant correlations between parental reports of personal and social-contextual motivators of involvement and student-reported proximal achievement outcomes, hierarchical regression was used to examine the contributions of parents' reports of these personal and social-contextual motivators of involvement to parent-reported student proximal achievement outcomes. Parent-reported role activity beliefs ($\beta = .52, p < .01$) was the only significant predictor of parent-reported student proximal achievement outcomes, F(1, 47) = 17.05, p < .01, adj. $R^2 = .25$, although parent-reported efficacy approached significance ($\beta = .28, p = .06$).

Time **2**. In general, findings at Time 1 were supported by Time 2 data. For example, there were significant positive correlations between studentreported parental involvement, parent-reported invitations from the child (r = .60, p < .01), and parent-reported efficacy (r = .50, p < .01). Parent-reported parental involvement was again predicted by parent-reported invitations from the child (r = .66, p < .01) and parent-reported efficacy (r = .44, p < .05). There were also significant positive correlations between parent-reported student proximal achievement outcomes and parent reports of parental efficacy (r = .66, p < .01), role activity beliefs (r = .56, p < .01), and social networks (r = .40, p < .05).

Hierarchical regression modeling using *parents*' reports of personal and contextual motivators of involvement to predict student-reported parental involvement revealed that a significant portion of variance, F(3, 27) = 11.86, p < .01, adj. $R^2 = .55$, was accounted for by parent-reported efficacy ($\beta = .46$, p < .01), child invitations ($\beta = .63$, p < .01), and social network ($\beta = -.34$, p < .05).

Hierarchical regression modeling using parents' reports of personal and contextual motivators of involvement to predict parent-reported parental involvement revealed that a significant portion of variance was predicted, F(5, 26) = 7.49, p < .01, adj. $R^2 = .51$, specifically by parent-reported child invitations ($\beta = .68$, p < .01). Parent-reported social network approached significance ($\beta = -.32$, p = .06).

Because there were no significant correlations between student-reported student proximal achievement and motivators of parental involvement, parent-reported student proximal achievement were used instead. A significant portion of variance in student-reported proximal achievement outcomes was predicted by the variables, F(1, 31) = 23.68, p < .01, adj. $R^2 = .42$; however, only one predictor, parent-reported efficacy ($\beta = .66$, p < .01), was significant in the equation.

Summary. Results across Time 1 and 2 suggested that parent-reported invitations to involvement from the child were the strongest predictor of both student- and parent-reported home-based parental involvement. Parentreported social support and parental self-efficacy for involvement also contributed to home-based parental involvement, varying from Time 1 to Time 2. Somewhat surprisingly, at Time 2, parent-reported social networks were a negative predictor of home-based parental involvement. When parentreported student proximal achievement outcomes were examined, parental role activity and parental self-efficacy for involvement were associated with the outcome, varying from Time 1 to Time 2.

Research Question 2: Are parents' social network and social support beliefs related to other motivators of involvement?

Time 1. Consistent with expectations, there were strong positive correlations between parent-reported role activity beliefs and parent-reported social support (r = .44, p < .01) and between parent-reported social network density (r = .27, p < .05) and the full group. However, there were no significant correlations between social support and social networks or other motivators of involvement.

Time 2. Notably, there were strong positive correlations between parent-reported role activity beliefs and parent-reported social support (r = .47, p < .01), and between parent-reported social networks and role activity (r = .61, p < .01). There was also a positive correlation between social support and parent-reported specific child invitations (social support: r = .41, p < .05).

Summary. In exploring whether parents' social support and social networks (assessed by measures developed for this study) were related to other motivators of parental involvement, a positive relationship was found between both variables and parents' role activity beliefs. This finding suggests a strong link between parents' perceptions of their social support and networks, and their socially constructed role activity beliefs related to their involvement in their child's education. At Time 2 there was also a significant relationship between parents' social support and child invitations to involvement.

Research Question 3: Can reports of parental involvement be used to predict student proximal achievement outcomes?

