Research on Family-School Partnerships
Series Editors: Susan M. Sheridan · Elizabeth Moorman Kim

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Elizabeth Moorman Kim
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Processes and Pathways of Family-School Partnerships Across Development

Springer

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Volume 2

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To our lifelong partners:
Steve, Erin and Keevan
Minsu, Mia and Ella

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Chapter 1
Cultural Processes and the Connections Among Home, School, and Community

Susan D. Holloway and Claire E. Kunesh

Most educators and policy makers seek to establish strong connections among parents, school personnel, and community organizations. Indeed, as the population of the United States becomes increasingly diverse, it is more important than ever to develop effective programs for fostering and supporting these connections. In this chapter, we use sociocultural theory as the basis for a discussion of future directions for research on family–school–community (FSC) partnerships. We first provide a roadmap to current thinking about culture as it is applied to family dynamics and children's schooling. We illustrate these concepts with examples from the literature on parental engagement and school outreach with respect to Chinese–American families. Along the way, we discuss some of the challenges to studying culture and the family–school connection and provide suggestions for future research on cultural processes and FSC partnerships.

Theoretical Perspectives on Culture, Schooling, and Family Life

The sociocultural approach to studying families in a cultural context is rooted in the work of anthropologists in the 1920s and 1930s, most notably Margaret Mead and Bronislaw Malinowski. This early work established an approach that is still common today, one in which family goals, beliefs, and practices are seen as responding to the family's physical and social ecologies. Important elements of family ecologies include conditions of parents' work, safety conditions, and resources afforded

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within the community, information and resources available through media sources, the division of household labor within the family, as well as community and general societal expectations regarding children's play, school work, and other tasks (Weisner, 2002). Viewed through a sociocultural lens, parents are agentic, self-reflective individuals who modify cultural models of childrearing that are salient in their communities (D'Andrade, 1992; Quinn & Holland, 1987; Shore, 1996). Parents adapt these models in light of the resources they and their children have access to and the daily challenges they experience. It is a common misconception that cultural approaches assume that all members of a group experience the context and associated cultural models in an identical manner. Instead, the sociocultural approach asserts that "Shared cultural practices … clearly can coexist with very different inner experiences of those practices and emotions" (Weisner, 2009, p. 182).

In the sociocultural framework, parents are seen as using the cultural tools at their disposal to attain their goals and to solve the problems presented by the ecological conditions of their lives. However, the dynamic process of parenting inevitably involves tradeoffs and can result in more or less successful solutions. For example, parents living in a dangerous neighborhood may insist that their children come home after school rather than attend an after-school program that would necessitate returning after dark. In other words, parents must evaluate the affordances of various settings and adapt cultural models to address opportunities and problems at hand, which may be incompatible with the priorities of school personnel. Therefore, it is likely that some parents will be less effective than others in supporting their children's schooling and achievement, although they may certainly be successful in other domains (García Coll & Pachter, 2002).

In the following statement, Weisner conveys the deep and comprehensive role of culture in the life of a child:

> Every cultural community provides developmental pathways for children within some ecological-cultural (ecocultural) context. Cultural pathways are made up of everyday routines of life, and routines are made up of cultural activities (bedtime, playing video games, homework, watching TV, cooking dinner, soccer practice, visiting grandma, babysitting for money) … "Activities include" values and goals, resources needed to make the activity happen, people in relationship, the tasks the activity is there to accomplish, emotions and feelings of those engaged in the activity, and a script defining the appropriate, normative way we expect to do that activity. Imagine cultural pathways themselves as consisting of cultural activities that we "step" into—engage in—and walk alongside throughout life (Weisner, 2002, p. 276).

In this definition, Weisner describes culture as connected to "ecological-cultural contexts" rather than to ethnic, racial, or national membership. His concept of culture assumes that members of a community have access to variable "pathways" rather than a single, monolithic way of living. He includes activities, values, and resources in his definition of culture rather than characterizing it solely in terms of beliefs. He conveys the agency of the individual in relationship with others rather than assuming that cultural norms are imposed unilaterally on community members. Finally, in his definition, cultural processes evolve and change over the lifetime of each individual rather than being transmitted intact from one generation to the next.

The sociocultural approach articulated by Weisner has far-reaching implications for the development of effective family–school–community partnerships. Most importantly, it suggests that school staff must be aware of salient cultural practices as well as the structural or ecological conditions that families face in their everyday lives. To illustrate the ways in which a sociocultural approach can inform the development of effective FSC partnerships, in the next section we provide a selective review of the literature on parenting and children's school achievement within Chinese–American families.

Understanding FSC Partnerships within Chinese–American Families

We begin with an overview of research on parental involvement within Chinese–American families. In this review, we use the terms "involvement" and "engagement" interchangeably to refer to the activities parents engage in home and school to support their children's academic achievement. In addition to summarizing research findings, we show how inquiry regarding parental involvement is strengthened when attention is paid to five important principles raised by sociocultural theorists: (a) awareness of the appropriate level of analysis for understanding cultural processes; (b) attention to the contemporary and historical contexts of cultural models about parenting; (c) consideration of intragroup-variability, and of stability as well as change in beliefs and practices; (d) awareness of parent involvement behaviors that diverge from those typically employed by white, middle-class, nonimmigrant parents; and (e) focus on the culturally specific meanings of involvement practices to parents and children. We then turn to the "other side" of the partnership—namely, educators' outreach efforts to connect with families who are Chinese–American. Lastly, we make recommendations for future research to illuminate the factors that can contribute to successful programs.

Selecting the Appropriate Level of Analysis

Most sociocultural theorists are loath to equate culture with a large structural unit such as nation, race, or ethnicity, as it is quite clear that there is diversity within one group of people originating from, for example, the same country (Gjerde, 2004). However, some argue that research using categories such as these can serve a heuristic purpose, capturing the blend of beliefs, practices, and structural features that together comprise a cultural community. Overall, we agree with Valsiner (2001), who argues that productive inquiry can occur at multiple levels, ranging from "microscopic (linked with discourse and conversation analyses), mesoscopic (culture as exemplified in 'beliefs'), and macroscopic (culture as analyzed through

generic social representations)" (pp. 22–23). The question becomes which level is appropriate for studying a particular phenomenon, as well as how we can conceptualize and study the links among levels.

With respect to studies of Asian heritage families, we argue that the omnibus category of *Asian American*—a term that encompasses at least 24 nations of origin—is not an effective lens for examining *cultural* differences (Hoeffel, Rastogi, Kim, & Shahid, 2012). However, by narrowing the focus to Chinese–Americans, researchers are somewhat more able to identify cultural practices related to schooling and family life, particularly if they are mindful of the variability associated with socioeconomic status, national origin or ancestry, language use, religion, the length of time since immigration, and reasons for immigration. We provide some discussion of these factors in the next section.

Attending to the Historical and Contemporary Context

To the extent that researchers and school personnel are familiar with the sociohistorical forces that have affected Chinese–American children, parents, and grandparents, they will better understand the cultural meanings of parental involvement. The beliefs and actions of contemporary Chinese–American parents have been shaped by the conditions that prompted immigration to the United States from the mid-1800s onward, including corrupt and repressive governments, popular rebellions, population pressures, and natural disasters (Zhou, 2009). Many Chinese immigrants who are today rearing their children in the United States directly experienced violence, deprivation, and the negative effects of educational reforms during the Cultural Revolution (Dryburgh, 2013). We can expect these experiences to affect the cultural meanings of education, involvement in schooling, and hardship. These personal and collective events have some impact whether they are experienced firsthand, filtered down from stories by members of a previous generation, or communicated through friends and family still living in China. The important point here is that the cultural models of this particular group—including their beliefs about education and strategies for supporting the achievement of their children—derive not just from ethnic membership per se, but from circumstances and experiences located in distinctive historical moments.

In addition to considering the context that prompted families to leave China, it is also important to understand the receiving context encountered by different waves of immigrants to the United States. Throughout much of the late-nineteenth and early-twentieth century, Chinese immigrants were met with suspicion and hostility when they arrived in the United States. Their numbers were eventually restricted by strict anti-immigration laws which pertained to all but the most highly qualified government officials and students, and called for the deportation of Chinese individuals already residing in the United States. In 1929, the national origins system set the annual quota for Chinese immigrants at only 100 individuals, compared to, for instance, nearly 66,000 for the United Kingdom (LeMay & Barkan, 1999).

Although the Chinese Exclusion Acts were repealed in 1943, a quota system continued to limit immigration primarily to highly educated members of the professions. Thus, researchers characterizing Chinese immigrant parents as holding high expectations for their children's achievement should not assume that these expectations are associated with being Chinese per se, but may be a response by a relatively elite class to a hostile environment.

In past decades, the number of rural and less educated immigrants has grown, but there is still a positive immigrant selection effect. Chinese immigrants are still more educated than those who do not migrate and they have overcome many barriers that necessarily required significant social and financial resources (Feliciano, 2005). Racial bias continues in the present time, although not as virulent as the racist treatment that Chinese immigrants received in the nineteenth and twentieth centuries. For instance, in many contemporary high schools where athletics and social skills are highly valued, Chinese–American students may be stereotyped as "nerds" and excluded from some school activities (Li, 2012). These current conditions shape the approaches Chinese–American students take to schooling. For instance, the tendency of Chinese–American students to remain relatively quiet in class should not be attributed necessarily to respect for the teacher's authority. Rather, researchers should consider alternative interpretations, such as the possibility that Chinese–American students may refrain from speaking up in class to avoid attracting negative peer attention.

In summary, it is clear that studies of parenting among immigrant groups should take account of the sociodemographic and economic context of the sending as well as receiving countries. Immigrants who have made it to the United States cannot be assumed to represent the sociodemographic or even cultural norms of their sending context. And the specific challenges and opportunities that they face in the receiving context will determine which cultural practices are needed to be successful and which are not. By considering the dynamic features of the contexts of immigration, research can move beyond oversimplified assertions about the cultural beliefs and practices of the "Chinese culture."

Consideration of Intragroup Variability and Change over Time

Within the sociocultural literature, it is customary to refer to community members' access to shared models of childrearing and education. But there is also a strong interest in how values, ideas, and practices are understood or misunderstood and then debated, altered, and sometimes rejected by the members of a particular group. This dynamic process of debate—along with changing structural conditions—results in change over time. In the literature on Chinese–American families, it is rather common to gloss over this heterogeneity and to attribute parent beliefs and actions to the influence of Confucianism, conceptualized in terms of a small number

of constructs like filial piety which are presumed to be understood and enacted in similar ways by all group members. In this section, we explore the ways in which Confucianism has been conceptualized by researchers interested in its effects on socialization practices of contemporary Chinese–American parents. We wish to indicate the need for research that examines variable interpretations of the effect of Confucianism on family dynamics.

Several aspects of Confucianism are commonly viewed as relevant to parental involvement in learning (Chua, 2002). We begin with the concept of *ren*, which refers to a lifelong striving to become a genuine, sincere, and humane person. Confucius characterized the process of becoming *ren* as one of self-perfecting, and he believed that human perfectibility could be sought by anyone (Ames & Rosemont, 1999; de Bary, 1991; Li, 2003). The process of becoming *ren* is thought to involve determination, diligence, perseverance, concentration, and humility, attributes that in turn affect one's academic success (Li, 2012). However, there are different interpretations as to how those energetic efforts should be directed. When explaining the nature of *ren*, some scholars have linked this process of self-betterment to engaging in sincere and productive interpersonal roles and relationships. Others assert that it is more accurately linked to intellectual development through study and learning rather than to cultivating human relations. This difference of opinion suggests that, at the very least, researchers should not assume that becoming *ren* is necessarily a driver of high academic achievement.

The role of parents has been characterized by such terms as *chiao shun*, referring to parents' duty to train or teach children expected behaviors (Chao, 1994), g*uan* referring to parents' positive efforts to care for and govern their children (Chao, 1994) and c*ha chiao*, referring to family education and the important role of parents as their children's teachers (Chen & Luster, 2010). In return for their parents' guidance, training, and nurturance, children are expected to be filial by genuinely respecting and honoring their parents (Rosemont & Ames, 2009). Here again, we note variability in scholars' characterization of an important Confucian construct. On one hand, some describe it as an absolute mandate that cannot be challenged, as in the following quotation from Zhou (2009): "[T]he child's filial responsibility is the debt owed to parents for a life time; a child is expected to suppress his or her own self-interest to satisfy parental needs whether these needs are appropriate and rational or not" (p. 194). However, others have argued that filial piety should not be understood as simple obedience or as being subjected to coercive control but rather should be situated within a harmonious, loving family environment and should bring enjoyment for children (Rosemont & Ames, 2009).

This apparent confusion about the implications of filial piety are in turn connected to unclear statements about the connection between Confucianism and parenting style in Chinese–American families. It is frequently asserted that Confucianism itself is conducive to a harsh and controlling style of parenting. For example, Zhou (2009) has claimed that Chinese fathers, in particular, "are not supposed to show too much affection to children, play with them, or treat them as equals. This image of stone-faced authority often inhibits children from questioning, much less challenging, their parents" (p. 194). However, others have argued

that Confucianism is in fact consistent with warm and supportive parenting (Kim, Wang, Orozco-Lapray, Shen, & Murtuza, 2013). Indeed, Kim and colleagues' longitudinal analysis of Chinese–American parent- and adolescent-reports found that fathers were much more likely to be supportive than strict, and were rarely harsh (Kim et al., 2013). Similarly, Huang (2014) has argued that contemporary Chinese mothers are far less harsh than they are portrayed in Chua's, 2011 book about "tiger mothers." These contradictory findings indicate a need for more careful study of the connection between Confucianism and parenting in this population.

Finally, we note that scholars of modern Chinese history strongly question whether Confucianism is *at all* influential in contemporary life: "The abolition of examinations in the Classics in 1905, the collapse of the empire a few years later, and the subsequent rejection of Confucianism as the state ideology made its study seem less useful as a conceptual tool for understanding contemporary Chinese politics, society, and ways of thinking. Also, the belief that the single most important key to another culture lay in the texts of its 'sacred books' began to be abandoned in the twentieth century …" (Wilkinson, 2012, p. 376). Given the skepticism evidenced by serious inquiry into the role of Confucianism in contemporary life, we suggest that researchers should not assume that Chinese–American parents are guided by Confucianism and the associated values regarding parent and child roles. A productive alternative is to actually assess parents' views with respect to these beliefs and values, as in studies by Costigan and Su (2008), as well as Fung and Lau (2009).

Parent Engagement in Conventionally Preferred Activities

Given that most Chinese–American students do well in school, it may seem surprising that Chinese–American parents do not engage in certain conventionally recognized forms of involvement as often as do parents in other ethnic groups. For instance, analyses of the 1988 to 2000 National Educational Longitudinal Study (NELS), a large and nationally representative data set, found that Chinese and other Asian American parents were less likely than European American parents to discuss school, help with homework, or participate in school events, although they were more likely to help their children prepare for standardized achievement tests, plan for college, limit their time in leisure activities and household chores, and provide home resources such as a computer (Mau, 1997; Pearce, 2006; Pearce & Lin, 2007; Peng & Wright, 1994; Sui-Chu & Willms, 1996). Furthermore, analyses by these authors suggest that parental engagement in discussions, homework help, and participation in school events were either unrelated or negatively related to achievement for Asian American students. Chao (2000) has suggested that Chinese–American parents become increasingly less "managerial" in their involvement as their children move out of elementary school, and are relatively more focused on placing their children in high-quality learning contexts within the conventional school system as well as in community and after-school programs.

Few studies have been conducted to understand how Chinese–American parents make decisions about how to allocate their time and resources in support of their children's education. Certainly, constraints such as lack of time, language barriers, and financial pressure may hamper their ability to attend conferences or participate in cultural or sports activities (Chua, 2002). In addition to these practical matters, parents who are focused on academic achievement may value students' extracurricular activities as an opportunity for fun, but not as something that requires parental involvement. Even parent–teacher conferences may be perceived as uninformative, especially if parents are aware of how their children are doing in a supplementary schooling program. Huntsinger and Jose (2009) suggest that some Chinese–American parents find grading rubrics used by many schools to be too vague, and instead express a preference for knowing their child's class ranking, which is rarely if ever provided in American schools. Clearly, this is a topic that deserves further study (see Yamamoto & Li, 2012 for an interesting study of families with preschool aged children). Furthermore, it is of interest to look at how parenting differs with respect to child gender, as there are preliminary indications that Chinese–American parents treat male and female children differently (Crockett, Veed, & Russell, 2010).

Culturally Specific Forms of Parental Engagement

Exploratory research suggests that Chinese–American parents may employ a number of strategies other than homework monitoring and participation at the school site that are likely to boost their children's school achievement. These parental actions draw upon the capital inherent in social relationships at the level of the community, the extended family, and the immediate family. For many Chinese–American parents, particularly those living in ethnic enclaves, their community may support children's school achievement in a number of ways. For example, many Chinese–American parents draw upon community capital by enrolling their children in supplementary classes (Zhou & Kim, 2006; Zhou, 2009). These local institutions provide formal instruction and also provide children with additional exposure to adults who presumably place a high value on education and traditional values (Zhou, 2009). Academic achievement is also emphasized in ethnically oriented media, as illustrated by Chinese language newspapers that report on the results of national, state, and local scholastic competitions (Zhou & Kim, 2006). Attending supplementary lessons also help Chinese–American children connect with peers whose families may share similar values about the importance of schooling.

Chinese–American parents may also help their children indirectly by activating their social capital. In their qualitative study, Li, Holloway, Bempechat, and Loh (2008) found that parental messages were supported and amplified by the parents of the students' friends, normalizing the expectations of Chinese parents for their children. These authors have noted that parents who had not themselves attended secondary school assisted their children by identifying other adults to monitor schoolwork, serve as role models, and generally reinforce the importance of

educational achievement. Chinese–American children are thus assisted through close ties to peers and immediate family, as well as via "weak" ties to higher status community members identified and recruited by parents.

Cultural Meanings of Parent Engagement Practices

The presence of very high expectations for stellar academic achievement is the strongest and most frequently replicated feature of cognitive socialization provided by Chinese–American parents. Even when socioeconomic status is controlled, Asian American parents expect that their children will attain higher levels of education than African American, European American, and Latino parents do (Yamamoto & Holloway, 2010). In general, researchers have found a strong positive association between high parental expectations and children's achievement in white families, even when controlling for prior achievement levels; however, the evidence regarding Asian American families is contradictory (Yamamoto & Holloway, 2010), prompting some researchers to argue that high expectations constitute a form of psychological control that is harmful to children's self-esteem, family relationships, and intrinsic interest in learning.

Within the literature on parenting, the construct of psychological control is defined as behavior that manipulates children's emotions, such as saying things to make them worry or feel isolated, alternately showing affection and hostility or criticism, or making affection contingent on performance (Barber, 1996; Silk, Morris, Kanaya, & Steinberg, 2003). There is some evidence that Chinese–American parents are more likely to use psychological control than are European American parents, although the evidentiary base is far from convincing or complete. For example, Qin and her colleagues' qualitative study characterizes Chinese–American parents as expressing love and acceptance of the child contingent on high achievement (Qin, Way, & Mukherjee, 2008). Chinese–American parents have also been reported to use the practice of shaming, strong emotional appeals, lengthy verbal reprimands, nagging, and lecturing (Chen, Miller, Fung, & Boldt, 2012; Fung, 1999; Miller & Fung, 2012).

Research conducted to date has failed to establish whether or not Chinese–American parents' use of psychological control has the same damaging effects on their children as it does among European American families. Some studies emphasize that certain techniques accomplish the cultural goal of motivating high academic achievement without discernable negative effects on the children. For example, Chua (2002) found that Chinese–American children, who were raised to experience a sense of filial piety, responded to parent narratives about their own hardships with a sense of thankfulness to their parents for sacrificing their own quality of life. In contrast, other research suggests that the association between parent psychological control and student psychological outcomes is similar in both groups. For instance, in a longitudinal study of Chinese–American adolescents and parents, less parental psychological control (i.e., presence of warmth and reasoning; absence

of hostility, control, shaming, and punitive behaviors; and relatively more democratic practices) was associated with fewer depressive symptoms, less alienation from parents, and a stronger sense of family obligation (Kim et al., 2013). Similarly, another study of Chinese–American families found that mothers' reported attempts to limit their children's autonomy was related to adolescents' self-reported symptoms of depression and mild psychological distress (Lim, Yeh, Liang, Lau, & McCabe, 2008).

In the future, researchers may be able to resolve some of these contradictory findings by paying closer attention to the structural differences already discussed, particularly the length of time family members have resided in the United States and the conditions under which they arrived. Parental pressure to achieve may be interpreted as relatively benign by children of immigrants because they are aware of the hardships their parents endured. In contrast, second- or third-generation Chinese–American students may attribute psychological control to lack of caring on the part of their parents, to the detriment of their self-perceptions and motivation to achieve.

Measurement issues may also contribute to the contradictory findings concerning psychological control. Studies that rely on brief surveys normed on European American families are unlikely to uncover the nuanced meanings that a behavior holds for parents and children. For example, although the act of shaming a child may seem harsh and even hostile, it is possible that it serves primarily as a device for arousing the child's emotions so that they pay close attention to a crucial socialization message (Quinn, 2005). There is a particularly pressing need to validate measures of parental control, parental support, and autonomy with large samples of Chinese–Americans and to construct new measures that include culturally relevant items. Researchers might also investigate alternative methods, such as directly observing parent–child interactions, because standard cross-cultural comparisons may mask true differences (Heine, Lehman, Peng, & Greenholtz, 2002). At the very least, measurement equivalency should be investigated and low reliability coefficients should not be ignored.

Other caveats to blanket assertions about the effects of psychological control can be noted. For instance, research should more carefully examine the extent to which psychological control is applied in all domains, or primarily in the domain of learning and academics (Wang & Chang, 2010). It is also important to identify parents' intentions for engaging in particular behaviors. A Chinese–American parent who overtly compares her child to a higher-achieving peer may intend to provide a concrete example of an attainable standard, not to humiliate or hurt that child (Chao, 1994; Li et al., 2008). At some point, children are able to discern when controlling behavior is a function of concern and care, or is rooted in hostility or rejection, and it would be of great interest to explore how these perceptions develop in children from diverse cultural backgrounds.

At the same time, it is important for studies to look holistically at children's well-being to document the costs as well as the benefits to individual students of parental practices (Louie, 2004). For instance, if Chinese–American children are more inclined than children from other cultural groups to criticize themselves when they do not do well, they may work hard to improve their performance, but consequently

may be put at risk for anxiety and depression. Parental controlling behaviors should also be examined in the context of other actions, as well as the context in which parents are making choices about how to treat their children. For example, Miller and Fung (2012) found that Chinese–American parents tended to mix strong criticism with playful language and nonverbal expressions of affection toward their young children.

School Outreach to Chinese–American Parents

Very little has been written about school partnerships with Chinese–American families. Presumably, the relatively high achievement of these students makes it less likely that they or their parents will be targeted for specific programs or interventions. However, this assumption is based on a stereotypical view of Chinese students and does not consider intragroup variability on academic outcomes (Louie, 2004), nor does it examine the relative difficulty that many Chinese–American children have with verbal expression when they attend schools where they are in the minority (Li, 2012). In addition to the tendency to overlook the academic needs of lower achieving Chinese–American students, few studies have examined how school outreach to parents can ameliorate some of the internalizing problems that have been found among a disproportionate number of Chinese–American students.

In contrast to the lack of school outreach programs targeting the Chinese–American community, a number of well-documented approaches have been developed for other ethnic/racial groups. This work can help point to future directions for work with Chinese–American families. One type of program builds on the work of Moll and González, which advocates building on the "funds of knowledge" that adults in a community have accrued over the course of their daily lives (e.g., González, Moll, & Amanti, 2005). Within this approach, school staff members make a focused effort to learn as much as possible about the everyday activities and specialized knowledge of families in the school district. Often, this objective is accomplished by scheduling teacher visits to the home or encouraging teachers to attend community-based events. We would argue that future work should examine the potential of the funds of knowledge approach to strengthen FSC partnerships with Chinese–American families. It might be particularly important to explore how to minimize teachers' anxiety about conducting home visits, as well as the fears of family members, who may feel as if they are being judged by the school (Edwards & Alldred, 2000).

A second approach to forming partnerships with parents from underrepresented or nondominant groups is exemplified in the work of Bryk and colleagues (Bryk & Schneider, 2002; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010). They were able to improve the Chicago Public School (CPS) system's partnerships with Latino and African American parents by inviting them to participate as volunteer aides in the classroom. Over time, even parents who were initially hesitant to enter the school building or interact with teachers found that they were able to make a

significant contribution by tutoring children and otherwise assisting with academic tasks. Some parents extended this involvement to include more broad-based community advocacy. At this point, they often felt empowered to make more assertive demands or more pointed critiques of problematic features of the institutions in their community. Unlike the funds of knowledge approach (González et al., 2005), the strategies utilized in the CPS study focused less on identifying and building on indigenous cultural models and everyday practices, and more on trying to build parents' self-confidence about their ability to contribute to children's intellectual development. It is difficult to know whether this approach would be successful for Chinese immigrant parents due to possible language barriers and lack of availability during school hours.

A third approach is to find ways for schools to act as brokers in the formation of peer networks among parents. Several recent studies suggest that when low-income or low-SES parents have formed a more extensive network among the families in their children's class, not only do their own children benefit socially and academically but there is also a positive effect on the school community as a whole (Park & Holloway, in press). To the extent that many Chinese–American parents are already accustomed to drawing upon friends and family members as role models for their children, it may be effective for schools to deepen this practice and expand it to a wider network of families. However, it is crucial to conduct research to better understand Chinese–American parents' perceptions of American schools and their interactions with teachers to inform the development of FSC partnerships for these families.

Conclusions

We have argued that researchers interested in studying FSC partnerships in a cultural context should adopt a theoretical framework that permits these relationships to be studied in a nuanced and informative manner. As Valsiner (2001) has noted, "Culture is not an 'independent' (or 'dependent') 'variable', but a label that denotes a systemic organization of the semiotic and historical nature of human psychological processes in their wide range of manifestations" (p. 10). Culture offers individuals a number of pathways that lead to certain experiences and offers a way to interpret those experiences and activities. Moreover, the existence of multiple pathways suggests variability within and across individuals as collective representations of childrearing are agentically communicated, contested, and adapted by each parent. These processes necessarily result in change over time and across situations; as cultural communities change in response to events and resources, then available pathways will change accordingly. Research based on these key sociocultural tenets is well positioned to inform successful programs linking families, schools, and communities.

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Chapter 2
Achievement Mediators of Family Engagement in Children's Education: A Family–School–Community Systems Model

Eric Dearing, Erin Sibley, and Hoa Nha Nguyen

Fundamental to questions of cause and effect in the study of human development are questions of mediating mechanisms. If A causes B, then by what intervening mechanisms, processes, or chain of events does A do so? From an applied standpoint, best practice for designing and evaluating interventions requires a precise theory of change, detailing the hypothesized chain of factors linking intervention inputs to intended outcomes.

In this chapter, we propose a systems model of the mechanisms by which family–school–community connections and mutual engagement in children's learning can promote achievement. Building from domain-general theories of child growth in context, we integrate and extend existing theories of how family engagement in learning affects children's achievement and review the state of empirical work on this topic. Our goal is twofold: to help focus intervention efforts on mechanisms for which there is robust evidence and to help focus empirical work on testable hypotheses that further clarify the means by which partnerships between families, schools, and communities have positive consequences for children's achievement. In doing so, we pay special attention to the increasing diversity of families and learners in the United States, and the ways in which culture, language, and sociohistorical background are relevant for understanding how engagement in education affects children.

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A Family–School–Community Systems Model of Family Engagement in Children's Learning and Child Outcomes: Returning to the Roots of Ecological Systems Theory

Conceptual and empirical models of family engagement in education are rooted in ecological systems theory (Bronfenbrenner & Morris, 1998) and its emphasis on the importance of enduring interactions within settings that are most proximal to children (e.g., home and school). Indeed, models of family engagement in education have drawn heavily from Bronfenbrenner's concept of mesosystems, which emphasize the ways "systems of microsystems" are indirectly relevant to child growth in so far as various settings that directly contain the child influence one another (e.g., mutually influential relationships between parents and teachers). In turn, models of family engagement have been guided by transactional theories, calling attention to the child as an active agent influencing proximal settings and to the reciprocal cycle of influences between developmental contexts and children (Magnusson & Stattin, 1998; Sameroff, 2009).

Within these systems frameworks, theory specific to family engagement in education has also been informed by Bandura's social learning theory (Bandura, 1994), Vygotsky's sociocultural theory of learning (Vygotsky, 1978), and other models of cognitive self-regulation (e.g., Grolnick, Ryan, & Deci, 1991). Combined, these systems and self-regulatory perspectives in the family engagement literature highlight a chain of mechanisms flowing from distal interpersonal processes to proximal intrapersonal processes (Christenson & Sheridan, 2001; Epstein, 2001; Grolnick et al., 1991; Hill & Taylor, 2004; Hoover-Dempsey et al., 2005; Pomerantz, Moorman, & Litwack, 2007). The state of family engagement theory and research, however, is perhaps weakest in the domain Bronfenbrenner (1977) referred to as "… the final and most challenging requirement for a research model for investigating the ecology of human development: Namely, environmental structures, and the processes taking place within and between them, must be viewed as interdependent and must be analyzed in systems terms" (p. 518).

One obstacle to progress on studying family engagement from a systems perspective is methodological. Modeling transactional processes, for example, is far more difficult than assuming unidirectional relations. Yet, it is also true that researchers have not been able to rely on one unifying theoretical model; existing models emphasize overlapping, but also distinct elements. And, models have tended to implicitly favor—in terms of attention in literature reviews, for example—either mechanisms proximal to child achievement (e.g., the direct roles of parents in promoting learning skills and attitudes) or more distal systems (e.g., the indirect role of parent–teacher relationships). Fewer models integrate the proximal and distal system elements. There has also been a lack of theoretical attention given to the role of communities, notable exceptions notwithstanding (Epstein, Sheldon, and colleagues have been leaders in this regard, e.g., Epstein, 2001; Sheldon, 2003). Thus, less theoretical (and empirical) attention has been given to the system of systems, as a whole. In light of this, we hope that one value of the present chapter is that by

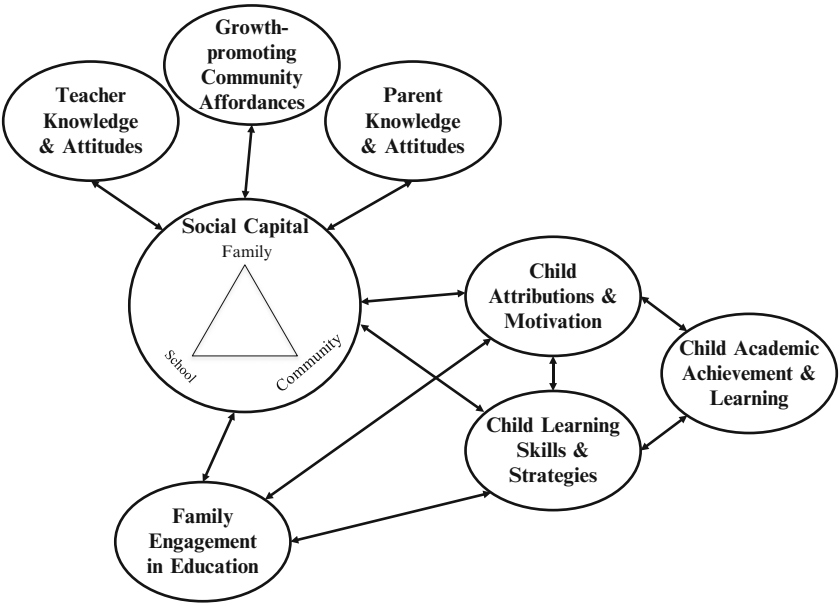

Fig. 2.1 A Family-school-community systems model of family engagement

bridging multiple models we can help better specify the system of systems that link family engagement in learning with child achievement.

In Fig. 2.1, we display an overview of our family–school–community systems model of family engagement. Three overarching features of the model are noteworthy. First, there are three primary mediators linking family engagement in children's learning with achievement; moving from more distal to more proximal mediators. These are: (a) social capital systems (such as families, communities, and teachers and schools), (b) children's attributions and motivations, and (c) children's learning skills and strategies. Second, it is worth noting that each of the these three primary mediators are interconnected with one another, and all of the arrows are double-headed; in a reciprocal fashion, all of the constructs have the potential to influence all other elements of the system, directly and/or indirectly, in a bidirectional fashion. Third, within each of the primary mediator domains, secondary pathways of mediation occur; in and of itself, for example, social capital represents a complex system of direct and indirect reciprocal relations between families, schools, and communities; and, within the child, some intrapsychic processes are more proximally related to achievement than others.

Implicit in our model is a definition of family engagement in children's learning that emphasizes the investments families make into their children's education, but also the fact that family–school–community connections require relationship investments from all agents in the system. Our placement of families as primary is purposeful. It is a sociopolitical reality in the United States that parents (and legal guardians) are given primary responsibility and control over the well-being of their

children. Yet, our discussion of schools and communities as "partners" and "collaborators" is also purposeful: family empowerment to act on behalf of children's educational interests is not determined by legal rights, alone. Indeed, also implicit in our model is the fact that communities and schools determine, in large part, the extent to which families have awareness of opportunities, access to resources, and the abilities to take advantage of these resources and opportunities for their children.

In addition, while investments into children's learning can occur in many domains, including material resources, we are primarily concerned in this chapter with the psychosocial investments of time and energy that occur in the context of family–school–community connections. For brevity, we have omitted antecedents to involvement as well as many larger systems in which family educational engagement is embedded, including sociocultural and physical elements of the settings that contain communities, schools, and families (e.g., state education law, urban versus rural schools, and health of the economy). We cannot adequately address all of these factors in the present chapter, but some may determine the strength (and, in some cases, direction) of effects for the mediators we detail (i.e., interaction effects are likely the rule rather than the exception in ecological research; Bronfenbrenner, 1977). With this in mind, and as a case in point, we give brief attention to one moderating force for which there is a good theoretical rationale to consider but little empirical work, namely the increasingly diverse population in the United States.

Family–School–Community Engagement in Education: Social Capital

Among social scientists there is now a general agreement that beyond financial resources, persons can accrue social and cultural assets that contribute to their adaptation and ability to thrive, and these assets can be (and often are) invested across generations as parents socialize their children (for a review, see Perna & Titus, 2005). In his classic work, Coleman (1988; also see Bourdieu, 1986) explained that social capital exists in, and is developed through, relationships among people in so far as these relationships consist of: (1) social obligations and expectations, (2) information channels, and (3) shared social norms. Moreover, social capital can give individuals and families access to financial and cultural capital (e.g., House, Umberson, & Landis, 1988). Ultimately, social capital assets are hypothesized to: (1) foster cohesion and trust among individuals who are nested together within settings; (2) provide opportunities for increased cumulative knowledge; and (3) offer shared monitoring of one another's well-being (and the well-being of children in the community). These shared knowledge and support assets are considered particularly relevant for promoting thriving within the shared settings in which the capital accrues.

Social capital has, in fact, been proposed as one primary mechanism linking family engagement in children's education to achievement (Epstein & Sheldon, 2006; Hill & Taylor, 2004; McNeal, 1999; Portes, 2000; Sheldon, 2002). When families, schools, and communities collaborate, these social connections are hypothesized to build the capacities of each of the players to stimulate and support children's learning. However, others have also demonstrated that to the extent that social networks are norm-reinforcing, they could operate to promote *or undermine* achievement, depending on the exact nature of the shared norms (Morgan & Sørensen, 1999). Moreover, there is much debate in the social sciences around how social capital should be conceptualized; as some have noted (e.g., Bankston & Zhou, 2002), one obstacle to studying social capital is that it is a process of interactions and (unlike financial capital, for example) is difficult to locate as being held by any of the particular players within the network of relationships. This point notwithstanding, the family educational engagement literature has emphasized the social capital that families and schools may gain through their engagement and, in particular, teachers and schools as providers of that capital. Somewhat less theoretical attention has been given to what communities provide and gain through family–school–community connections (for noteworthy exceptions, see Epstein, 2001; Sheldon, Simons, Sanders, & Salinas, 2008). Moreover, although empirical support for the achievement benefits of community involvement has grown fast, questions of mechanisms remain largely inside a "black box" with little evidence, to date, on precisely how community engagement with families and schools affects children.

Social capital and the family: When parents (and caregivers, more generally) spend time in their child's school and communicate with their child's teacher (and other school staff, e.g., school counselor), there are many opportunities for building social capital relevant to child performance and behavior in school; indeed, most theories on family engagement in education point toward parent involvement in education as a source of knowledge sharing between parents and teachers. Volunteering in the classroom, for example, provides parents opportunities to directly observe their child as a learner outside of the home, including opportunities to make social comparisons between their child's learning levels/styles and those of other same-age children. These direct observations and social comparisons can provide information about their child's strengths and limitations as a learner. In addition, involvement and communication with teachers allows an avenue of feedback from school to home providing: (a) the school's perspective on the child's learning progress; (b) opportunities for teachers to share their knowledge on child development, more generally, and specific instructions on how to best help their child academically at home; (c) support and encouragement of parents' educational involvement efforts; and (d) information on extracurricular activities operating outside of the classroom. Moreover, involvement at school and parent–teacher communication provides parents knowledge on the school's expectations for student conduct and achievement, and parent-to-parent information sharing is facilitated.

In turn, it is hypothesized that this social capital indirectly benefits child achievement through several mechanisms, including: improved parent motivation to be involved and attitude towards involvement, improved parenting skills, a more

precise evaluation of child learning level—their zone of proximal development, in Vygotsky's theory—to which parents can align their scaffolding and support of learning, and a greater continuity between home and school environments that compliment and mutually reinforce skill growth. Thus, empirically, the effects of social capital gained by the family may be operationalized in a two-step chain by which family–school connections are expected to impact parent knowledge and attitudes, and, in turn, impact educational involvement behaviors (in and out of the home) with consequences for child achievement. Much of this has been left to speculation, however, given that very little empirical work has tested these social capital mechanisms.