Time 1. Preliminary Time 1 analysis of data pertinent to this question suggested that student-reported proximal achievement outcomes were positively related (r = .44, p < .05) to student reports of parents' involvement. Although parent- and student-reported parental involvement were positively related (r = .57, p < .01)—as were parent- and student-reported student proximal achievement outcomes (r = .40, p < .01)—there was no significant correlation between parent-reported parental involvement and student-reported or parent-reported student proximal achievement outcomes. Hierarchical regression examining the ability of the full set of variables to predict student-reported parent involvement ($\beta = .48$, p < .01) and parent-reported child achievement outcomes ($\beta = .44$, p < .01).

Time 2. Again, the relationship between parental involvement and studentreported proximal achievement outcomes were explored. Student and parent reports of students' proximal achievement outcomes were positively related (r = .67, p < .01), and parent and student reports of parental involvement were also positively related (r = .75, p < .01). However, no other correlations reached significance (this includes the correlation between studentreported parental involvement and parent-reported student proximal achievement outcomes). Hierarchical regression was then used to see whether student-reported proximal achievement outcomes could be predicted by parent-reported and student-reported parental involvement and parentreported student proximal achievement outcomes. A significant portion of the variance was accounted for, but as expected based on the correlations, only parent-reported student proximal achievement outcomes was a significant predictor of student-reported proximal achievement outcomes, F(1, 27) =21.03, p < .01, adj. $R^2 = .43$, and B = .67.

Longitudinal (Time 1 to Time 2). The goal of including the longitudinal analyses was to determine whether parental involvement at Time 1 could predict student proximal achievement at Time 2, when controlling for Time 1 student proximal achievement. A total of 28 parent–child dyad participants completed measures over the two time periods. The hierarchical regression equation was significant: adj. $R^2 = .24$, F(1, 24) = 8.75, p < .01, but home-based parental involvement (as reported by the parent: B = -0.29, p = .11, partial correlation –.33) did not significantly predict student-reported proximal achievement outcomes when student proximal achievement from Time 1 was entered into the equation ($\beta = .53$, p < .01).

Summary. In sum, findings for this research question did not show a link between parent-reported home-based parental involvement and studentreported student proximal achievement outcomes. There were, however, significant relationships between parent- and student-reported parent involvement, and between parent- and student-reported student proximal achievement outcomes, and at Time 1 student-reported home-based parent involvement was significantly positively related to student-reported student proximal achievement outcomes.

Research Question 4: Do home- and public-school parents have significantly different perceptions of these constructs?

Time 1. Home- and public-school parents were compared using *t* tests and Cohen's *d* effect size estimates (see Table 7). Results suggested that home-school parents, when compared to their public school counterparts, reported significantly stronger sense of efficacy for helping the child learn (M = 5.46 vs. 4.87, d = 0.90), stronger role activity beliefs (M = 5.39 vs. 4.62, d = 1.33), and higher density of social network (M = 4.24 vs. 1.92, d = 0.73). Home-school parents, when compared to public school parents, also viewed their

| Scale | Group | Ν | M (SD) | t test | Cohen's d |
|---|-----------------|----|-------------|--------|-----------|
| Parent-reported scales | | | | | |
| Role activity beliefs | Homeschool | 31 | 5.39 (0.53) | 5.13** | 1.33 |
| | Public school | 29 | 4.62 (0.63) | | |
| Parental self-efficacy | Homeschool | 32 | 5.46 (0.54) | 3.55** | 0.90 |
| | Public school | 30 | 4.87 (0.76) | | |
| Specific invitations from the child | Homeschool | 34 | 4.38 (1.11) | 0.94 | 0.23 |
| | Public school | 30 | 4.13 (1.01) | | |
| Social network | Homeschool | 30 | 4.24 (4.04) | 2.62* | 0.73 |
| | Public school | 22 | 1.92 (1.09) | | |
| Social support | Homeschool | 29 | 5.34 (0.80) | 1.36 | 0.38 |
| | Public school | 23 | 5.04 (0.78) | | |
| Student proximal achievement outcome | Homeschool s | 29 | 4.71 (0.66) | 2.14* | 0.58 |
| | Public school | 24 | 4.24 (0.96) | | |
| Student-reported scales | | | | | |
| Parents' home-based involvement | Homeschool | 24 | 5.07 (0.94) | 0.36 | 0.12 |
| | Public school | 19 | 4.96 (0.93) | | |
| Student proximal achievement outcome | Homeschool s | 24 | 4.39 (0.70) | -0.12 | 0.04 |
| | Public school | 19 | 4.42 (0.85) | | |

 Table 7. The t Test and Effect Size Comparisons by Group (Home- and Public-School):Time I

children as having stronger student proximal achievement outcomes (M = 4.71 vs. 4.24, d = 0.58). Interestingly, however, differences between groups did not extend to student-reported data.

Summary. In sum, home- and public-school parents recorded significantly different perceptions of some parental involvement motivators as well as children's proximal achievement outcomes. However, no significant differences emerged in parent perceptions of specific child invitations for involvement, nor were there differences in student perceptions of how involved parents were at home or in student reports of their proximal achievement outcomes.

Discussion

This study provides a positive contribution to both parental involvement and homeschool research literature in several ways. First, the findings revealed that specific child invitations to involvement were a salient and positive predictor of home-based parental involvement for both public school parents and homeschool parents. This finding further extends applications of the first level of Hoover-Dempsey and Sandler's (2005) model of parental involvement to homeschool parents. Second, valid and reliable measures for social support and social networks were developed for this study and further extended the parental involvement literature by enabling examination of each variable's relative contributions to parental involvement and student proximal achievement outcomes. Third, the study explored relationships between parallel parent and student reports of parental involvement and student proximal achievement outcomes in a group of actively involved parents. Interesting differences between the constituent groups (homeschool and public school parents) were found in reports of motivations for involvement and perceptions of children's proximal achievement outcomes; however, no significant between-group differences emerged in students' reports of parent's home-based involvement, nor were differences found in student perceptions of their proximal achievement outcomes.

In the following, we summarize and discuss results in more detail. First, however, it must be noted that there were some limitations to this study. For example, the results should be viewed in the light of the fact that they pertain to a relatively small data set and there may have been mono-method bias due to the use of survey measures. The latter in particular limited both the range of constructs measured and participants' options for responding. In addition, both samples of parents were comprised of apparently highly active and highly involved parents; the findings, therefore, may not be generalizable to home- or public-school parents as a whole. Nonetheless, the study yielded some interesting findings.

One research question focused on model-based motivators of parental involvement and parents' home-based involvement in their children's schooling. In general, the pattern of findings for predictors of home-based involvement was consistent with previous research on public- (e.g., Green et al., 2007) and home-school parents (Green & Hoover-Dempsey, 2007). Specifically, parents' reports of efficacy for helping the child succeed in school and parents' reports of specific invitations to involvement from the child predicted students' reports of their parents' involvement. In other words, students perceived their parents to be actively involved in their education when their parents recorded relatively high efficacy for helping their children learn and perceived that their children requested or needed their help.

At the second time point, parent-reported social network was negatively associated with student-reports of parents' home-based involvement; one might surmise that students whose parents have larger and more dense social networks may access more support system help for the child and thus be perceived by their children as being somewhat less actively involved themselves.

It was also a goal of this study to explore the relationship between social networks and social support as they relate to role activity beliefs and other motivators of involvement. Results pointed to a strong link between role activity beliefs and both social support and social networks, for both homeand public-school parents. Although this question was exploratory in this study, the link suggests that future research should further explore the depth and functions of social networks and social support in shaping parents' active role construction for involvement in their children's education. Because home- and public-school parents exhibited different strengths in reports of their role construction for involvement, it might be useful to further explore these relationships with in-depth interviews in both groups of parents.

One of the most interesting findings of this study pertains to identified differences between home- and public-school parents. Results from the first round of data collection suggested that homeschool parents, when compared to their public school counterparts, reported significantly stronger efficacy, role activity beliefs, and social network beliefs; in addition, they reported more positive perceptions of their children's proximal achievement attributes. The differences between the two groups, however, did not extend to student-reported data, suggesting that differences between the two groups lie primarily with the parents and not the children. Although caution should be used in interpreting a null result, this does suggest a possibly fruitful avenue of further research. Specifically, public discussion often seems to assume homeschool children are different than public school children; this has led, for example, to research on differences between the two groups of achievement (e.g., Rudner, 1999) and social skills (e.g., Medlin, 2000). However, the most important difference might not lie within the children, but rather in the parents who make the school choice decision. Other possible reasons for this result, of course, might include the possibility that homeschool participants in this study had higher-achieving students than might be seen in the full homeschool population. Although demographic data on homeschool parents participating in this study are fairly consistent with national statistics describing homeschooling families (e.g., Princiotta et al., 2004), this remains a possibility. In addition, homeschool parents may be more inclined to respond favorably to questions regarding their child's proximal achievement outcomes than was true of public school parents; this may be so because there is often less support in the general community for the choice to homeschool

and, perhaps, and a strong desire on the part of these parents to show homeschooling in a favorable light.