A noteworthy exception has been the experimental evaluation of Getting Ready, an intervention aimed at increasing the quantity and improving the quality of parent educational engagement during early childhood (Sheridan, Knoche, Edwards, Bovaird, & Kupzyk, 2010). The intervention employs a family–school decision-making model that brings parents and early childhood teachers together to identify and analyze children's strengths and weaknesses, and collaboratively develop plans of action for promoting achievement and well-being. Comparing videotaped parent–child interactions of Early Head Start families who had been randomly assigned to treatment or control conditions, parents in the treatment group demonstrated higher levels of learning support and more developmentally appropriate support for learning as well as greater sensitivity and greater support for child autonomy (Knoche et al., 2012).

In addition, Sheldon (2002) has demonstrated that parents with larger networks of relationships with other school parents are more likely to be involved in school, holding other family background factors constant. And, in qualitative analyses of family–school connections, Lareau and colleagues (Lareau, 1987; Lareau & Shumar, 1996) found that parents who are highly involved at school tend to develop strong connections with other parents through which they actively engage in information sharing about the school; these authors also note that highly involved parents receive specific requests from teachers to help their children with learning at home. Yet, there remains much room for improving the cumulative knowledge with descriptive and inferential studies of naturalistic interactions between families and schools; specifically, much more empirical work is needed to determine whether engagement builds social capital for families, whether and when this capital positively affects parenting, and whether and when positive consequences are relayed to children.

Social capital and the school: Theorists have argued that when schools collaborate with families, both parties benefit from the capital sharing process (e.g., Hill & Taylor, 2004). Hill and Taylor (2004), for example, have noted the potential for parents to share their expectations of their children as well as their general beliefs and attitudes toward education with teachers. Once shared, such information opens up opportunities for families and teachers to provide consistency in expectations and learning approaches across home and classroom contexts (Woolley, Kol, & Bowen, 2009). In short, classroom learning strategies that compliment home learning strategies (or compensate, in the case of deprivation or disadvantage) are most

likely to occur if and when teachers understand what is, in fact, occurring in the home. In addition, positive parent–teacher relationships may increase the probability of positive child–teacher relationships through spillover effects, whereby emotional closeness and warmth in parent–teacher relationships may bolster teachers' abilities to be warm, supportive, and responsive in child–teacher relationships (Cox, Paley, & Harter, 2001; Katz & Gottman, 1996; Margolin, Oliver, & Medina, 2001). Spillover into child–teacher relationships may also occur if family engagement communicates to teachers that families are invested in their children's academic success and, thereby, promotes teachers' positive attitudes toward children.

It is clear that positive child–teacher relationships are associated with high academic motivation and high levels of academic skills (Furrer & Skinner, 2003; Maldonado-Carreño & Votruba-Drzal, 2011). And, consistent with the hypothesis that family engagement may affect child–teacher relationships, there is evidence that increases in parent involvement in school-based activities (e.g., volunteering) during elementary school can predict improvements in teacher–child relationships in an ethnically diverse low-income sample (Dearing, Kreider, & Weiss, 2008). In turn, improved teacher–child relationships predict improvements in children's attitudes toward school (Dearing et al., 2008). Furthermore, in a sample of Latino middle school students, when parents often discussed school-related topics with their children, youth were likely to perceive their teachers as highly supportive in the classroom and, in turn, teacher support was directly related to high achievement (Woolley et al., 2009). In our review of the literature, however, we found no direct examination of teachers gaining *knowledge* about families' educational expectations, beliefs, or practices via social capital processes initiated by family–school collaborations, despite the central role of such information sharing in most theories on family–school connections as social capital. The extent to which teachers make use of information flowing from home to school remains largely unknown. Further, whether or not this information flow does, indeed, benefit children's achievement is understudied.

Yet, some evidence of the value of teachers gaining knowledge through family–school collaborations has been provided by work on Conjoint Behavioral Consultation (CBC). The CBC intervention uses partnerships between parents, teachers, and a school consultant (such as a school psychologist) to promote children's socioemotional outcomes through a well-defined and co-constructed plan, including defined methods of measuring the child's progress over time. Parents collaborate in helping to identify: behaviors that need improvement, factors that may contribute to the child's behavior issues, and strategies for reaching desired child outcomes (Sheridan, Ryoo, Garbacz, Kunz, & Chumney, 2013). A randomized trial of CBC involving 207 elementary school children across 21 schools found positive intervention effects for improved home–school communication and lower levels of child defiance and tantrums (Sheridan et al., 2013). A separate study with the same sample (Sheridan et al., 2012) also found that teachers in the CBC condition had significantly improved relationships with parents. Although not directly studying teacher knowledge of parenting beliefs and practices, this line of work is consistent with the hypothesis that an important mechanism of

involvement is parents and teachers sharing ideas on how home and school practices can complement one another.

Social capital and the community: It is clear that children growing up in more socially- and economically-advantaged neighborhoods demonstrate higher achievement than children growing up in more disadvantaged neighborhoods (Leventhal & Brooks-Gunn, 2000). Beyond family and school effects, the level and quality of institutional resources that support and stimulate children as well as norms around achievement and education are argued to be of primary importance for understanding community consequences for child development. Critical assets for children's learning and life chances include community agencies (e.g., high-quality afterschool programs) and businesses (e.g., local companies that donate goods to schools and families) that support child growth as well as neighbors collectively taking on the task of ensuring the well-being of children (Leventhal & Brooks-Gunn, 2000).

Whereas most literature on engagement in children's learning has focused on family–school connections, a few scholars have persistently made the case that communities are a third critical partner (Sanders, Sheldon, & Epstein, 2005, also see Walsh & DePaul, 2008). In short, community agencies and businesses can be critical providers of social capital to families' and schools' efforts to promote child achievement. Community partners can provide academic supports including tutoring and supplies to school (e.g., Sanders, 2001). In fact, a meta-analysis of 21 randomized field trials of community volunteer reading tutors in schools found positive effects for elementary school students' letter and word recognition, oral fluency, and writing (e.g., Ritter, Barnett, Denny, & Albin, 2009). Moreover, community support may be essential for helping families and schools address the myriad nonacademic barriers to learning in contexts of poverty (Dearing, 2014).

To understand the special value of social capital built through communities partnering with families and schools in poverty, it is worth considering the multipronged risk that poverty poses for child achievement, permeating academic and nonacademic domains. In the home, poverty constrains families' abilities to provide resources that promote learning (e.g., books, age-appropriate toys, and housing conditions that are conducive to learning such as adequate lighting, space, and low noise levels). Outside the home, schools with high concentrations of children in poverty are exceptionally likely to have teacher shortages and high teacher turnover rates. In addition, poor youth are less likely than other children to engage in organized out-of-school activities such as clubs, music lessons, and sports, even when access and cost obstacles are removed. Furthermore, children growing up poor generally face many stressors that have harmful consequences for their neurobiological stress systems (e.g., the hypothalamic–pituitary–adrenocortical system), including more volatile and less predictable family environments in terms of living circumstances (e.g., changes in family income, parent employment, and family structure, and less consistent parenting practices).

Empirical evidence is building on the achievement benefits of community involvement in high-poverty schools and effective models for building family–school–community partnerships. In one model program, *City Connects*, school

counseling or social work professionals are placed in high-poverty elementary schools to: (a) evaluate every child and family's unique strengths and needs, in collaboration with teachers and other school professionals; (b) create a support plan that is tailored to align with these strengths and needs; and (c) carry out the support plan through school–community agency partnerships that are initiated, evaluated, and nurtured by the support professional (Walsh et al., 2014). In a quasi-experimental evaluation, there was evidence of positive consequences for children's cognitive and behavioral self-regulation (e.g., teacher ratings of effort, work habits, and classroom behavior) and lasting achievement gains in literacy and mathematics through middle school and into high school (Walsh et al., 2014).

In a sample of 82 elementary schools (in a range of socioeconomic conditions) participating in the National Network of Partnership Schools (NNPS), schools that engaged in high levels of outreach to families and community members had significantly higher percentages of third grade students scoring "satisfactory" or above in reading, writing, math, science, and social studies on the Maryland state achievement test (Sheldon, 2003). In this program, qualitative evidence has emerged on the benefits of these collaborations for the community organizations as well, underscoring multidirectional implications of social capital built through collaborations. For example, schools in Canton, Ohio participating in NNPS created a partnership through which local medical center volunteers came to the school to provide health information and lead scientific demonstrations. In return, students provided the medical centers with artwork for their hallways, engaged in community service at the hospital, and performed musical concerts at hospital events (Epstein & Clark Salinas, 2004).

From an empirical standpoint, however, mechanisms accounting for the benefits of community engagement in children's education remain largely hidden. It is not clear, for example, whether some community services are more efficacious than others for promoting achievement, although family–school–community engagement researchers should turn to the literature on after-school programs and out-of-school activities to guide this work (e.g., Larson, 2000). Moreover, with regard to processes most proximal to child well-being, it is unclear whether and when community organizations might be transmitting benefit directly to children (e.g., when tutoring improves learning skills and strategies) versus indirectly (e.g., reduced family stress, improved family material well-being, improved teacher time on task, or less behavioral disruptions in the classroom), or both directly and indirectly in synergistic forms. The potential complexity is underscored by considering the various paths that can be traced from community affordances in Fig. 2.1 to child achievement; direct links to skills and strategies may occur, but so might paths from community to family knowledge and attitudes to family engagement and so on, for example. Digging into this "black box" will be critical—from efficacy and efficiency perspectives—for informing intervention and practice recommendations to best capitalize on family–school–community connections.

Family–School–Community Engagement in Education: Achievement-Related Attributions and Motivation

Achievement-related attributions and achievement motivation are critical factors underlying individual differences in children's initiative and persistence in learning. For example, high academic self-efficacy, incremental beliefs about ability, and an intrinsic motivation to learn (or an integrated regulation of extrinsic motivations) help promote achievement. That is, achievement is bolstered when: children have confidence in their ability to succeed when faced with learning challenges, they believe that effort and persistence are key to mastering learning challenges, and their motivation stems internally from positive beliefs and attitudes about learning or through identifying with their parents' (or others') learning values (Bandura, 1986; Dweck, 2002; Elliott & Dweck, 1988, 2005; Grolnick et al., 1991; Ryan & Deci, 2000; Wigfield & Eccles, 2000). To the extent that family and community engagement with schools can promote these attributions and motivational perspectives within children, they are likely to promote achievement.

Indeed, there is considerable evidence that parents' involvement in their children's education—at home and at school—predicts more positive achievement-related attributions and higher achievement motivation, explaining in part the association between involvement and child achievement (e.g., Baker, Scher, & Mackler, 1997; Fan & Williams, 2010; Gonzales-Pienda et al., 2002; Grolnick & Slowiaczek, 1994; Hong & Ho, 2005; You & Nguyen, 2011; Marchant, Paulson, & Rothlisberg, 2001; McWayne, Hampton, Fantuzzo, Cohen, & Sekino, 2004; Toren, 2013; Villiger, Wandeler, & Niggli, 2014; Vukovic, Roberts, & Green Wright, 2013). In early childhood, for example, a home environment enriched with learning materials and positive messages about education is associated with high achievement motivation, perhaps even more strongly than with achievement, per se (McWayne et al., 2004). And, the important role of motivation as a mediator of family–school connections appears strong through adolescence.

In a field experiment, sixth and ninth grade students' completion of homework and learning participation in class increased when teachers were randomly assigned to increase communication with parents and, importantly, the primary mechanisms appeared to be increased parent engagement in schooling followed by increased child achievement motivation (Kraft & Dougherty, 2013). Consistent with this experimental evidence, in a nationally representative sample of eighth graders followed longitudinally for three years, parents' communication with teachers positively predicted students' having higher educational aspirations, which in turn positively predicted higher achievement at eighth grade and greater improvements in achievement over the course of the study (Hong & Ho, 2005).

Within the larger context of parents' socialization efforts, parent involvement in children's education may benefit children's motivation in part because it is an important tool for promoting children's internalization of parental values (Marchant et al., 2001). Cheung and Pomerantz (2012) have argued that parent involvement in education may be critical for initiating "parent-oriented motivation" for achievement,

whereby children are motivated to succeed in school to please their parents and, in turn, begin to self-regulate as they identify with their parents' values. Consistent with this hypothesis, across four waves of analysis in early adolescence, these authors found that parent involvement in school (e.g., helping with homework, communicating with teachers) predicted later parent-oriented motivation which, in turn, predicted later child-regulated motivation for learning and, ultimately, later achievement. Yet, the work of Pomerantz and her colleagues, and others (e.g., Fan & Williams, 2010; Ginsburg & Bronstein, 1993), has also highlighted the importance of how families are involved for determining consequences for children's achievement motivation.

In their review and extension of theory, Pomerantz et al. (2007) argue that four aspects of how parents are involved are particularly important to determining the consequences of involvement for children's learning attributions and motivations (and have received particularly robust support in the literature): autonomy support vs. control, a process vs. person focus, positive vs. negative affect, and positive vs. negative beliefs about children's potential. To the extent that developmentally appropriate autonomy support encourages children to take initiative and personal responsibility for their learning, it provides opportunities for children to recognize their control over learning outcomes, take responsibility for those outcomes, and develop perceptions of self as efficacious. With regard to process vs. person focus, children are more likely to adopt learning attributions that are emblematic of incremental beliefs about ability when parents emphasize the roles of motivation, effort, and persistence than when they emphasize achievement being the result of children's innate abilities. Finally, when parents are involved in emotionally positive ways and when they communicate positive beliefs about children's learning potential, children are likely to have positive attitudes toward learning and themselves as learners, identify positively with their parents' achievement values, and meet learning challenges with effort.

Overwhelmingly, the literature supporting the roles of these four factors has been focused on parent–child interactions in the laboratory or at home during joint problem solving tasks (e.g., help with homework), and in a separate literature the value of these factors for teacher–child interactions in the classroom (e.g., Klem & Connell, 2004; McKown & Weinstein, 2008; Pianta, La Paro, Payne, Cox, & Bradley, 2002; Reeve, Jang, Carrell, Jeon, & Barch, 2004). Few studies have been conducted on this topic from a systems perspective, however. A few notable exceptions come from self-report work with adolescents; for example, high school students' reports of autonomy support from both parents and teachers were uniquely (and additively) positively predictive of achievement being motivated by perceptions of the value and worth of school, and both were negatively associated with external forms of achievement motivation such as rewards for high achievement (Chirkov & Ryan, 2003; also see, Soenens & Vansteenkiste, 2005). Similarly, during middle childhood children's reports of both parent and teacher high expectations are predictive of school achievement (Gill & Reynolds, 1999).

More empirical work on children's achievement attributions and motivation is needed from a systems perspective. We are unaware, for example, of any empirical

work on Pomerantz's four factors in the context of collaborative actions when parents and teachers are working together (e.g., while parents are volunteering in the classroom). We also know little about whether and how community engagement might support academic self-efficacy and/or intrinsic motivations to learn, despite a theoretical literature underscoring community organizations as valuable resources for helping promote child initiative (e.g., Larson, 2000). Moreover, there is considerable room to build the cumulative knowledge on the consequences of consistency and inconsistency across microsystems with regard to autonomy support, process orientations towards learning, positive affect, and positive beliefs about children's potential. And, it is clear that more of this systems-oriented work is needed during early childhood and using triangulation measurement strategies (e.g., parent, teacher, and observer reports).

Family–School–Community Engagement in Education: Learning Skills and Strategies

There is considerable evidence that families play a central role in the development of children's learning strategies and skills, influencing problem-solving approaches, study skills, domain-specific and domain-general knowledge, and metacognitive skills (for a review, see Dearing & Tang, 2010). Parent–child talk, for example, is critical to young children's developing literacy skills. In addition to quantity of talk in the home (e.g., Hart & Risley, 1995), many studies detail the ways that quality of parent speech affects developing literacy skills in infancy and early childhood, including evidence that: (a) vocabulary development is more rapid among children that hear a broad range of words and more sophisticated words compared with children who are exposed to a more restricted range and simpler words (for a review, see Hoff, 2006); (b) children's understanding and proficient use of complex sentences is supported by parents use of multiclause sentences in their speech (Huttenlocher, Vasilyeva, Cymerman, & Levine, 2002); (c) children's metacognitive skills are promoted by parents discussing mental states and engaging in perspective shifting during conversations (Lohmann & Tomasello, 2003; Rudek & Haden, 2005); and (d) children's use of memory strategies and their later recall abilities are positively predicted by parents elaborating while reminiscing about past events (for a review, see Fivush, Haden, & Reese, 2006).

Although much less research has been conducted on parent engagement in early math learning compared with engagement in early literacy, the existing evidence supports the hypothesis that parent engagement can also directly affect math skills and strategies. In early childhood, parent–child joint engagement in play that is math-oriented (e.g., playing number-oriented board games such as *Chutes and Ladders*) promotes children's learning of size, number, and simple arithmetic (addition/subtraction), and children learn strategies such as counting on their fingers and how to use memory retrieval for basic arithmetic facts from their parents (Anderson

et al., 2005; Bjorklund, Hubertz, & Reubens, 2004; Carr, Jessup, & Fuller, 1999; Dearing et al., 2012). Moreover, parents may be teaching or modeling metacognitive strategies for math problems (e.g., considering the utility and accuracy of a particular strategy when deciding how to solve an arithmetic problem); young children who perceive their parents as valuing metacognitive strategies are more likely than other children to apply them (Carr et al., 1999).

More generally, parents report efforts to teach learning skills and strategies for achievement across childhood and adolescence (Bradley & Corwyn, 2004; Hoover-Dempsey et al., 2001). In one large, ethnically- and economically diverse sample of families, over 90 % of parents reported either usually or always taking responsibility for teaching their toddlers new skills and through middle childhood more than 75 % of parents reporting that they (or someone else in the home) taught their children numbers, the alphabet, colors, shapes, and sizes (Bradley, Corwyn, McAdoo, & Coll, 2001). Once in school, helping with homework also becomes a typical avenue for family engagement in education that is focused on teaching and instruction; indeed, approximately 85 % of parents report that they help with their children's homework assignments at least 1 or 2 days a week (Snyder, Dillow, & Hoffman, 2008).

In their meta-analytic review of associations between help with homework and child achievement, Patall, Cooper, and Robinson (2008) report on two distinct sets of research questions within the field. The first has been concerned with documenting the average associations between parent help with homework, as it occurs naturalistically, and child achievement. Across these studies, there are, on average, positive associations in most subject areas (other than math) during elementary school and high school, but negative associations during middle school. Part of the inconsistency in results may reflect variations in "how" parents are involved. Following this logic, the second set of studies used randomized or quasi-experimental evaluations of parent-training programs for help with homework, giving specific instructions to parents on how they can and should be involved in homework. In these studies help with homework consistently demonstrated positive effects on children's academic skills, across subject areas. In one of the studies reviewed, for example, Van Voorhis (2003) examined an intervention designed to give parents specific instructions on ways to be involved in science homework. The intervention improved children's accuracy on homework and, in turn, their performance in science classes (for similar results with math, see Balli, 1995).

In short, it is apparent that parent help with homework can provide an opportunity for promoting children's learning skills and strategies, but "how" parents help with homework matters. Consistent with this, high levels of parental emotional support positively predicts adolescents' use of cognitive strategies that connect homework and classroom work (e.g., trying to remember what the teacher said in class to correctly complete homework) and more advanced metacognitive strategy use; in turn, these strategies predict a higher likelihood of seeking help in the classroom when struggling in math and lower likelihood of cheating in math (Bong, 2008).