Results also revealed significant positive relationships between motivators of parental involvement and student proximal achievement outcomes. Specifically, parent-reported child proximal attributes were related to parents' role activity beliefs and parents sense of efficacy for helping the child learn. No links were found between student-reported proximal achievement outcomes and parent-reported predictors of involvement; this was not a surprising finding, however, as Hoover-Dempsey and Sandler's (2005) model of the parental involvement process predicted that there are other important sets of variables between parents' motivations for becoming involved and children's performance on varied indicators of child achievement.

Finally, this study sought to predict student proximal achievement outcomes with parental involvement after controlling for prior student achievement. Results suggested significant relationships between student-reported parental involvement and student proximal achievement outcomes, and between parent-reported parental involvement and student proximal achievement outcomes. The two findings suggest strong links between what parents and children see each other doing. The failure to find a significant relationship between parental involvement and student achievement outcomes when controlling for prior achievement was disappointing, but likely in part due to the small sample used during the second round of data collection. If the effect of predicting child achievement with home-based involvement is a small (but positive), as previous research suggests (e.g., Christenson et al., 1992; Epstein, 1991; Fan & Chen, 2001; Singh et al., 1995), a much larger sample is likely needed to have enough power to pick up on the effect. These observations do point to replication with a larger sample.

Results of the study overall hold several implications for research and practice. First, the findings suggest that the model constructs of parental selfefficacy and specific invitations from the child are useful in predicting homebased parental involvement among active public- and home-school parents. This finding supports research suggesting that the model can be applied to understanding a wide variety of parents and settings for children's education. Results also suggest the usefulness of including social support and social networks as a motivator of parental involvement. Because the social support and social network scales were designed specifically for this study, it would also be useful in future research to further examine the psychometric properties of the scales.

Second, results from this study also have implications for increasing the incidence and effectiveness of parental involvement among both public- and

home-school families. The results also suggest that public schools can further increase the incidence and effectiveness of parental involvement of already active parents by implementing interventions that target parental selfefficacy and specific child invitations. Likewise, homeschool support groups could strive to support self-efficacy beliefs and specific child invitations in efforts to strengthen home-based parent–child learning activities. Both groups should ensure that parents have a diverse and large social networks, offering varied types of social support (e.g., parent information, support, and training opportunities in order to enhance parental involvement in the home).

In sum, the study's results suggest that active home- and public-school parents are strongly motivated to be involved in home-based activities by the belief that their involvement will help their children and by specific invitations to involvement from their children. Parent's beliefs about playing active roles in supporting their children's education—and their perceptions of their social support and social networks—played a somewhat smaller role in supporting parents' home-based parental involvement. Although parent-reported home-based involvement was not found predictive of student-reported proximal achievement outcomes when controlling for prior proximal achievement, future research should further explore this issue with a larger sample.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

References

- Auerbach, S. (2004). Engaging Latino parents in supporting college pathways: Lessons from a college access program. *Journal of Hispanic Higher Education*, 3, 125-145.
- Bandura, A. (1986). Social foundations of thought and action. Upper Saddle River, NJ: Prentice Hall.
- Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman.
- Baumrind, D. (1989). Rearing competent children. In W. Damon (Ed), *Child development today and tomorrow* (pp. 349-378). San Francisco: Jossey-Bass.
- Bielick, S., Chandler, K., & Broughman, S.P. (2001). Homeschooling in the United States: 1999. *Education Statistics Quarterly*, 3 (3), 1-12.