It is worth noting, however, some evidence that learning skills may differentially mediate parent involvement effects on achievement as a function of child ethnicity.

Hill and Craft (2003) found that for reading performance, academic skills such as the ability to stay on task and demonstrate initiative were critical mediators linking parents' value of education and achievement for both African American and European American children. Yet, for math, results varied by ethnicity. Specifically, for African American children a chain of mediation was evident linking parent involvement at school with academic skills and, in turn, with math achievement. For European American children, however, parental involvement in the home was most strongly associated with math, primarily because it bolstered children's emotion regulation and social competence. Although we have focused in this chapter primarily on academic skills, children's social skills have also been proposed as a mechanism helping explain how parental educational involvement influences academic achievement via parent–teacher coordinated regulation of child behavior and, in turn, the value of prosocial skills for learning in the classroom (e.g., McWayne et al., 2004). Even so, the variations documented by Hill and Craft suggest a larger issue at hand. Namely, their research highlights the potential moderating effects of sociocultural factors for chains of mediation connecting family–school–community involvement in education and child achievement.

Beyond parents directly benefiting children's learning skills and strategies, teachers' abilities to promote children's learning directly through instruction might also be influenced by family and community engagement if the social capital gained through engagement includes important information about children as learners. There is, in fact, a considerable literature on the implications of individual differences in children as learners (e.g., intellectual ability, prior knowledge, personality, and self-regulatory capacities) and the implications of these differences for instruction (for a review, see Jonassen & Grabowski, 2011). Thus, to the extent that parents and teachers as well as community members (e.g., tutors, mentors) and teachers communicate about children as learners, teachers have opportunities to fine-tune instruction according to child strengths and weaknesses. With regard to community tutors and mentors, it is also clear that their involvement has potentially direct positive consequences for children's learning skills and strategies.

A variety of community programs and agencies that provide academic support to children have demonstrated positive consequences. In addition to experimental evidence of community volunteer reading tutor programs (e.g., Ritter et al., 2009), there is considerable evidence that high-quality early childcare and education programs can promote school readiness skills (e.g., Heckman, 2006; Magnuson & Waldfogel, 2005; Ramey & Ramey, 2004). In addition, there is increasing evidence that children attending high-quality after-school programs that work to promote academic competence demonstrate gains in academic skills compared with children in informal after-school arrangements (Mahoney, Lord, & Carryl, 2005). It is also the case, however, that use of high-quality child care, preschool, and after-school programs varies considerably across advantaged and disadvantaged families (e.g., Dearing et al., 2009; Loeb, Fuller, Kagan, Carrol, 2004). And, these differences appear to persist even when access and cost obstacles are addressed (e.g., Dynarski et al., 2004). Moreover, there is variation in the extent to which community programs operate in collaboration with schools or not (Greenberg, 2004). In other words,

although model intervention programs are being evaluated (e.g., Walsh et al., 2014), questions remain about how to get families, schools, and community agencies engaged with one another and whether such collaborations might directly benefit children's academic skills or other mediating mechanisms that, ultimately, promote long-term achievement.

Children of Immigrants and the Study of Family–School–Community Relationships: Moderated Mediation?

With children 8 and under being the most diverse portion of the US population, schools are (and will continue to be) a context at the forefront of these families' acculturation and integration experiences (Hernandez, Takanishi, & Martotz, 2009). For family–school–community relationships this raises potential challenges surrounding the alignment, or lack thereof, for orientations toward education.

Immigrant families bring to the United States many cultural and social assets. Children of immigrants are more likely to live in two parent families, for example, and employment rates are high even for parents in poor immigrant families (Hernandez & Cervantes, 2011). Moreover, immigrant families place exceptional value on education, and have high aspirations for their children's life chances relative to the families of US-born children (Ji & Koblinsky, 2009; Sibley & Dearing, 2014). Yet, immigrant families are also nearly twice as likely to be poor as nonimmigrant families and about 30 % of children of immigrants have parents without a high school degree, more than twice the rate in the population at large (Hernandez et al., 2009). And although most children of immigrants are fluent English speakers, nearly 60 % have at least one parent with limited English proficiency (Capps et al., 2004). In turn, children of immigrants are, on average, at greater risk to underachieve than children from nonimmigrant families, with considerable heterogeneity across newcomer children notwithstanding (Fry, 2007; Lahaie, 2006, 2008).

The risk of underachievement in part may be related to unique barriers that immigrant families have in forming connections with schools. Beyond socioeconomic and linguistic obstacles, immigrant parents can indicate a lack of confidence in interacting with teachers and with their children around academic content they do not understand (Bohon, McPherson, & Atiles, 2005). Immigrant parents may also be exceptionally unlikely to be aware of school norms (e.g., advocating for your child by speaking with teachers is normative; Bermúdez & Márquez, 1996; Ramirez, 2003). Although a full accounting of the dominant culture within US schools is beyond the scope of the present chapter, it is worth making explicit that there is, indeed, a sociocultural history that has shaped schools (e.g., a lasting influence of European immigrants such as Puritans who emphasized parents as having primary responsibility for educating their children rather than collectivistic values of present-day immigrants that place a greater emphasis on shared responsibility and the authority of teachers in education).

Schools in the United States have, by and large, emphasized the English language and European–American culture (deMause, 1974; Hill & Torres, 2010; Rong & Preissle, 2009). The relevance of this for the study of family–school–community mediators and the achievement of children in immigrant families is evident when juxtaposed alongside contemporary ecological theory emphasizing phenomenological perspectives (Spencer, 2006). Specifically, Spencer (2006) has argued that "meaning making"—perceptions of self, perceptions of the cultural context, and perceptions of the self-in-relation to cultural context—is a core process in child adaptation and thriving during person–context interactions. Importantly, Spencer argues that meaning making is most critical for "how" questions in child development—questions of mediating mechanisms such as "how do family–school–community connections affect child achievement and growth?" In addition, Spencer argues that this theoretical perspective is particularly critical for understanding cultural, ethnic, and racial variations in "how" person–context interactions unfold and affect child growth (also see Coll et al., 1996).

Thus, we speculate here that the future of empirical work on mediators of family–school–community systems will be largely dependent on giving increasing attention to potential cultural variations in the activation and/or strength of connection within the chains of mediation outlined in this chapter. For some components of the family–school–community system, universal processes may, in fact, be at work in promoting achievement across immigrant and US-born families (e.g., despite cultural variations along the individualism–collectivism spectrum, there is evidence supporting the cross-cultural value of autonomy support, particularly for adolescents (Chirkoff, Ryan, Kim, & Kaplan, 2003). Yet, there is reason to suspect that moderators are altering the direction and strength of many family–school–community mechanisms as well.

With regard to the formation of social capital, for example, teachers may not listen and respond to parents of color in the same manner they do with White parents (Lareau & Horvat; 1999); that is, social capital may not accrue equally across all family–school–community connections or play an equal role in child achievement whether accrued or not. More generally, due to a complex interaction of home and school culture, premigration history, language, and child development (to name a few), there are markedly different ways that adolescents and their immigrant families engage in school, schools engage with immigrant families, and immigrant children and families engage with one another about school (Suárez-Orozco, Suárez-Orozco, & Todorova, 2008). And, in some of our own empirical work, we have documented variations in the strength of associations between family–school connections and child achievement as a function of factors such as family immigrant background and teachers' bilingual skills. For example, while school involvement has considerably larger positive associations with US-born White children's math and reading achievement than the children of immigrants, parents' educational expectations has uniquely strong associations with some children of immigrants' achievement (Sibley & Dearing, 2014) and teachers bilingual skills (e.g., positive associations between parent–school involvement and the literacy achievement of children in Spanish-speaking homes appear strongest when teachers are fluent in

Spanish and English; Tang, Dearing, & Weiss, 2012). Even so, our cumulative knowledge on moderated mediation for mechanisms linking family–school–community systems and child achievement is relatively shallow.

Conclusion

Questions of mediating mechanisms are fundamental to the study of family engagement in children's education. From a scientific standpoint, the principal question is: by what processes is family engagement related to children's achievement? From an applied standpoint, the answer to this question can help precisely target the design and evaluation of interventions; for example, the answer can help direct attention toward processes that are most strongly and/or most directly connected to improved achievement outcomes. In this chapter, we build on existing theoretical models and empirical studies to propose a family–school–community systems model of mediating mechanisms between family engagement in children's education and child achievement. Our aim is to help guide investigators toward testable hypotheses that are informed by an ecological systems perspective, with special attention to the additive and interactive consequences of social capital built between families, schools, and communities; children's achievement attributions and motivations; and children's learning skills and strategies. There is growing evidence on how each of these mediators acts in isolation. Yet, the field still largely struggles to build empirical models that more fully capture the system of mechanisms. Through specifying the system components, this chapter is focused on providing researchers a foundation for advance in that area.

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Chapter 3
Family–School Relationships During Adolescence: Clarifying Goals, Broadening Conceptualizations, and Deepening Impact

Nancy E. Hill

As all of the chapters in this volume can attest, students fare better academically, socially, and psychologically when families and schools work together and families are involved in their children's education. Parents, almost universally, want their children to grow up to be healthy and to reach their potential. They have hopes and dreams for who their children will become. Almost invariably in industrialized and knowledge-based societies, achieving these hopes and dreams requires formal education and, thereby, co-locating the achievement of broad goals of children's development within families *and* schools. Ideally, families and schools share the same goals, have similar assessments of children's potential, and agree on the most effective means to develop children's potential. Practically, however, families and schools often disagree or do not trust that similar or shared viewpoints exist. Further, families sometimes find that they must advocate and work against an unwelcoming system to secure opportunities for their children. Disagreements, lack of trust, and pressing need to advocate are disproportionately experienced by ethnic minority families, especially African Americans and Latinos (Hill, 2011; Hill & Torres, 2010).

In elementary school, the mechanisms for communication and building trust, understanding, and partnerships are clearer and schools are more welcoming than in secondary schools. In elementary schools, there is a single teacher who teaches a small number of students for the entire day, who has a holistic perspective of each student's social and academic adjustment. In addition, students desire their parents' presence in the school. However, for middle and high schools, the larger and more diverse student body and more complex administrative structure make it harder for

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parents and teachers to get to know one another, understand one another, and work together. Middle and high school students express that they do not want their parents to come to school (Hornby & Lafaele, 2011). Further, in contexts where it is difficult for people to become known individually, such as large middle and high schools, judgments are more likely made based upon stereotypes and biases (Benaji & Greenwald, 2013; Tajfel, 1981). African Americans and Latinos are more likely to experience negative bias (Tenenbaum & Ruck, 2007), making the transition to middle school riskier for ethnic minority students and harder to navigate for their parents. Indeed, the data support this conclusion. Declines in school engagement and achievement across the transition from elementary to middle school are steeper for African American and Latino youth, compared to Euro-American youth (Wang & Eccles, 2012).

Because of the differences in school context and students' developmental needs, the most effective means for maintaining productive family engagement varies across developmental stages (Hill & Chao, 2009). Because much of the extant research on family–school relationships and parental involvement in education has centered on elementary schools, the literature is richer in its understanding of the types of parental involvement strategies that work and the mechanisms that facilitate productive engagement across families and schools. This focus upon elementary schools as models for understanding family–school engagement and parental involvement in education may be partly because it is easier to do this type of research in elementary schools. It is easier to recruit parents in elementary schools. When parents are asked about relationships with teachers there is only one to consider, and the bureaucratic structure of elementary schools is easier to manage. Because our knowledge of the elementary school years is better established, the current chapter focuses predominantly on adolescence and secondary schools.

This chapter begins by describing the developmental assets and challenges of adolescence that potentially change how parent engagement in education and family–school relationships function. This is followed by a careful consideration of the markers of success or outcomes of parental engagement and family–school relationships. Whereas most programs and policies assume that success will be gauged by improvements in academic achievement, it is argued that for adolescents a broader array of outcomes should be considered. Next, the conceptualization of parental involvement is considered as it might better reflect the developmental needs of adolescents, changes in parent–adolescent relationships, and secondary school contexts. As communication is essential to productive and effective parental engagement in education during adolescence, theories and research on communication is reviewed as it may inform further research and policies in this area. Information is fundamental to supporting youth as they achieve. Finally, we consider how schools might organize their needs and expectations for family engagement in education in ways that maximize the needs of families and schools.

Understanding Adolescents: What They Bring to Their Education and What They Need

Adolescents' emerging social, cognitive, and identity development bring challenges and opportunities to parental involvement in education. Developmentally, adolescents are better able to think abstractly, reason from their experiences, and consider multiple perspectives (Keating, 2004). Therefore, they are better able to take ownership of and responsibility for their schoolwork and their long-term goals (Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001; Seiffge-Krenke, Kiuru, & Nurmi, 2002) and integrate their goals into their identities (Oyserman, Bybee, & Kathy, 2006; Savitz-Romer & Bouffard, 2012).

Identity development is especially salient for adolescents' academic achievement and for parents' and schools' joint roles in supporting academic adjustment. It is the hallmark of adolescence (Erikson, 1968). Adolescents are figuring out who they are and who they want to become, while at the same time schools and families are attempting to prepare them for these adult roles and experiences. Identity development entails a combination of exploration and commitment over time and emerges from dynamic interactions between the self and social contexts (e.g., school, family, peer) (Koepke & Denissen, 2012; McLean & Mansfield, 2012). Broadly speaking, adolescents select into contexts that either match their understanding of their identity or reflect identities that they wish to cultivate. Reciprocally, feedback from these contexts encourages, discourages, and shapes students' understanding of themselves. Identity is "rooted in emotion, emerging in relationships, developing as dynamic, self-organizing system" (Bosma & Kunnen, 2001, p. 5).

Cyclically, adolescents broadly explore and try on identities within relational and community contexts. As they are accepted within contexts and positively self-evaluate these facets of identity, their exploration declines, commitment increases, and identity is shaped and integrated (Luycks, Goossens, Soenens, & Beyers, 2006). As identity commitments are continually evaluated, commitment to less "fitting" identities declines and exploration increases. Whereas school peer contexts have been studied as they relate to friend and peer influence and emerging identity (Berger, 2008), we know much less about how students engage and explore coursework in ways that permit integration into identity. Students have varying levels of a priori interest in course content; inspiring teachers can generate interest, but how teachers and parents can work together to encourage exploration and help students see themselves in their courses is essential to developing a sense of academic identity and increase their perceptions of belonging to school. That said, parents and school personnel cannot do this *for* students; students must be actively engaged in this process for themselves. Schwartz, Cote, and Arnett (2005) found that following a logical pattern of exploration and making the most of their opportunities in a guided way results in a more integrated identity in young adulthood. Rather than adolescents doing this in isolation, "identity agents" co-construct and co-author adolescents' identity by interpreting, mediating, and at times selecting societal influences (Schachter & Ventura, 2008). It is plausible that teachers and other school

personnel are also both explicit and implicit "co-authors" in the development of students' identity. What is less clear is how families and school can work together and with (as well as for) adolescents in improving academic engagement, academic goal setting, and achievement.

Essential to the development of identity, as reflected in part as commitment to interests and expressions of self and to academic adjustment more generally, are adolescents' emerging cognitive and decision-making skills. Adolescence is marked by significant advances in abstract reasoning skills, the ability to learn from experiences and consider multiple perspectives in problem solving (Keating, 2004). In addition, adolescents are better able to anticipate the consequences of their actions and decisions, apply lessons from prior successes and mistakes for future pursuits, and coordinate the pursuit of multiple goals (Byrnes, Miller, & Reynolds, 1999; Halpern-Felsher & Cauffman, 2001). However, cognitive maturity, including the ability to make logical decisions and avoid distraction in decision-making, develops faster than does psychosocial maturity, including controlling impulsivity and sensation seeking (Steinberg et al., 2008). This means that, while youth are able to make sound and logical decisions, they are more easily distracted from good decision making when there are competing rewards and emotional cues are high. Such cognitive advances make it possible for adolescents to become actively involved in their education in ways that they could not during childhood. However, they cannot do it independently. They need scaffolding. They can make good decisions when the decision is not emotionally charged, when they have had practice making such decisions, when those who they admire affirm their decisions, and when an immediate reward is not offset by a consequence well into the future (i.e., skipping a fun event now in order to study to get into a good college later). Parents and school personnel can scaffold decision-making and provide supportive contexts for good decision-making and opportunities to practice good decision-making.

Adolescents are well-positioned to make informed decisions about course selection and understand how courses and extracurricular activities benefit or undermine their current and future goals. This means that adolescents can become more active and engaged as participants in their education and achievement. Further, failing to include adolescents in meaningful ways in their education and as part of the family–school interactions may serve to undermine their engagement and achievement and decrease the likelihood that education and academic goals are integrated into their identity. Indeed, perceived boredom in school and perceived lack of relevance of the curriculum are the primary reasons for diminished engagement and school dropout (Bridgeland, Dilulio, & Morrison, 2006). Engaging youth in developing goals, aspirations, and plans to achieve them increases their investment in school and in their goals (Oyserman et al., 2006). Whereas some frameworks of family–school engagement indicate the importance of including students, few articulate how they should be involved in ways that increase their commitment to and engagement in school. A central research need is to identify ways to both partner with, scaffold, and include youth in planning their school curriculum and deriving meaning and purpose from it in ways that affirm and deepen their identity and broadly impact outcomes. We know that they should be "at the table" but it is less clear what they should be doing and saying while at the table.

Broadening Outcomes of Interest, Especially in Adolescence

Explicitly and implicitly, the focal outcome for family–school engagement and parental engagement in education activities is academic achievement including grades and test scores. During the elementary school years, such a focus makes sense in that adjustment to schooling, expected school behaviors, and learning to learn are central. However, academic outcomes, such as grades, test scores, and attendance, are only part of the competencies needed to succeed after high school. Equally or perhaps more important are characteristics such as internalized goals, motivation, work ethic, self-regulation, efficacy, and academic self-concept (Chao & Hill, 2009). For stable identity development and post-high-school success, "agentic capacities" are needed to help youth develop and commit to developing meaningful goals and authentic identity. These include self-esteem, sense of purpose, internal locus of control, and ego strength (Schwartz et al., 2005). Judging the success of parental involvement and family–school engagement programs during adolescence solely by their associations with academic outcomes misses the primary impact of family engagement and its developmental significance for adolescents.

Whereas research demonstrates a relation between parental engagement and achievement during adolescence (Hill & Tyson, 2009; Jeynes, 2012), often research demonstrates the indirect effect through adolescents' skills, sense of self, and engagement. For example, parental involvement in seventh grade was found to be related to achievement and aspirations in high school through its effect on behavior problems (Hill et al., 2004). Similarly, parental engagement improved school engagement, which in turn was associated with achievement among diverse high school students (Steinberg, Lamborn, Dornbusch, & Darling, 1992). Likewise, students' aspirations and three types of school engagement mediated the relations between parenting and college enrollment (Hill & Wang, 2015). Characteristics such as these, along with a sense of self, motivation and others have been collectively referred to as "proximal outcomes" (Hoover-Dempsey, Ice, & Whitaker, 2009).

Proximal outcomes have not been consistently considered when evaluating the effectiveness of family–school engagement practices and policies. Whereas they are important across elementary and secondary school levels, they increase in significance during adolescence as students are becoming more autonomous and independent in their schoolwork and preparing for post-high-school. There is a strong need from a policy standpoint to have these proximal outcomes centrally valued in developing, evaluating, and implementing family–school engagement programs and policies. From a research standpoint, we need to better understand how to integrate family engagement strategies and family–school relationship policies with broader parenting practices during adolescence that support cognitive, social, and identity development, along with academic adjustment. This integration requires researchers and policy makers to revisit conceptualizations of parental engagement in education and family–school relationships.