- Boulter, L. T. (1999). Academic achievement in home-school education. Final Report. Salisbury, NC: Catawba College. (ERIC Document Reproduction Service No. ED446385)
- Brody, G. J., Flor, D. L., & Gibson, N. M. (1999). Linking maternal efficacy beliefs, developmental goals, parenting practices, and child competence in rural singleparent African American families. *Child Development*, 70, 1197-1208.
- Cauce, A. M., Reid, M., Landesman, S., & Gonzales, N. (1990). Social support in young children: Measurement, structure, and behavioral impact. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 64-94). New York: John Wiley.
- Chrispeels, J., & Rivero, E. (2001). Engaging Latino families for student success: How parent education can reshape parents' sense of place in the education of their children. *Peabody Journal of Education*, 76, 119-169.
- Christenson, S. L., Rounds, T., & Gorney, D. (1992). Family factors and student achievement: An avenue to increase students' success. *School Psychology Quarterly*, 7, 178-206.
- Christenson, S. L., & Sheridan, S. M. (2001). School and families: Creating essential connections for learning. New York: Guilford.
- Corno, L. (2000). Looking at homework differently. *Elementary School Journal*, 100, 529-548.
- Delgado-Gaitan, C. (1992). School matters in the Mexican-American home: Socializing children to education. *American Educational Research Journal*, 29, 495-513.
- Drummond, K. V., & Stipek, D. (2004). Low-income parents' beliefs about their role in children's academic learning. *Elementary School Journal*, 104, 197-213.
- Dunkel-Schetter, C., & Bennett, T. L. (1990). Differentiating the cognitive and behavioral aspects of social support. In I. G. Sarason, B. R. Sarason, & G. R. Pierce (Eds.), *Social support: An interactional view* (pp. 267-296). New York: John Wiley.
- Epstein, J. L. (1986). Parents' reactions to teacher practices of parent involvement. *The Elementary School Journal, 86*, 277-294.
- Epstein, J. L. (1991). Effects on student achievement of teachers' practices of parent involvement. In Advances in reading/language research: Literacy through family, community, and school interaction (Vol. 5, pp. 261-276). Greenwich, CT: JAI.
- Epstein, J. L., & Van Voorhis, F. L. (2001). More than minutes: Teachers' roles in designing homework. *Educational Psychologist*, 36, 181-193.
- Fan, X., & Chen, M. (2001). Parental involvement and students' academic achievement: A meta-analysis. *Educational Psychology Review*, 13, 1-22.
- Fehrmann, P. G., Keith, T. Z., & Reimers, T. M. (1987). Home influence on school learning: Direct and indirect effects of parental involvement on high school grades. *Journal of Educational Research*, 80, 330-337.

- Ford, D. L. (1989). Parental participation and academic achievement. (ERIC Document Reproduction Service No. ED 344-659; Published online through ERIC).
- Gonzalez, N., Andrade, R., Civil, M., & Moll, L. (2001). Bridging funds of distributed knowledge: Creating zones of practice in mathematics. *Journal of Education of Students Placed at Risk*, 6, 115-132.
- Gottfried, A. E., Fleming, J. S., & Gottfried, A. W. (1998). Role of cognitively stimulating home environment in children's academic intrinsic motivation: A longitudinal study. *Child Development*, 69, 1448-1460.
- Graue, M. E. (1993). Social networks and home-school relations. *Educational Policy*, 7, 466-490.
- Green, C. L., & Hoover-Dempsey, K. V. (2007). Why do parents home-school? A systematic examination of parental involvement. *Education & Urban Society*, 39, 264-285.
- Green, C. L., Walker, J. M. T., Hoover-Dempsey, K. V., & Sandler, H. M. (2007). Parents' motivations for involvement in children's education: An empirical test of a theoretical model of parental involvement. *Journal of Educational Psychology*, 99, 532-544.
- Grolnick, W. S., Benjet, C., Kurowski, C. O., & Apostoleris, N. H. (1997). Predictors of parent involvement in children's schooling. *Journal of Educational Psychol*ogy, 89, 538-548.
- Grolnick, W. S., & Ryan, R. M. (1989). Parent styles associated with children's selfregulation and competence in school. *Journal of Educational Psychology*, 81, 143-154.
- Grolnick, W. S., & Slowiaczek, M. L. (1994). Parents' involvement in children's schooling: A multidimensional conceptualization and motivational model. *Child Development*, 65, 237-252.
- Grusec, J. E. (2002). Parenting socialization and children's acquisition of values. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 5. Practical issues in parenting* (pp. 143-167). Mahwah, NJ: Lawrence Erlbaum.
- Gutman, L. M., & Midgley, C. (2000). The role of protective factors in supporting the academic achievement of poor African American students during the middle school transition. *Journal of Youth and Adolescence*, 29, 223-248.
- Hoover-Dempsey, K. V., Bassler, O. C., & Brissie, J. S. (1992). Explorations in parent-school relations. *Journal of Educational Research*, 85, 287-294.
- Hoover-Dempsey, K. V., Bassler, O. C., & Burow, R. (1995). Parents' reported involvement in students' homework: Parameters of reported strategy and practice. *Elementary School Journal*, 95, 435-450.
- Hoover-Dempsey, K. V., Battiato, A. C., Walker, J. M. T., Reed, R. P., DeJong, J. M., & Jones, K. P. (2001). Parental involvement in homework. *Educational Psychologist*, 36, 195-210.