Reconceptualizing Parental Engagement for Adolescence

Many definitions have been proffered for parental engagement in education and family–school relationships including discussions between parents and children about school or parental help with school work (Gordon & Cui, 2012) and a commitment of family resources to support academic development (Pomerantz, Moorman, & Litwack, 2007). It has been defined as the types of activities parents engage in and resources parents bring to support achievement and academic development; interactions between families and schools including involvement in PTAs and school-based volunteer work; and communications between home and school, such as parent–teacher conferences and exchanges of notes and emails (Epstein, 1996; Hill et al., 2004; Pomerantz et al., 2007). Support has been found for multidimensional frameworks including the six types described by Epstein, which includes emphases on general parenting, involvement at home, involvement at school, and involvement in governance (Epstein, 1987; Epstein & Sanders, 2002) and behavioral, personal, and cognitive involvement described by Grolnick and Slowiaczek (1994). Attempting to capture a broader set of outcomes, it has been defined as "parents' work with schools and with their children to benefit their children's educational outcomes and future success" (Hill et al., 2004, p. 1491), with an increased emphasis on the skills associated with future success. Academic achievement alone is not the end goal for parents, but rather what academic achievement can provide in terms of opportunities.

Goals for parental engagement: In theory, research, and practice, existing operational definitions have often been adopted, without carefully considering how parental engagement in education and family–school engagement might be different for secondary school. Often because policies for family–school engagement are required and ubiquitous in the educational landscape, one forgets to begin with an articulation of the goals of family–school engagement. Constructing a developmentally appropriate operational definition often begins with an understanding of these goals. Defining one's goal for parental engagement, explicitly, is essential, as this process helps focus strategies and measure success. One central goal for family–school engagement is to engage parents in effective, meaningful, and purposeful ways that enhance their adolescents' academic development through their schools. How might this be operationalized in the lives of families and schools? This was one of the central questions addressed in a series of focus groups with ethnically diverse middle school students, their parents, and teachers (i.e., 20 focus groups with Latinos, Euro-Americans, and African Americans; Hill et al., in press).

When asked their goals for maintaining parental involvement in education during adolescence, Latino parents described their main goals for involvement were largely to improve academic outcomes. For example, they want to ensure that their children were in advanced classes so that they will learn. Euro-Americans describe their main goals "setting their kids up for success." They talked about working "behind the scenes" so that their children were scaffolded to make good decisions and have successful experiences. They also described relational goals. They wanted

to know what was happening at school to facilitate conversations with their youth at home. African American parents spoke with greater determination and focus when describing their goals. Among their goals, they were determined that their child would be successful, and staying involved was the only way to ensure it. They wanted to ensure that their children are behaving and understand the consequences of their schoolwork and to help their children focus. Also as goals, African American parents remained involved to encourage their youths' self-confidence, to affirm that their youth are on the right track. Finally, African American parents discussed "monitoring teachers" as a goal for involvement. Their goals are relational and purposeful in directing their children's success. They did not describe developing relationships with teachers or partnerships. The goals were transactional with schools, helping their children get what they need. When asked what they need from their youths' middle school, they had many ideas.

When asked, *parents* want information at a time when their youth stop sharing everything. They want to be understood by school personnel and teachers, for their children to be known and valued, and their children's teachers to see their talents and give them the benefit of the doubt when they make mistakes. They want knowledge about how to support their children, especially in the middle and high school years, how to navigate this system, and who to contact to meet their various needs and to answer their questions. *Teachers* want parents to make sure their students do their homework, behave well, and attend school ready to learn. Teachers want parents to help them do their job by making sure their child is focused and pays attention. Teachers want parents to respect them as professionals and to follow the rules about appropriate boundaries between home and school. By this, teachers mean they want parents to set appointments and not come in unannounced. They want parents to understand that their child is not the only child they teach. They want to have relationships with parents but find it difficult given time constraints. Most want their first interactions with parents to be a positive experience, but they find that this does not always happen. Teachers want to teach their material. They want parents to help their children be ready to learn course material by making sure they have the needed supplies, complete their homework, and come to school. *Adolescents* said that they understand that parents and teachers should communicate with one another and that doing so is in their best interests. They want their parents to be interested in the things that interest them. They want their parents' advice about their goals for the future and to help them stay on track. They do not want their parents to show up at school, help with homework, or go through their book bags. But, they want their parents involved in ways that help them plan and stay on track for the future.

Rather than building relationships with schools, as they did in elementary school to assist the transition from home to school, parents' focus seems to be in helping their youth make the transition from home and school to independence and into the world. Whereas there are overlapping aspects of the goals and desires from parents, teachers, and youth, additional research is needed to integrate these perspectives into an operational definition that is relevant for the secondary school context, actively involves youth and their development needs and assets, and accounts for the

ways in which parents must advocate for their students (often against teachers and school personnel) and partner with teachers and other school personnel.

Strategies parents report using: Parental engagement in education during adolescence takes place within the context of the parent–adolescent relationship to a greater extent than it did during elementary school. Both parents and teachers indicate that parental involvement strategies outside of school are more important than school-based strategies (DePlanty, Coulter-Kern, & Duchane, 2007). Even as adolescents pull away from their parents in pursuit of autonomy and independence, they still view parents as their primary source of information for occupational and educational goals (Helwig, 2008). Although they do not want their parents to interfere with their peer context (i.e., the school), they do want their parents' involvement in establishing educational goals and planning for the future (Hill et al., in press). The most effective family–school engagement practices during adolescence build bridges among students, academic work, and parents. Based upon our focus groups, the essential and central role for the school is communicating with parents and youth about implicit and explicit expectations, outcomes associated with track placements, and opportunities so that youth can make good decisions and achieve their goals.

Further, parental engagement in education must be integrated into parents' ongoing parenting practices. However, during the transition from childhood to adolescence, the parent–child relationship and parenting practices change and are being renegotiated. Parents provide less direct supervision, increase monitoring, and provide increasing opportunities for autonomy. This happens in the context of increasing demands for independence and autonomy from youth (Collins & Laursen, 2004; Smetana, 2000; Smetana, Campione-Barr, & Daddis, 2004). These changes and renegotiations are not automatic; they occur as parents believe their youth are ready and see the environment as safe for greater autonomy. Indeed, parents exercise greater control when they believe that there are greater risks to their youths' development (Gurland & Grolnick, 2005). The transition to a new and more complex school context makes natural developmental changes in parenting and parent–adolescent relationships more challenging because parents are unfamiliar with the school environment, the teachers, and peer groups.

In addition to providing greater autonomy and independence, parents begin thinking more concretely about the future, including college, jobs, and other post-high-school plans when their children become adolescents (Hill & Wang, 2015). Although the focus on the future is consistent with most middle school curricula, given that enrollment in math and science courses often places youth on a track that will prepare them for college (or not), many parents are uninformed about the trajectories associated with track placements and are unable to effectively advocate for or plan with their youth (Bridgeland, DiIulio, Streeter, Mason, & Civic, 2008; Ratelle, Larose, Guay, & Senecal, 2005; Trusty & Harris, 1999) and they desire to know more (Lareau & Horvat, 1999). Further, in developing aspirations for college among youth, college educated parents' involvement was found to be significantly related to school behavior and achievement, which, in turn, was associated with aspirations in 11th grade; whereas it was not significant for parents without a college degree (Hill et al., 2004).

Relatedly, in comparing different types of parental engagement in relation to achievement, academic socialization (i.e., planning for post-high-school, communicating the value of education, linking schoolwork to interests), was more strongly related to achievement than school-based or home-based involvement (Hill & Tyson, 2009). A central research question is identifying ways in which parents can effectively engage in academic socialization. As a first step, our research team used qualitative methods to identify strategies that families of adolescents use to support their youths' academic achievement (Hill et al., in press). Three types of strategies were identified that are related to achievement and fit adolescents' needs: Linking education to future success, scaffolding independence, and communication.

Linking education to future success includes strategies parents use to place youth on a trajectory that leads to reaching occupational, educational, and financial goals; to teach them about the importance and utility of education; and to expose them to examples of the consequences of school success and failure for later life opportunities. Helping youth see how their education and what they are learning in school can facilitate their own goals, match their interests, or have relevance in the "real world" is well-matched to their developmental needs. Youth increase their engagement in school when they are motivated by their own goals and aspirations (Bandura, 1991; Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Hill & Wang, 2015). *Scaffolding independence around schoolwork* includes strategies for parents use to help youth learn to take responsibility for schoolwork and develop solutions to problems on their own, including creating opportunities for structured autonomy and space, while also providing appropriate boundaries and helping youth to understand the consequences of their actions. Like linking education to future success, scaffolding independence around schoolwork capitalizes on youths' emerging cognitive skills. Adolescents have the ability to make sound decisions, learn from their mistakes, and take responsibility for their school performance and goals (Byrnes et al., 1999; Fan, Williams, & Wolters, 2012). However, youth need opportunities and support to practice good decision-making (Reyna & Farley, 2008; Steinberg, 2005). By allowing students to attempt to solve problems on their own and creating contexts that support effective decision making, youth can become more active participants in their education—not just doing schoolwork, but owning and planning their educational trajectories.

These types of parental engagement are each centrally located within the family context and more precisely within the parent–adolescent relationship. The role for the school in family–school relationships and parental involvement was defined fundamentally in its role in *communication*. Parents reported that teachers no longer communicate proactively about supporting youth who are doing well, communication happens more often in the context of problems. Youths' problems create a sense of urgency to figure out the complex middle school context and find someone to talk with who will listen and has solutions.

In buffering the transition from middle to high school, it was communication between schools and between families and schools that mattered most (Crosnoe, 2009). Communication in extant frameworks of parental involvement in education and family–school relationships tend to focus on parent–teacher conferences,

PTA meetings, class e-bulletin boards, and communications around problems. However, most principals can attest that only a small fraction of parents attend these conferences and meetings and teachers rarely use class websites and e-bulletin boards to their fullest potential (Bouffard, 2009). Further, the effectiveness of *linking education to future success* and *scaffolding independence around schoolwork* is dependent on parents having accurate information from schools. However, achieving this remains elusive. From a research standpoint, developmental science, sociology of education, and education research should integrate theory and research about communication networks and identify effective ways to utilize them within a school context.

Communication as essential to family–school engagement is not new. But, in middle and high school there needs to be increased emphasis and innovation in the ways that families and schools exchange needed information. Communication and relationships between families and schools and between middle and high schools buffer the transition between middle and high school (Crosnoe, 2009). Despite understanding its importance, the usual mechanisms for communication have been largely unsuccessful across demographic backgrounds. As examples, schools continue to emphasize face-to-face parent–teacher conferences and curriculum nights that are held on one or two nights each grading period or once each year as a chief mechanism for building relationships and exchanging information. Only a very small proportion of parents are able to attend these meetings due to competing demands of work, caring for other children, or other obligations. Those who can and do attend tend to be parents who are well-resourced and feel most connected to the school. The teachers in our focus groups described a desire to have a conversation with and to get to know each parent. But because of the number of students they have in their classes, they find it nearly impossible to reach out to all parents. E-bulletin boards and class websites are underutilized by teachers and many parents do not enroll to gain access to these websites. Emails are deemed convenient, but teachers vary in their ability to respond in a timely way and parents vary in their access and comfort. Further, teachers find that email exchanges are unsatisfactory for sensitive topics because they lack emotion. Given the central importance of communication among families, schools, and students, research that integrates theory from communication science and business is strongly needed.

What Do Families Really Need? Information and Effective Communication

Given the central need for knowledge and information for families hoping to support their youths' academic achievement, the field of family–school relationships can benefit from communications theory and research. Knowledge sharing is essential to productivity in industry (Hau, Kim, Lee, & Kim, 2013), as it is in family–school relationships. Knowledge comes in (at least) two forms: explicit and tacit knowledge. Explicit knowledge is objective, codifiable information that can be

communicated through written documents (Dhanaraj, Lyles, Steensma, & Tihanyi, 2004; Reychav & Weisberg, 2010). Schools often communicate this information via handbooks, websites, course contracts, and other static documents. In contrast, tacit information is implicitly embedded into the culture of the school and comes from experience and knowing how the system works. These rules and this knowledge are not written down or easily shared.

In the context of family–school relations, tacit knowledge is assumed knowledge about parents' responsibilities, information about programs to support students that are at school or within the community, or methods and ways to work around the explicit rules to provide access to programs, services, more experienced teachers, and other advantages. Families from ethnic minority and low-income backgrounds may be informed about explicit knowledge, but are much less likely to be aware of the implicit or tacit knowledge that helps them effectively advocate for their youth (Lareau, 2003; Lareau & Horvat, 1999). This lack of knowledge undermines their ability to garner resources for and support their youth and it potentially feeds into stereotypes about ethnic minority families. As an example, many immigrant families, especially Latino families, are unaware of the tacit expectation that they should be involved at school, question teachers, and advocate for their youth (Garcia-Reid, 2007; Hill & Torres, 2010; Suarez-Orozco & Suarez-Orozco, 1995; Wortham & Contreras, 2002). Rather than reflecting their respect for teachers, their lack of communication with teachers is often interpreted as lack of interest in or value of education. Paradoxically, the same lack of communication with teachers by Asian American parents does not result in beliefs that they do not value education.

To narrow demographic gaps in achievement and support the achievement of all students, schools need to invest heavily in identifying and communicating tacit knowledge. Tacit or implicit knowledge, reflecting the "unspoken" rules or terms of engagement, is more difficult to articulate and to share than explicit knowledge. Therefore, having this knowledge creates a competitive advantage or increased power and influence (Ardichvill, Page, & Wentling, 2003; Reychav & Weisberg, 2010). Middle class and wealthier families not only have more social capital and self-efficacy, they have more tacit or implicit knowledge about how schools and schooling function and about the pathways between high school and college. Possessing and utilizing tacit knowledge may explain differences found by Hill et al. (2004) in the impact of parental involvement in middle school and school achievement and aspirations in high school between those parents with a college degree and those without.

Because tacit knowledge is more difficult to articulate and share, it has greater value than explicit knowledge and may be treated as a commodity to be brokered (Hill, 2009). When schools rely on parent organizations to communicate information, they may inadvertently increase knowledge/information gaps that result in increased gaps in achievement. Parent organizations may not share information fully across the entire school, especially when the organizations are not representative of the entire student body. When information pertains to programs or resources that are scarce or of limited availability, parents who run parent–teacher organizations may hoard such information for use by their own closed networks, rather than sharing it broadly.

From research on knowledge sharing and communications in corporate contexts, certain contexts and situations result in more or less information sharing. Hierarchical and bureaucratic structures impede knowledge sharing (Tsai, 2002) and there are more such structures in middle and high school than in elementary school. Formal systems and rules result in less information sharing, in comparison to informal and flexible interactions (Yang & Maxwell, 2011). Tacit knowledge sharing is more likely to occur through personal relationships (Hau et al., 2013) when the knowledge bearers feel that others will not use the knowledge shared to gain a competitive advantage (Zhang & Dawes, 2006), and when there is a shared identity or social cohesion between the person with the knowledge and the recipient (Lee, Sparks, Struppa, & Mannucci, 2013). It takes greater effort for schools to share this type of information and for families to identify sources of this information.

External incentives such as increased pay or benefits are ineffective in the long term for sharing tacit knowledge (Hau et al., 2013). Shared identity, social cohesion, shared goals, and trust are the common and essential ingredients for knowledge sharing, and especially tacit knowledge sharing. But these types of interactions and social groups are difficult to establish across families in schools in an equitable way. Indeed, shared social identification between college educated middle class teachers and college educated middle class parents may result in increased knowledge sharing between school personnel and some families in the school than with other families. The common culture and "language" shared by middle class families and schools make knowledge sharing easier and more efficient. Lack of trust and shared experience are more salient barriers in relationship building and knowledge sharing for those who feel marginalized (Widén-Wulff et al., 2008). Greater effort is needed for families who are more disconnected from schools. But, those charged with sharing information (e.g., teachers and other school personnel) often lack the time to build the relationships and trust needed to provide a channel or pathway for information exchange.

Given the primacy that information has for helping families support the academic achievement, school engagement, and aspirations of adolescents, focusing on communication and knowledge sharing is essential. First, research is needed on organizational structures that facilitate knowledge sharing with diverse constituents and school contexts and translate as much as possible to explicit knowledge. As an example, high school handbooks often carefully explain the pathways from one math class to the next (i.e., from basic math to algebra I & II, precalculus, calculus, statistics, to computer programming). However, they often do not share that the computer programming "math" class, even at the honors or advanced placement (AP) level, is not recognized as a math class by most colleges that require four years of high school math and that the statistics class, even AP statistics, will not prepare students for college. They are each presented, often in sequences, as if all sequences will equally prepare students for their goals—whatever they are. Knowing the difference or at least suspecting that there is a difference and asking about it requires tacit knowledge. Second, because tacit knowledge is best shared through relationships and among those with shared identities, schools need to increase their efforts to both build relationships with families and identify social groups within schools

so that these groups can be represented in school governance and communication channels. Research is needed to identify the most effective means of identifying and sharing tacit knowledge. Building upon existing theory and research in communications and information science, research is needed about the most effective ways to engage youth and provide families with the needed information to navigate secondary school and prepare for post-high-school experience.

Defining Success in Family Engagement Across Levels

To this point in the chapter, real and implicit focal outcomes for family–school engagement have been defined at the individual student level—specifically through grades or broadly about goals and psychosocial resources. However, schools also need parents to function effectively (i.e., school-level benefits of family engagement). Whereas parents often initiate and maintain engagement to benefit their children, parents are a significant resource for school themselves. However, teachers, principals, and other school personnel are often not trained in how to assess and manage adult volunteers (e.g., parents). Schools often send broad appeals for parental help and accept those who volunteer. This often means that some parents' skills and resources are never tapped and others have an outsized influence. Further, many parents might be willing to help schools, even if it did not directly help their own child, if they understood that their talents were needed. Identifying and utilizing the resources represented among families reflects a practice and research need.

There is a growing body of research and best practices for identifying assets within organizations (i.e., asset mapping; Center for Mental Health in Schools at UCLA, 2006). However, additional research to identify how schools can assess the resources among the families it serves is needed. By doing so, schools can be more strategic in how they plan for and implement family–school engagement policies, sharpen markers of improvement and success in family–school engagement, and increase overall family engagement. Family–school engagement can be considered at three levels: individual child/family, school, and district. At the *level of the individual child* or family, schools need to determine and promote the types of engagement that *every* parent should do to support their child's achievement. This may be at the most general level, including making sure the child is healthy and prepared. Alternatively, individual teachers and classes may outline ways they need every parent involved to support students and the curriculum. Further, every parent may need to support the individual needs and achievement of their own children and locate and utilize information on behalf of their youth. Schools can identify and intensely promote what *every* parent needs to do.

At the *level of the school*, parents are needed to perform certain functions, including providing parent perspectives on school site-based decision-making teams, organizing fund raising events for extracurricular activities, supporting administrative functions, sharing their expertise to enrich the curriculum and benefit the entire student body, etc. However, only a subset of parents is needed for these activities.

When principals rely only on those parents who show up, they reduce the diversity of perspectives and voices heard, empower and provide social capital for a small group of parents, and subtly privilege parents who are available and marginalize those who cannot participate or did not match the schools' needs.

School personnel should determine, in advance, how many parents they really need to function and what they need parents to do. Then, they should select parents as representatives for committees to assure that the diverse cultures, neighborhoods, and perspectives are represented. Investing more effort in identifying the right parent volunteers will benefit the school in the long term and make it easier to ensure that parents from diverse backgrounds have access to explicit and tacit knowledge. All other parents should be "let off the hook" for not having time to volunteer. So often, parents, especially of students who are not doing well, are subtly and explicitly judged as not caring about education when they cannot volunteer or attend meetings during the school day.

For teachers, whereas many have the desire to connect with all parents, it is just not feasible in middle and high school, given the number of students each teacher has. In this context, teachers should determine for which parents the extra time necessary to build a relationship will be most beneficial. There are clearly some parents whose students are doing well and additional contact would not improve the students' knowledge or understanding. For other students who are struggling, who feel marginalized and have parents who feel marginalized, the extra time and effort to set the foundation for a trusting relationship and partnership will return dividends in improved understanding and achievement. Further, connecting this parent to the person who teaches the same subject the following year will further support and connect families in ways that serve youth. Teachers may be empowered to focus on these families and "let them off the hook" for trying to reach all parents.

Finally, at the *district level*, a few well-connected parents can help advocate for the resources for the entire district. Identifying and engaging these parents at this level, and decreasing their responsibilities at the school level, will serve the schools and the districts well. In addition, at the district level, school administrators should identify and understand patterns of involvement across the district to determine ways to increase and inform engagement at all levels and understand the consequences of such involvement. For example, an increasing number of school districts are enacting parental choice policies that require that parents obtain, evaluate, and use data to select schools for their youth and navigate complex school assignment systems. However, there is often a single logic model for implementing choice policies (i.e., parents will prefer the best school academically that is closest to their home). However, data on patterns of school choice often demonstrate that middle class, Euro-American families use this logic model; but ethnic minority parents consider other characteristics of the school equally or more important (e.g., ethnic composition; availability of transportation; afterschool programming). Understanding the associations between families' characteristics and how they engage in the school choice process including understanding why they choose particular schools will be useful for supporting families in equitably engaging in school choice programs using information and to make the best decisions for their youth

(Goldring & Hausman, 1999; Lewis & Danzig, 2010; Shumow, Vandell, & Kang, 1996). Only data that examines patterns of involvement at the district level can provide this perspective.

Thinking about and planning family–school engagement from both the parents' perspectives (i.e., needing information to support their youth and plan for their futures) and from the school perspective (e.g., needing parent volunteers to function) results in different but related strategies and frameworks. Focusing on either one alone will miss opportunities for all. Researchers and schools should focus intensively on identifying, communicating, and supporting the strategies that every parent needs to do to support their youth and focus intensely on communicating the knowledge and information that parents need to make informed choices. This includes helping families build networks within the school and connections to resources in the broader community. Schools should identify and distribute the work needed from parent volunteers in a way that increases the diversity of perspectives and reaches the greatest number of subpopulations in the school. Tweaking elementary school models to fit middle and high school is not appropriate or effective. It frustrates parents, teachers, and school personnel, while not serving students well. More effective models are needed. Research is needed that identifies specific ways that youth can be active participants in family–school relationships, broadens the outcomes of impact and influence, and increases parents' ability to obtain the tacit and explicit knowledge to support their youth. During adolescence, parents need to relearn how to be involved and how best to reengage at this critical developmental time, and schools need to help them do so.

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Chapter 4
Continuities and Consistencies Across Home and School Systems

Robert Crosnoe

Over the last two decades, the intense focus of research and policy on parental involvement in education has evolved into greater discussion of family–school partnerships. This trend reflects arguments that the prevalence and effectiveness of parents' engagement in their children's educational careers are, in part, predicated on what schools are doing. In other words, parental involvement in education—despite the sole emphasis on parents in the very term—has always been a two-way street between home and school (Christenson & Sheridan, 2001; Hoover-Dempsey et al., 2005). A watershed moment in this gradual transition from models of parental involvement to models of family–school partnership came with the passage of No Child Left Behind in the early 2000s. Among many other things, this overhaul of federal educational policy directed schools to build compacts of collaboration with families (Epstein, 2005).

Yet, despite this progress in the conceptualization of both research and policy, the promise of family–school partnerships has not been fully realized. One issue is that, despite the rhetoric about the need to incorporate both sides of the family–school exchange, research still tends to focus on one side or the other, as does the actual execution of policy on the ground. The congruence between the two sides is often obscured. Another issue is that, even when both sides of the family–school exchange are considered, the focus is often on a narrow reading of what that congruence entails. Often, direct contact between parents and teachers has been prioritized at the expense of more indirect ways that families and schools can be working on the same page even when not explicitly working together. For example, children may learn more if they engage in complementary activities in the classroom and at

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home, even if parents and school personnel are not in regular contact (Crosnoe, 2012; Crosnoe et al., 2010).

Perhaps these lacunae exist because the insights of developmental theory are often lost in the translation between the "talk" of family–school partnerships and the "action" of family–school partnerships. After all, developmental systems perspectives clearly argue for the need to consider children's developing capacities at the nexus of interacting ecological systems, with those transactions being direct and active as well as indirect and passive. Such perspectives also highlight the ways in which inequalities among diverse groups of children are often rooted in disruptions within those direct and indirect transactions (Lerner, 2006). Thus, developmental systems—which provided a great deal of the push towards family–school partnerships—direct researchers and policymakers to more thoroughly consider the ways that developing children's family and school systems are congruent and how that congruence reflects, exacerbates, and reduces educational and behavioral disparities in child outcomes at the population level.

In this chapter, therefore, I advocate for the consideration of synergies and disconnects between the educational environments of home and school as an emergent area of interest within the broader field of family–school partnerships. In discussing what has been done and what needs to be done, I focus primarily on research and secondarily on policy.

Bridging the Family and School Silos

Parental Involvement in Education

The US educational system emphasizes active parental involvement. The general argument is that children learn more in their classes and have more positive adjustment in school when their parents actively manage their educational experiences in the home, at school, and in the community (Eccles & Harold, 1993). On the side of parents, the mechanisms underlying these benefits are thought to be modeling of the value of schooling by involved parents, increased motivation and efficacy that involved parents have advocated for their children, enhanced understanding that involved parents have of the written and unwritten rules of schools, and the supplemental nature of academic opportunities outside school. On the side of schools, the mechanisms are thought to be greater awareness of the special needs and talents of the children of involved parents, deeper understanding of the desires and circumstances of involved parents, deference to parents who are involved, and differential investment in children as a reaction to parental involvement (Hoover-Dempsey & Sandler, 1997; Pomerantz, Moorman, & Litwack, 2007). Given the many disadvantages that children from families of low socioeconomic status (SES), especially racial/ethnic minorities, face in school, they are widely viewed as having more to gain from parental involvement than children from families in higher socioeconomic strata, especially Whites (Hill & Tyson, 2009). Consequently, parental

involvement has been a mainstay of educational research and policy for years (Domina, 2005).

A strong base of empirical evidence supports this position, with numerous studies across disciplines indicating that, on average, children benefit when their parents are involved in their educational careers in developmentally appropriate ways. More specifically, children do better—in terms of grades, test scores, advanced coursework, educational expectations, academic attitudes, and in-school behavior—when their parents engage them in learning activities at home and in the community, provide instrumental assistance with academic activities and decisions, volunteer at school, connect with other parents at school, and regularly interact with teachers. Moreover, children from socioeconomically disadvantaged and/or racial/ethnic minority backgrounds tend to benefit the most from having involved parents. Some of these observed effects of parents' involvement behaviors on their children's academic and behavioral outcomes are due to selection—when factors that lead parents to be more involved also support children's academic progress, creating the appearance of an association between the two even if it is not real. Still, the consensus is that these observed effects are at least in some part causal (Entwisle, Alexander, & Olson, 1997; Hill, 2001; Pomerantz et al., 2007; Raver, Gershoff, & Aber, 2007).

This evidence suggests that encouraging parental involvement in education—especially among lower-SES and racial/ethnic minority parents—is an appropriate goal of educational policy and school practices. Indeed, the parental involvement provision of No Child Left Behind crystallized just how powerful this policy argument is (Epstein, 2005). Yet, what works in theory is not always borne out in reality. Whether parental involvement programs have resulted in meaningful improvements in schools' academic bottom lines, especially relative to investment, has been widely debated (Domina, 2005). Moreover, qualitative evidence suggests that parental involvement is often a source of tension between lower-SES parents and their children's schools (especially among racial/ethnic minorities), chipping away at the academic advantages of such involvement and helping to explain occasional findings in quantitative studies that parental involvement may be associated with greater rather than weaker socioeconomic and racial/ethnic disparities in child outcomes (Crosnoe, 2012; Lareau, 2003).

One explanation for this apparently problematic translation of empirical evidence into policy results is that the entire idea of parental involvement ignores the realities of education. It emphasizes what parents are doing in a de-contextualized way. The degree to which parents' involvement "works" depends, in part, on how it is interpreted and received by schools and how it lines up with school agendas (Bryk & Schneider, 2003; Epstein et al., 2002). Discontinuities between what parents are doing or trying to do (or not) and what school personnel are saying and doing (or not) can undermine the educational process even when both parties are pursuing the same goal of helping children learn and achieve. Such disconnects are more common among children from lower-SES and racial/ethnic minority families (Lareau, 2003).

Reflecting the overly simplistic logic behind parental involvement in education, the concept has slowly given way in both research and policy to family–school

partnerships, a term that recognizes the overlapping contexts of home and school in which children live their lives. Discussion of family–school partnerships has become de rigueur—in research studies and reports and school policies and programs. Returning to the theoretical traditions that helped to inform the initial conceptualization of family–school partnership can help to deepen that discussion.

Theoretical Guidance on Family–School Partnerships

The developmental systems perspective represents one major way that developmental insights have been incorporated into the discussion of parental involvement (Christenson & Sheridan, 2001). It emphasizes how development occurs at the intersection of multiple systems within and outside the child. The direct and indirect transactions among systems are particularly important to the pathways that children take and how well they adapt to their environments, and so developmental maladaptation is often traceable to problems in these transactions. Moreover, group disparities in developmental outcomes reflect systematic differences across groups in the balance between problematic or positive transactions (Lerner, 2006).

In systems terms, then, children learn more and do better overall when the transactions between themselves and their families are supportive, the transactions between themselves and their schools are supportive, and the transactions between their families and their schools are supportive. This argument is at the core of contextual systems theory, which is a direct application of developmental systems ideas to the issue of educational inequality in the United States (see Pianta & Walsh, 1996). This theory, which was formulated around the transition into formal schooling, is broadly relevant to the full preK-12 educational career.

Contextual systems theory uses the phrase "conversation" to capture the kinds of systemic transactions that promote educational success and that might be more or less free to emerge across different groups. When systems are in conversation, they directly and indirectly reinforce each other—from actual coordination to emergent continuity. When systems are not in conversation, they actively or passively work at cross purposes, from discord to distance. To elaborate, we can say that the family and school systems are in conversation if they engage in multiple interactions that eventually regularize into expected patterns of behavior and contact that support and constrain both sides. If parents and school personnel come to an agreement about children's educational needs and then work out a plan about how to ensure those needs are met, then they are clearly in conversation. On the other hand, we can say that family and school systems are not in conversation when their interactions are one-sided, adversarial, or apathetic. If parents and school personnel disagree about what children need and then act in contradictory ways and eventually stop interacting at all, then they have clearly fallen out of conversation. Effective conversation can be threatened when parents and school personnel are not working with the same schema about child development and learning, when they misperceive each other, and when they fall back on different worldviews and storehouses of information

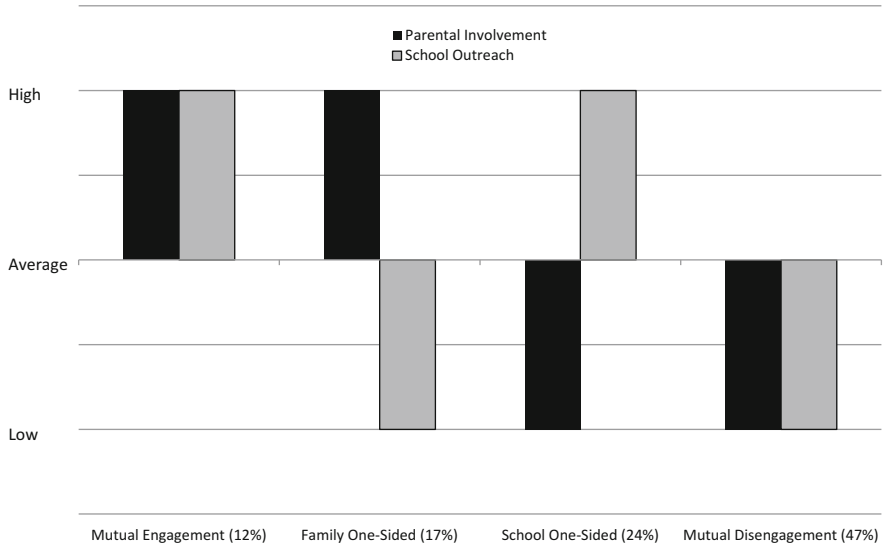
about schooling. Unfortunately, such disconnects are more common in schools with status and power imbalances between middle class and often White school personnel and lower-SES and often racial/ethnic minority parents, so that conversation becomes a factor in group disparities in child outcomes and not just a factor in child outcomes themselves (Pianta & Walsh, 1996).

The concept of family–school partnerships captures conversation by emphasizing transactions between home and school, whether positive (in effective conversation) or negative (in ineffective conversation or out of conversation altogether). Yet, discussion of such partnerships—and action taken to build such partnerships—usually focuses on the most explicit and intentional kinds of exchanges between home and school, when such exchanges can be, in fact, much more nuanced. Consider two kinds of family–school exchanges that are directly derived from contextual systems theory, one concerning actual engagement or disengagement *between* systems and another concerning parallel or contradictory activities *across* systems. In both cases, the focus is on what each side is doing, of course, but, perhaps more importantly, on how congruent or incongruent the activities of the two systems are in relation to each other.

First, *direct* partnerships deal with the interactions between people in the home with people in the school. For parents, what matters are their attempts to participate in the activities of the school and to engage with school personnel. For schools, what matters are their attempts to assist and involve the parents of their students. Each of these two sets of activities is significant in its own right, but the significance of one activity in part depends on the nature and frequency of the other activity. Here is where the issue of congruence is important. As one example, parental behaviors aimed at engaging schools may be undermined or diluted when they are incongruent with schools' attempts to engage parents, but they may be reinforced or even magnified when better matched with what schools are doing.

Figure 4.1 depicts a typology of direct partnerships between parents and school personnel. In mutual engagement, both sides are high on their respective activities—parents high in school-based involvement, schools high in outreach to parents. They reach out to each other. On the opposite end of the spectrum is mutual disengagement, when both sides are low on their respective activities towards the other—parents not reaching out to schools, schools not reaching out to parents. Such family–school system interactions are disconnected. In between these two extremes are what might be thought of as one-sided direct partnerships, when efforts by one side to reach out to the other are not reciprocated. In some cases, parental efforts to participate in schools are not reciprocated by school efforts to engage parents. In other cases, school efforts to engage parents are not reciprocated by parental efforts to participate in schools (Crosnoe, 2012).

Certainly, mutual engagement would be expected to be the optimal direct family–school system transaction for supporting the school success of children, as it maximally facilitates the flow of academically relevant information and support across the settings of children's lives. Given that such a flow would likely do more to introduce nonredundant social capital to children from lower-SES or otherwise disadvantaged families, mutual engagement would be expected to have a protective



Data: 14,887 childrenin Early Childhood Longitudinal Study-Kindergarten Cohort(from Crosnoe, 2012)

Fig. 4.1 A typology of direct engagement between home and school systems during kindergarten year. *Data*: 14,887 children in Early Childhood Longitudinal Study-Kindergarten Cohort (from Crosnoe, 2012)

role in academic disparities. Even if such children are less likely to experience mutual engagement overall, they would benefit more when exposed to mutual engagement, which would help them make up ground with their peers. If one side was trying to engage the other without reciprocation, however, children—from all backgrounds—would derive little benefit. In such cases, engagement efforts from one system matched with disengagement from the target of those engagement efforts would represent alienation. Such alienation could be quite similar to mutual disengagement in terms of its role in children's academic progress (Bryk & Schneider, 2003; Lareau, 2003; Pianta & Walsh, 1996; Pomerantz et al., 2007).

Second, *indirect* partnerships concern the degree to which parents and teachers each engage children in learning activities in their own context. How much and how well are parents organizing cognitively stimulating activities for their children at home or in the community, and how much and how often are teachers scaffolding the development of critical thinking and academic skills in their classrooms? Again, the congruence between activities across systems is just as important to consider as each activity on its own. For example, children may benefit less from teachers leading them through a specific skill-building curriculum at school if parents are not helping children find ways to enact and practice those skills outside school (and vice versa).

Figure 4.2 depicts a typology of indirect partnerships between parents and school personnel. In instances of positive symmetry, both sides are engaging in enrichment activities that mirror each other—children have no fall-off in how they are being

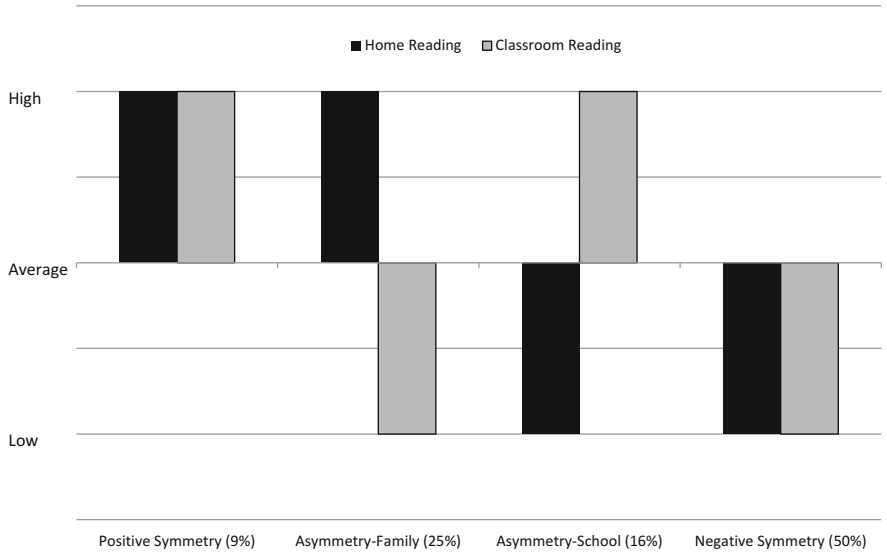


Fig. 4.2 A typology of learning symmetry between home and school systems during kindergarten year. *Data*: 14,887 children in Early Childhood Longitudinal Study-Kindergarten Cohort (from Crosnoe, 2012)

scaffolded and stimulated as they move between the major settings of their daily lives. Negative symmetry is the opposite, when children are not being adequately stimulated in either system. They experience no drop-off, but that is because they are getting so little as they move from one setting to the other. Asymmetrical partnerships, on the other hand, involve cognitive stimulation and learning activities in one system that are not matched with what is going on in the other system. No supplementary or complementary learning processes are occurring in parallel, although children are getting something in at least one setting (Crosnoe, 2012).