- Hoover-Dempsey, K. V., & Sandler, H. M. (1995). Parental involvement in children's education: Why does it make a difference? *Teachers College Record*, 97, 310-331.
- Hoover-Dempsey, K. V., & Sandler, H. M. (1997). Why do parents become involved in their children's education? *Review of Educational Research*, 67, 3-42.
- Hoover-Dempsey, K. V., & Sandler, H. M. (2005, March 22). Final performance report for OERI Grant # R305T010673: The social context of parental involvement: A path to enhanced achievement. Presented to Project Monitor, Institute of Education Sciences, U.S. Department of Education, Washington, DC.
- Hoover-Dempsey, K. V., Walker, J. M. T., Sandler, H. M., Whetsel, D., Green, C. L., Wilkins, A. S., et al. (2005). Why do parents become involved? Research findings and implications. *Elementary School Journal*, 106, 105-130.
- Jeynes, W. H. (2003). A meta-analysis: The effects of parental involvement of minority children's academic achievement. *Education and Urban Society*, 35 (2), 202-218.
- Jeynes, W.H. (2007). The relationship between parental involvement and urban secondary school student academic achievement: A meta-analysis. Urban Education, 42, 82-110.
- Keith, T. Z., Reimers, T. M., Fehrmann, P. G., Pottebaum, S. M., & Aubey, L. W. (1986). Parental involvement, homework, and TV time: Direct and indirect effects on high school achievement. *Journal of Educational Psychology*, 78, 373-380.
- Knowles, J.G. (1988). Parent's rationales and teaching methods for home-schooling: The role of biography. *Education and Urban Society*, 21 (1), 69-84.
- Langford, C. P., Bowsher, J., Maloney, J. P., & Lillis, P. P. (1997). Social support: A conceptual analysis. *Journal of Advanced Nursing*, 25, 95-100.
- Lareau, A. (1987). Social class differences in family-school relationships: The importance of cultural capital. *Sociology of Education*, 60, 73-85.
- Lareau, A., & Shumar, W. (1996). The problem of individualism in family-school policies. Sociology of Education, 69, 24-39.
- Lines, P. (2000). Homeschooling comes of age. The Public Interest, 140, 74-85.
- Martinez-Pons, M. (1996). Test of a model of parental inducement of academic selfregulation. *Journal of Experimental Education*, 64, 213-227.
- Medlin, R. G. (2000). Home-schooling and the question of socialization. *Peabody Journal of Education*, 75, 107-123.
- Natriello, G., & McDill, E. L. (1989). Performance standards, student effort on homework, and academic achievement. *Sociology of Education*, 59, 18-31.
- Neild, R. C. (2005). Parent management of school choice in a large urban district. Urban Education, 40, 270-297.
- Princiotta, D., Bielick, S., & Chapman, C. (2004). 1.1 million homeschooled students in the United States in 2003. *Issue Brief* (NCES 2004-1115.). Available from http://nces.ed.gov/nhes