Positive symmetry would be assumed to be the optimal indirect family–school system transaction for supporting the school success of children, as it involves the most consistent reinforcement of skill-building. Even though children from lower-SES families or other disadvantaged backgrounds are less likely to experience cognitive stimulation at home or in their classrooms, they stand to benefit the most from experiencing stimulation and support in both. Continuity in learning environments could mitigate many social psychological risks of economic hardship and other structural and institutional disadvantages that disrupt learning in this population, thereby protecting them against the impact of factors that help to create academic disparities across diverse groups. Unlike in direct partnerships, however, the difference between incongruous and negatively congruous indirect partnerships is likely significant, with asymmetry less problematic than negative symmetry in terms of children's learning and achievement. In cases of asymmetry, the potential for alienation is lower than in cases of one-sided engagement, and resources in one

system may protect against a lack of resources in another system (Alexander, Entwisle, & Olson, 2007; Hamre & Pianta, 2005; La Paro & Pianta, 2000; Lareau, 2003; Magnuson, Meyers, Ruhm, & Waldfogel, 2004; NICHD Early Child Care Research Network, 2002).

These two partnership typologies represent different ways to conceptualize the family–school exchanges at the heart of the family–school partnership concept. They are not mutually exclusive, of course, as one type of exchange could support the other (e.g., direct engagement increasing the likelihood of symmetry). Indeed, my argument is that both need to be considered in tandem. Weakness in one kind of partnership might dilute the effectiveness of the other, undermining the aims of policies and programs that aim to build only one type. Generally, the emphasis of research and policy has been on direct partnerships, but indirect partnerships need to be more explicitly brought into the discussion. Moreover, when considering direct partnerships, we need to consider how well attempts by one side to interact with the other are congruent with the other sides' attempts (or lack thereof), rather than simply focusing on one side or the other.

Empirical Evidence on Family–School Partnerships

In recent years, I have conducted several investigations of the role of family–school partnerships in relation to achievement and to socioeconomic disparities in achievement. The goal was to examine the similarities and differences between direct and indirect family–school partnerships that emphasize congruence across systems and, furthermore, to explore different dimensions within the generally understudied rubric of indirect family–school partnerships. The results have fairly consistently supported theoretical expectations, with mutual engagement and positive symmetry related to higher levels of and growth in academic achievement. The results have not consistently supported theoretical expectations about disparities in children's outcomes, however, leading to a more critical evaluation of the transactions (especially indirect) between home and school (Crosnoe, 2012; Crosnoe et al., 2010).

For example, drawing on data from nearly 15,000 US kindergartners in the nationally representative Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K), I measured both direct and indirect partnerships. For the former, I counted the school-based involvement activities (e.g., participating in PTA, volunteering at school, attending open house) that parents reported in the past year and took the mean of parent reports of how often schools engaged in outreach towards them (e.g., providing information on what children were doing in class, alerting them to when they could participate in school activities, inviting them to workshops). Both scales were dichotomized, capturing parents who engaged in school-based activities at least twice per year and schools viewed by parents as solid on the majority of outreach items. I cross-classified these two markers of engagement to identify children whose family–school systems fit the profile of mutual engagement, one-sided engagement (both types), and mutual disengagement.

As depicted in Fig. 4.1, mutual disengagement was the most common direct partnership, and mutual engagement was the least common. In instances of one-sidedness, unreciprocated school outreach was more common than unreciprocated parental involvement. For indirect family–school partnerships, I followed a similar strategy—measuring home learning activities in terms of parent reports of weekly frequency of shared reading, measuring school learning activities in terms of teacher reports of weekly frequency of phonics instruction in the classroom, dichotomizing both in meaningful ways, and then cross-classifying these two binary markers into the typology of positive symmetry, asymmetry (both types), and negative symmetry. The distribution of this typology of indirect family–school typology was similar in rank order to the breakdown for the direct family–school partnerships (refer back to Fig. 4.2), except that, within the two asymmetry categories, the category weighted towards family activity was more common than the category weighted towards school activity (Crosnoe, 2012).

Perhaps not surprisingly, growth curves of standardized test scores in reading revealed more acquisition of reading skills between kindergarten and third grade when the direct and indirect transactions between children's parents and school personnel took the form of mutual engagement and positive symmetry, once many other child, family, and school factors were taken into account. The observed effects of these two sets of family–school partnerships were fairly similar and peaked in second grade, and the differences between each of these partnerships and their counterpoint (mutual disengagement and negative symmetry, respectively) were on par with the differences in test scores between children with college-educated parents and children whose parents did not go to college. Where the results diverged from theory was when considering the observed effects of indirect (but not direct) family–school partnerships on socioeconomic disparities in children's test scores, with SES measured in terms of whether families had incomes below the federal poverty line and parents had low educational attainment. The hypothesized pattern of protection would be supported by evidence that children from lower-SES families benefited more from positive symmetry than children from higher-SES families, allowing them to make up some ground and narrow overall achievement disparities. The actual evidence, however, indicated that children from higher-SES families benefited the most from positive symmetry, expanding the overall achievement disparities. What might be thought of as a tool for promoting equality and equity, therefore, appeared to be related to divergent educational trajectories for children from more and less advantaged backgrounds.

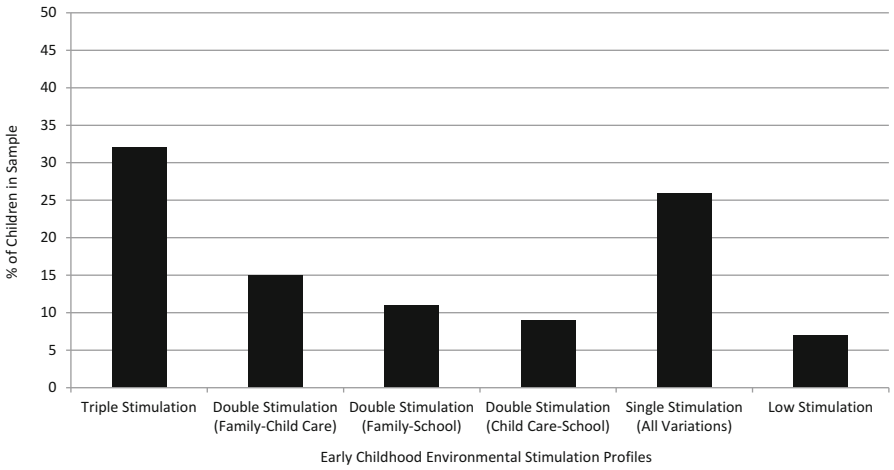
This unexpected pattern of indirect family–school partnerships and cumulative advantage could have emerged for several reasons. One is the tendency for some interventions aiming to close gaps among diverse child groups to actually widen them, as they do not adequately recognize that some children need a certain amount of resources before they can capitalize on the introduction of a new set of resources (Ceci & Papierno, 2005). In other words, indirect family–school partnerships would have the most impact on learning when situated within a host of other advantages and resources afforded by parents' higher-SES, such as safer communities with dense ties among families and schools with a great deal of material support. Two other

reasons concern the translation between conceptualization and operationalization. Parent and teacher reports may do less to accurately gauge the processes children are exposed to in their family and school systems everyday than more independent evaluations of those systems. Thus, measurement in ECLS-K may not have adequately captured the conceptualization of indirect family–school partnerships derived from contextual systems theory. At the same time, that theory situates the transactions between families and schools within a broader set of systems. Consequently, measuring aspects of families and schools only—and not linking them to other important organizational settings of learning and stimulation—may have been limiting.

For further exploration of these complexities of indirect family–school partnerships, I and my colleagues drew on data from over 1,300 children in the NICHD Study of Early Child Care and Youth Development. These data contained evaluations by trained observers of children's learning environments at home, elementary school classrooms, and child care arrangements. Specifically, I used the home enrichment subscale of the Home Observation of Measurement of the Environment (Bradley & Caldwell, 1979) to measure cognitive stimulation in the home at the time of school entry, the instructional quality subscale of the Classroom Observation System (Pianta, Belsky, Houts, Morrison, & The NICHD Early Child Care Research Network, 2007) to measure cognitive stimulation in the first-grade classroom, and the cognitive development subscale of the Observational Rating of the Care Environment (Belsky et al., 2007) to measure cognitive stimulation in preschool child care. These scales were split at the median to identify markers of high cognitive stimulation in each and then cross-classified into a typology of cross-system environmental stimulation around the transition into school, an expansion of the concept of indirect family–school partnerships (Crosnoe et al., 2010).

Figure 4.3 depicts this typology. It is bookended by triple stimulation (high stimulation in all three systems) and low stimulation (not high in any). The former was most common and the latter least common, in stark contrast to the ECLS-K pattern that indicated the reverse. Between these two ends were the children who had high stimulation in at least one but not all systems. Most commonly, they had high stimulation in one and only one system (regardless of which one it was). The remainder had high stimulation in two but not three systems; family and child care, family and school, and child care and school, in order of prevalence.

When this typology was used to predict growth curves of reading test scores from preschool through elementary school, we found that children did better when they started school enjoying cognitive stimulation in all three systems or, if not in all three, in the family and child care systems (net of numerous controls). Children did notably poorer if they had stimulation in any extra-familial system (i.e., child care, school) that was not coupled with stimulation at home. What was going on at home seemed to be the linchpin. Unlike in ECLS-K, examination of the link between indirect family–school partnerships and socioeconomic disparities in children's outcomes followed a pattern of protection rather than cumulative advantage. When the observed effects of indirect family–school partnerships differed by family income or parent education, they tended to be more pronounced among children from more



Data: 1,364 children in NICHD Study of Early Child Care and Youth Development (from Crosnoe et al., 2010)

Fig. 4.3 A typology of cross-system environmental stimulation during transition into elementary school. *Data*: 1,364 children in NICHD Study of Early Child Care and Youth Development (from Crosnoe et al., 2010)

disadvantaged backgrounds, thereby helping to reduce the achievement gap between lower- and higher-SES children over time.

For the most part, then, the results from the two studies that I have highlighted here were consistent, pointing to the added value of considering indirect family–school partnerships alongside the more commonly studied direct ones and of conceptualizing and operationalizing both types of partnerships to emphasize consistency (e.g., mutuality, symmetry) across systems. Where the results diverged concerned the moderating role of indirect family–school partnerships in links between family background and children's outcomes, calling for more attention to the particular issue of family–school congruence and inequality that addresses some of the common limitations of the research literature on family–school partnerships more generally.

Moving forward, research in this area needs to broaden in both scope and depth. To begin, measurement needs to improve in practical ways, such as (a) investing in more standardized observation protocols for studying what goes on at home, in school, and between the two; (b) using ethnographic observational protocols to get a sense of the substance of family–school interactions, beyond simply counting their frequencies, that can support survey instrument design; (c) collecting data about activities and interactions from specific parent–teacher dyads, rather than questioning parents about their children's teachers as a general class and teachers about their students' parents as a general class; and (d) directly assessing whether home activities and classroom activities are tapping the same child skills, rather than assessing the relation between them on face value. Other methodological and conceptual directions for future research include the vital need to import techniques

for improving causal inference from other fields (e.g., instrumental variables, fixed effects regression) to better gauge whether family–school congruence does actually affect children, expanding the scope of data collection on family–school partnerships to include specific characteristics of the larger community context that increase or decrease their congruence, and extending the age range beyond the most common childhood focus to consider a possible developmental gradient in family–school congruence.

Research, Action, and Special Populations

Focusing on Vulnerable Children and Families

In research and practice, family–school partnerships are often deeply connected to issues of social class and race/ethnicity. As my discussion so far indicates, family–school partnerships are thought to be a tool for reducing inequalities in the educational system, not just for promoting school success overall. Yet, that potential for family–school partnerships to be leveraged to help children from historically disadvantaged segments of the population make up ground with their peers is more complicated in reality than in theory (see Hill & Chao, 2009). In short, we are more likely to see schools be out of conversation with lower-SES parents and parents of color, and so more must be done to support conversation between the two. Perhaps the greatest need is more concrete advice about new avenues of research to achieve this goal. In the sections that follow, therefore, I discuss some basic issues concerning family–school partnerships in special populations and give advice about new research directions associated with each.

Importantly, lower-SES parents and parents who are from minority race/ethnic groups tend to have lower levels of involvement in school and weaker connections to schools than parents who are White or who are in more advantaged socioeconomic circumstances. These disparities tend to be more pronounced for aspects of family–school partnerships that involve direct interaction between parents and schools, especially on school grounds, than for aspects that are more indirect or symmetrical and involve parental activities outside of schools. Consequently, many policy efforts to build family–school partnerships focus specifically on low-income and/or race/ethnic minority parents (Crosnoe, 2012; Domina, 2005). These efforts can be supported by a more careful consideration of why these socioeconomic and racial/ethnic gaps in family–school partnerships occur in the first place. Research that unpacks the mechanisms underlying links between sociodemographic factors and family–school congruence and underlying the effects of such congruence on child outcomes is needed. The first phase of research was to examine if family–school congruence is connected to disparities among children, and now the second phase should begin examining why. One way to do so is to mix methods—using quantitative data to test hypotheses about intervening factors identified and measured in rigorous ways based on grounded theory from qualitative exploration.

Motivation and values do little to explain these socioeconomic and racial/ethnic gaps. Instead, practical constraints are important. Money allows parents to purchase goods and services for children to support their educational experiences and helps them overcome everyday obstacles to being involved at school and home (e.g., transportation costs, inflexible work schedules). How much human capital parents have also factors into how they understand what is needed for their children to succeed. Money and human capital also bring status, which gives parents power in school, so that that their demands are taken seriously and their input and collaboration is elicited. A lack of money or human capital, therefore, can hinder family–school partnerships through disincentives and constraints on the part of parents, school personnel, or both. Given that socioeconomic disadvantages are disproportionately higher in racial/ethnic minority populations, this link between family SES and family–school partnerships weighs more heavily in these populations (Cheadle, 2008; Crosnoe, 2012; Lareau, 2003; Mayer, 1997). Here is where concerted instrument development is needed. Socioeconomic status is often measured in a global and static way (e.g., income and parent education reports), but economic hardship is a daily experience with many seemingly minor things becoming cumulatively problematic. Those stressors are rarely measured in studies of family–school partnerships, which also rarely adequately account for the volatility in family finances or the discontinuous fashion in which many parents get education and training. To understand these important contextual dimensions of family–school congruence, we need research that demonstrates how to measure them.

Yet, the forces underlying socioeconomic and racial/ethnic gaps in family–school partnerships are not entirely practical. They also arise because of disconnects in the ways that families and schools view the expectations and obligations between them and the distrust that may mark relations over time. Extensive research has revealed that lower-SES parents tend to view schools (and be viewed) differently than more affluent parents. They have lower expectations of how schools should involve them and of what they can demand from schools, and they tend to be more deferential to school personnel. Thus, they may be less likely to interact with school personnel or to think that they have the ability to complement school activities at home. Because middle class school personnel tend to have different expectations of how concerned and invested parents are "supposed" to act, they may view lower-SES parents as uncaring or disengaged when they are not. Although Lareau's (2003) pioneering ethnographic work revealed that race/ethnicity did not matter to family–school partnerships in these ways once SES was taken into account, subsequent quantitative work indicated that similar differences occurred between African-American and Latino/a parents (and, to a lesser extent, Asian-American parents) on one hand and White parents on the other hand, even within the same socioeconomic strata (Bodovski & Farkas, 2008; Cheadle, 2008). Both lower-SES parents and racial/ethnic minority parents (especially when lower-SES) have ample experience in an educational system that has long underserved and marginalized children and families who are poor and/or of color, and this history can alter the working model of family–school partnerships that such parents have. They tend to approach schools with less of the sense of trust and equal footing that is so common among White middle class parents (Hill, 2011; Lareau, 2003).

The views that parents and teachers have of each other—how one side views the other and what that side expects—are rarely studied, possibly because researchers are more focused on capturing actual activities and interactions. Yet, those views likely undergird such activities and interactions and help to shape whether they are effective. In the future, more data collection explicitly exploring how to measure discordance and concordance in views across family–school lines is needed to guide hypothesis-testing about what does and does not work.

One lesson from family–school partnership research is that bringing parents and educators together may have less of an impact on children if each side comes in with different orientations and agendas. One successful intervention targeting low-income parents offers some insights into how getting parents and educators on the same page can be achieved, but we need more research to explore this potential. HIPPY (Home Instruction for Parents of Preschool Youngsters) involves a series of home visits and support groups to enhance parental knowledge about child development and early education and to increase their construction of and engagement in cognitively stimulating activities with children (Baker, Piotrkowski, & Brooks-Gunn, 1999; HIPPY, 2010). Such a program might empower parents in their efforts to manage their children's educational careers at home and support their images of themselves as the agents of their children's success, encouraging them into more direct and active interactions with schools. A potentially valuable direction for future research related to this important policy agenda is to use a mixed methods model to determine how such efforts to empower low-income parents can be supported by linked efforts to also change the ways that educators view and approach them.

The Special Case of Immigrant Families

The vulnerabilities of family–school partnerships related to SES and race/ethnicity intersect within the growing population of immigrant families. These families are disproportionately poor and racial/ethnic minorities (Hernandez, Denton, & Macartney, 2007). As a result, they acutely experience many of the issues that can interfere with families and schools being in conversation that I have discussed so far. Yet, immigration itself introduces new issues, beyond SES and race/ethnicity, that need to be better understood. Because research on family–school partnerships in immigrant communities is still underdeveloped even as policy action in this area increases (Crosnoe, 2010), this topic is a way for social scientists to get in on the ground floor of a major policy agenda. What is needed is deep description of how these issues can play out in diverse subgroups of the immigrant population—who is most and least likely to experience family–school congruence and what mechanisms underlie such patterns?—before taking a more comparative approach that captures unique vulnerabilities and resources among immigrant parents, relative to nonimmigrant families of varying SES and race/ethnicity.

In terms of practical matters, language barriers can keep immigrant families and their children's schools from being more consistent in their exchanges. When parents do not speak (or are uncomfortable speaking) English, they are less likely to access information about what schools are doing, and they may have trouble interacting with school personnel or digesting school-related materials, especially if schools do not have bilingual or multilingual personnel or distribute materials in multiple languages. In these ways, they are more cut off from schools than the average low-income and/or racial/minority parent, creating greater distance between home and school and disrupting both direct and indirect partnerships with schools (Lopez, Scribner, & Mahitivanichcha, 2001; Suarez-Orozco & Suarez-Orosco, 2001). Within this topic, one issue that needs to be explored more thoroughly in the future is the connection between English literacy and literacy more generally. If general literacy skills are a barrier to family–school coordination in some immigrant groups above and beyond English proficiency, then translating materials and hiring bilingual personnel will only take schools so far. These kinds of assessments of parents are often absent from child-focused studies, and that should change.