- Ray, B. D. (2000). Home-schooling: The ameliorator of negative influences on learning? *Peabody Journal of Education*, 75, 71-106.
- Reay, D. (1996). Contextualising choice: Social power and parental involvement. British Educational Research Journal, 22, 581-96.
- Reynolds, A. J. (1992). Comparing measures of parental involvement and their effects on academic achievement. *Early Childhood Research Quarterly*, 7, 441-462.
- Rogoff, B. (1990). Apprenticeship in thinking. New York: Oxford University Press.
- Rose, L. C., & Gallup, A. M. (2001). The 33rd annual PhWe Delta Kappa/Gallup Poll of the public's attitudes toward the public-schools. *PhWe Delta Kappan, 83*, 41-58.
- Rudner, L. M. (1999). Scholastic achievement and demographic characteristics of homeschool students in 1998. *Education Policy Analysis Archives*, 7. Available from http://epaa.asu.edu/epaa/v7n8/
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55, 68-78.
- Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, 38, 437-460.
- Schunk, D. H. (1991). Self-efficacy and academic motivation. *Educational Psychologist*, 26, 207-231.
- Schunk, D. H., & Zimmerman, B. J. (2003). Self-regulation and learning. In W. M. Reynolds & G. E. Miller (Eds.), *Handbook of psychology: Educational psychology* (pp. 59-78). New York: John Wiley.
- Sheldon, S. B. (2002). Parents' social networks and beliefs as predictors of parent involvement. *Elementary School Journal*, 102, 301-316.
- Shumow, L. (1997). Daily experiences and adjustments of gifted low-income urban children at home and school. *Roeper Report*, 20, 35-38.
- Shumow, L., & Lomax, R. (2002). Parental efficacy: Predictor of parenting behavior and adolescent outcomes. *Parenting: Science & Practice*, 2, 127-150.
- Singh, K., Bickley, P. G., Trivette, P., Keith, T. Z., Keith, P. B., & Anderson, E. (1995). The effects of four components of parental involvement on eighth-grade student achievement: Structural analysis of NELS-88 data. *School Psychology Review*, 24, 299-317.
- Steinberg, L., Elmen, J., & Mounts, N. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development*, 60, 1424-1436.
- Steinberg, L., Lamborn, S. D., Darling, N., Mounts, N. S., & Dornbusch, S. M. (1994). Over-time changes in adjustment and competence among adolescents

from authoritative, authoritarian, indulgent, and neglectful families. *Child Development*, 65, 754-771.

- Stipek, D., & Gralinski, J. H. (1996). Children's beliefs about intelligence and school performance. *Journal of Educational Psychology*, 88, 397-407.
- Storer, J. H. (1995). Increasing parent and community involvement in schools: The importance of educators' beliefs. *Community Education Journal*, 22, 16-20.
- Van Galen, J. (1988). Ideology, curriculum, and pedagogy in home education. *Educa*tion and Urban Society, 21, 52-68.
- Vygotsky, L. (1978). Mind in society. Cambridge, MA: Harvard University Press.
- Walker, J. M. T., & Hoover-Dempsey, K. V. (2006). Why research on parental involvement is important to classroom management. In C. M. Evertson & C. S. Weinstein. (Eds.), *Handbook of classroom management: Research, practice and contemporary issues* (pp. 665-684). Mahwah, NJ: Lawrence Erlbaum.
- Walker, J. M. T., Wilkins, A. S., Dallaire, J. P., Sandler, H. M., & Hoover-Dempsey, K. V. (2005). Parental involvement: Model revision through scale development. *Elementary School Journal*, 106, 85-104.
- Xu, J., & Corno, L. (1998). Case studies of families doing third grade homework. *Teachers College Record*, 100, 402-436.
- Zimmerman, B. J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology*, 80, 284-290.
- Zimmerman, B. J., & Martinez-Pons, M. P. (1990). Student differences in self-regulated learning: Relating grade, sex, and giftedness to self-efficacy and strategy use. *Journal of Educational Psychology*, 82, 51-59.

Bios

Christa L. Ice is a research assistant professor in the Department of Pediatrics at West Virginia University. She is a developmental and quantitative psychologist currently assisting the Coronary Artery Risk Detection in Appalachian Communities (CARDIAC) project with methodological issues and statistical analyses.

Kathleen V. Hoover-Dempsey is associate professor of psychology and human development at Vanderbilt University. Grounded in a theoretical model of the parental involvement process, her empirical and applied work focuses on refinements to the model and applications to increase schools' effectiveness in supporting parents' contributions to their students' learning.