Although rates of parent education vary across different immigrant groups, immigrant parents' tenure in the US educational system is consistently low. Consequently, they have less understanding of their children's schools and may not grasp how much school personnel expect of them. In turn, they are often viewed as uninvested in their children's educational experiences by teachers, administrators, and other parents (Crosnoe, 2010). Cultural disconnects between home and school also matter. Immigrant parents have often been socialized into approaches to parenting children that differ from the White middle class models that have cultural power in many American schools. For example, *educaciòn*, common among immigrants from Latin America, views moral socioemotional development as the primary foci of parenting, with academic development more the province of teachers in a parallel partnership (Lopez, 2001; Reese, Balzano, Gallimore, & Goldberg, 1995). Such an approach would seem to place less emphasis on interacting with school personnel, and constructing symmetrical learning environments at home, not because parents devalue education or their role in it but because they believe that a parallel partnership is the best way to produce well-rounded successful children. Yet, schools do not always discern this distinction (Crosnoe, 2010). As another example, immigrants from Asia tend to be less visible in school, but they often actively construct and support learning activities and opportunities outside of school. Indeed, many Asian immigrant parents spend a great deal of time and money sending their children to after-school and weekend enrichment activities, including tutoring, weekend schools or after-school, and lessons (Kao & Thompson, 2003; Zhou, 2009). Thus, their approach to parenting may not prioritize direct family–school partnerships while prioritizing indirect family–school partnerships. Yet, that lack of direct interaction with schools may reduce the degree to which parents and school personnel are on the same page, decreasing symmetry between home and school (Crosnoe, 2010).

As a suggestion for future research, I return to my call to explore the symmetry of views across systems and not just behaviors. To my knowledge, no large-scale

quantitative data speak to how well views about learning, development, and schooling align in parent–teacher dyads involving immigrants. Such a data collection, therefore, would be a great service to the field.

Even though these immigration-related issues tend to diminish over time (Glick, Bates, & Yabiku, 2009; Goldenberg, Gallimore, & Reese, 2005), they still undermine consistency and continuity between family and school systems today. Fortunately, numerous organizations have attempted to address these issues, especially in the Latin American immigrant population. One theme among these programs has been their focus on more indirect family–school partnerships, especially symmetry, as an avenue for supporting immigrant families and then shifting towards more direct family–school partnerships; in other words, creating continuity between home and school in terms of learning environments and approaches to supporting learning and then using that continuity to support productive mutually engaged interactions (Crosnoe, 2010).

Abriendo Puertas, a California program that targets Latino/a parents with support groups and instructional activities, is one program. It focuses on helping parents build home learning environments for their children, so that the classroom will be familiar to them and activities at home and school will overlap. The goal is to create consistency across children's environments, but parents do feel more empowered dealing with school personnel. Thus, indirect partnerships can eventually support direct ones (Bridges, Cohen, Fuller, & Velez, 2009). Another program, Lee y Seras, goes further. Sponsored by the National Council of La Raza and targeting Latino/a parents of young children, it also focuses primarily on building home learning environments that are more symmetrical with classroom activities but also explicitly uses instructional workshops to cultivate direct interactions between parents and school personnel. Importantly, this program has parallel workshops for teachers, so that they can better understand parents, support what they are doing at home, and coordinate with them at school (Goldenberg & Light, 2009).

These programs represent just two examples of how broader and more holistic conceptions of family–school partnerships (i.e., supporting indirect partnerships alongside direct family–school partnerships, emphasizing congruence in direct and indirect partnerships) can help immigrant parents and school personnel effectively work together over time. Yet, more needs to be done. Here is a very specific place in which researchers can take advantage of extant programs—and, to be clear, such programs are proliferating (Crosnoe, 2010)—to build a line of study specifically focused on family–school congruence. Although these programs are often evaluated, they tend to be evaluated in a more descriptive way. Assessing confidence in their observed treatment effects is important but not the sole purpose of such research. Given the intensity of activities in these programs, evaluations of them offer an opportunity to collect rich data about the nuances and contexts of family–school congruence that are often lacking in more general studies, especially national studies. Thus, program-research partnerships may be a way forward for meeting some of the research needs in this area.

Conclusion

In terms of family–school partnerships, developmental theory focuses on active transactions that involve explicit contact between family and school systems, more passive interactions that involve symmetry between them, and the connections between the two. The sum of these transactions determines whether families and schools are in conversation.

For the most part, policy and programs focusing on family–school partnerships have recognized this conception of family–school partnerships, but they have not always acted on it. Many efforts still highlight the most visible means of parents and schools connecting, to do so in highly quantitative ways (e.g., increasing the frequency of contact), and to focus on what one side or the other is doing rather than consistency and continuity in the actions of both sides. Yet, such connections can take many forms, and even the same quantitative metric of activity or behavior may subsume great variation in the nature and substance of that activity or behavior.

If we are to improve the overall effectiveness of family–school partnerships, therefore, we need to recalibrate how family–school partnerships are studied and enacted. Contact and direct interactions between home and schools should certainly not be de-emphasized, but it should "share space" with discussion and action focusing on creating more continuity and consistency across home and school environments, both because such indirect family–school partnerships are important in their own right but also because they help to support direct family–school partnerships. In other words, I am not advocating more research and policy attention to some new take on family–school partnerships but instead more fully recognizing the original theoretical insights that advocated our concern with family–school partnerships in the first place. That conception was holistic, and so the activities it generates should be holistic too.

Given the centrality of issues of socioeconomic and racial/ethnic disparities to the research and policy agenda on family–school partnerships, the potential added value of returning to the more theoretically grounded conception of family–school partnerships that emphasizes consistency and continuity in direct and indirect transactions is likely to be more fully realized. After all, the kinds of obstacles that hinder indirect and direct family–school partnerships in general are often more pronounced when lower-SES, racial/ethnic minority, and immigrant parents come into contact with an educational system that has historically been organized around White middle class interests. Helping families and schools understand and respect each other across these potential boundaries and helping both support children while this understanding and respect emerges are perhaps the best ways to ensure that opportunities for children to learn and be successful are seamless no matter where they are at any time during the day, week, or year.

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Chapter 5
Uncovering Processes and Pathways in Family–School Research: Modeling Innovations for Handling Data Complexities

S. Natasha Beretvas

By definition, family–school partnership programs involve collaborations between family members and school personnel intended to enhance school outcomes for children. However, for researchers interested in using quantitative data to evaluate research questions about family–school partnership programs, the data structure complexities that are encountered in family and school systems' research provide challenges that complicate the associated analyses. This chapter describes some of the challenges that are encountered in research focused on families and schools and includes recommendations for models that can be used to handle some of the resulting methodological dilemmas.

Clustered Data

Although family–school partnership programs are designed to enhance cooperation and collaboration among family members and school personnel, child-centered outcomes are typically the ultimate outcome of interest. These child outcomes include distal measures as well as developmental trajectories (longitudinal measures) for academic as well as social, emotional, and behavioral outcomes. If a researcher is interested in assessing the effects of a family–school partnership program, clustered data will likely be encountered. The clustering might originate from multiple students per teacher/classroom or school, multiple students per intervention group and even repeated measures per student, parent,[1] teacher or school. Students enrolled in

[1] For simplicity's sake, the term "parent" is used throughout this chapter to refer generically to the person who is serving as the primary caregiver for a child or adolescent.

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Fig. 5.1 Network graph depicting the pure clustering of students (level-1) within teachers (level-2)

the same classroom share a common context (the classroom) that introduces dependence into student data. Similarly, children in the same intervention group also share a common experience that also introduces dependence into their data because outcomes for children within the same group will be more like those of other children in their group and less like outcomes of children in other groups. Longitudinal data comprising repeated measures per participant (regardless of whether the participant is a student, parent, teacher, etc.) are also partly dependent on some unchanging characteristics of the participant. There are a number of statistical methods that can be used to handle this dependence including standard error corrections and multilevel models. This chapter will focus on use of the multilevel modeling framework for handling this kind of dependence.

The conventional multilevel model (see, for example, Goldstein, 2011; Hox, 2010; Raudenbush & Bryk, 2002; Snijders & Bosker, 2012) is frequently used in educational and social science research for handling clustered data. For example, a researcher might wish to assess the effectiveness of a family–school partnership program using a sample of multiple teachers and their classes of students. Figure 5.1 contains a network graph depicting the clear clustering of students within teachers with each student associated with a single teacher and multiple students per teacher. The researcher might randomly assign whether each teacher (and their classroom of students) will receive the intervention. The researcher might also gather reading achievement scores for the sample of students taught by the multiple teachers in the study. A basic two-level model could be used to handle the clustering of students (level-1):

$$Y_{ij} = \beta_{0j} + e_{ij}, \quad e_{ij} \sim N\left(0, \sigma^2\right) \tag{1}$$

within teachers (level-2)

$$\beta_{0j} = \gamma_{00} + \gamma_{10} X_j + u_{0j}, \quad u_{0j} \sim N\left(0, \tau_{00}\right) \tag{2}$$

where Y_{ij} is the reading score for student i in class j and X_j identifies whether teacher j and her class have been assigned to be an intervention or control class.

Instead of only gathering data on each student at a single time point, the researcher might have conducted a longitudinal study, and gathered repeated measures on students across a single academic year. The resulting student data could be considered to be 2 three-level data structure with measurement occasions (level-1):

$$Y_{ijk} = \pi_{0jk} + \pi_{1jk} \text{Time}_{ijk} + e_{ijk}, \quad e_{ijk} \sim N\left(0, \sigma^2\right) \tag{3}$$

within students (level-2)

$$\begin{cases} \pi_{0jk} = \beta_{00k} + r_{0jk} \\ \pi_{1jk} = \beta_{10k} + r_{1jk} \end{cases}, \quad \begin{pmatrix} r_{0jk} \\ r_{1jk} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{r,00} & \\ \tau_{r,01} & \tau_{r,11} \end{pmatrix}\right] \tag{4}$$

clustered within teachers (level-3).

$$\begin{cases} \beta_{00k} = \gamma_{000} + \gamma_{001} X_k + u_{00k} \\ \beta_{10k} = \gamma_{100} + \gamma_{101} X_k + u_{10k} \end{cases}, \quad \begin{pmatrix} u_{00k} \\ u_{10k} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{u,00} & \\ \tau_{u,01} & \tau_{u,11} \end{pmatrix}\right] \tag{5}$$

where Time is included for the scenario in which the researcher is interested in testing a hypothesis about linear growth in reading, *Y*, for student *j* in class *k*. The Time variable could be coded or centered in a number of ways including centering around the initial or the last measurement occasion. This centering impacts interpretation of the intercept parameter, γ_{000} (see Raudenbush & Bryk, 2002). Most typically, the Time variable is centered around (set to zero for) the first measurement occasion so that the intercept represents the predicted outcome score value at the first measurement occasion. Inclusion of the treatment group predictor, *X*, in the equation for the intercept, β_{00k} (in Eq. 5), controls (or tests) for any differences between the groups at the time point when Time is zero (here, at the first measurement occasion). Like Figs. 5.2 and 5.3 depicts this three-level data structure with two higher levels of

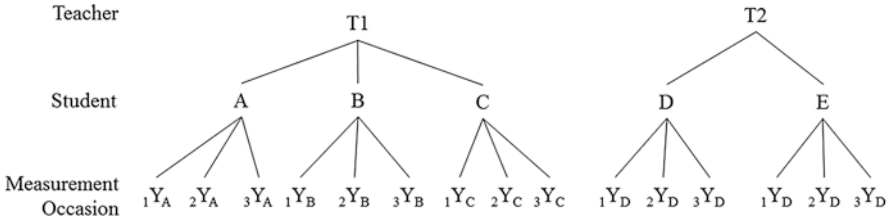

Fig. 5.2 Network graph depicting the pure clustering of measurement occasions (level-1) students (level-2) who are clustered within teachers (level-3)

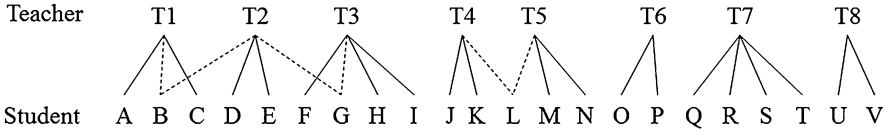

Fig. 5.3 Network graph of a multiple membership structure. This figure depicts the non-pure clustering of students (level-1) within teachers (level-2) with some of the students as members of multiple teachers' classes. The *hatched lines* connecting a student identifier to more than one teacher identifier are used to distinguish the mobile (*hatched lines*) from the non-mobile students (*solid lines*)

pure clustering which can be easily handled with a conventional three-level model. The level-2 and level-3 residuals' distributional assumptions are listed after the models in Eqs. 4 and 5. It is typically assumed that the intercept and slope residuals covary (i.e., $\tau_{r,01} \neq 0$ and $\tau_{u,01} \neq 0$).

Mobility in Clustered Data

A clustering of lower level units (for example, students) within each unit of a higher level cluster (for example, classrooms) is not always *purely* hierarchical. For example, referring back to the two-level model used to handle the clustering of students within teachers, some students might be assigned to a different teacher (or classroom) in the middle of an academic year. Figure 5.3 contains a network graph in which a few of the students have been enrolled in more than one teacher's classroom (students B, G, and L) over the course of the academic year. Another example of this kind of data structure complexity is encountered when a dataset consists of multiple students per school with multiple schools sampled in the dataset [i.e., students (level-1) are nested within schools (level-2)] and over the course of the time period of interest, some mobile students change schools. The complication is that while there are multiple students per school, there might be multiple schools per student for some (the mobile) students. When the researcher thinks about setting up the relevant conventional multilevel model (whether the two- or three-level model just described), it is not possible to specify multiple schools for a single student. Or referring back to the first example given, it is not possible to specify multiple teachers per student under the conventional multilevel model. More generally, for purely hierarchical data that can be analyzed using the conventional multilevel model, there are multiple level-1 units per level-2 unit and each level-1 unit is associated with only a single level-2 unit. For data that are not purely hierarchical, there are also multiple level-1 units per level-2 unit, however, for some level-1 units there are also multiple level-2 units.

Referring back to the first example of data that are not purely hierarchical, it is unclear which of the two teachers to associate with a mobile student when using the conventional multilevel model. Instead, an extension to the conventional multilevel model, the multiple-membership random effects model (MMREM; Goldstein, 2010; Rasbash & Browne, 2001) could be used. The MMREM can be used for any scenario in which some of the level-1 units are members of multiple higher level clustering units. When using the MMREM, it is possible to specify more than a single level-2 unit (e.g., teacher) for each level-1 unit (e.g., student). In this particular scenario, use of the MMREM means that instead of modeling a single teacher residual (as in Eq. 2), u_{0j}, a weighted composite of the residuals for the set of multiple teachers associated with each mobile student i, $\sum_{h \in \{j\}} w_{ih} u_{0h}$, can be modeled using the following level-2 model:

$$\beta_{0\{j\}} = \gamma_{00} + \sum_{h \in \{j\}} w_{ih} \left(\gamma_{10} X_h + u_{0h} \right) \tag{6}$$

where $\{j\}$ represents the set of level-2 units (here, teachers) associated with each level-1 unit (student) i and w represents the weight assigned to each of the set of level-2 units and for each level-1 unit, $\sum_{h\in\{j\}} w_{ih} = 1$. This model in Eq. 6 can be used with a dataset entailing both mobile and non-mobile students. Thus, for non-mobile student A, who remained with teacher T1 during the academic year, Eq. 6 would be:

$$\beta_{0,T1} = \gamma_{00} + \gamma_{10} X_{T1} + u_{0,T1}. \tag{7}$$

where we see a single residual for the one teacher T1, $u_{0,T1}$, associated with non-mobile student A. For mobile student B, who changed from teacher T1 to teacher T2 halfway through the school year, Eq. 6 would be:

$$\beta_{0\{\mathrm{T1,T2}\}} = \gamma_{00} + \sum_{h\in\{\mathrm{T1,T2}\}} \left[(0.5)\left(\gamma_{10} X_{\mathrm{T1}} + u_{0,\mathrm{T1}}\right) + (0.5)\left(\gamma_{10} X_{\mathrm{T2}} + u_{0,\mathrm{T2}}\right) \right] \tag{8}$$

where we see weights of one half assigned to the effects of each of the two teachers, T1 and T2, associated with *mobile* student B. Note that the "effects" are a function of whether the teacher is in the intervention or control group, X, as well as the teacher-specific residual [i.e., the effects for teachers T1 and T2 are $\left(\gamma_{10} X_{T1} + u_{0,T1}\right)$ and $\left(\gamma_{10} X_{T2} + u_{0,T2}\right)$, respectively].

As another example of a scenario in which clustered educational data are not purely hierarchical, the researcher might have gathered repeated measures on students across two academic years (for example, in first and second grades). This scenario results in a three-level dataset. However, while measurement occasions (level-1) are purely clustered within students (level-2), students are clustered within two *different* level-3 clustering units (namely, first and second grade teachers). Thus, while students (level-2) are purely clustered within each teacher (level-3), neither teacher is clustered within the other resulting in what is termed a cross-classified data structure. Figure 5.4 depicts a subset of this cross-classified dataset.

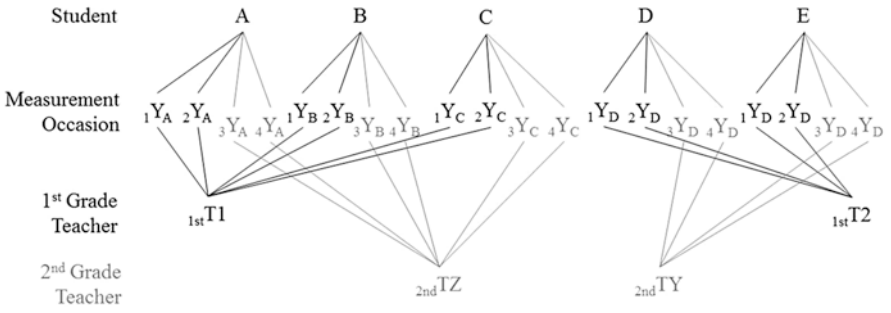

Fig. 5.4 Network graph of a cross-classified data structure. This figure depicts the clustering of measurement occasions (level-1) within students (level-2) who are cross-classified by first and second grade classes (level-3). There are four measurement occasions, two in first and two in second grade. The measurement occasions and teachers are distinguished in the Figure by the darkness of the font with lighter font used for the second grade information

As with the multiple-membership data structure (see Fig. 5.3), it is not possible with the conventional multilevel model to simultaneously model both level-3 clustering units (first and second grade classes). As another example, the dataset might consist of repeated measures on students across middle and high schools. In the dataset, some of the students in a middle school (MS-I) might move together to a common high school (HS-A), while other students who were at the same middle school, MS-I, might go to a different high school (HS-B). However, high school HS-B might also have students from a different middle school (MS-II). Thus, repeated measures (level-1) are purely clustered within students (level-2), and students might be purely clustered within middle-school attended and students are purely clustered within high-school attended. However, middle schools are not clustered within high schools, nor vice versa. Thus, the conventional multilevel model cannot be used to handle this kind of data.

The MMREM model is used when the multiple higher level clustering units per mobile student are of the same type (for example, first grade teacher). The cross-classified random effects model (CCREM; Beretvas, 2010; Goldstein, 2010; Rasbash & Browne, 2001), on the other hand, is used for data that are not purely hierarchically clustered when the multiple higher level clustering units associated with a lower level unit are of a different type (for example, first and second grade teachers or middle and high schools). To adapt the three-level longitudinal model in Eqs. 3, 4, and 5 to handle the cross-classification by first and second grade teacher at level three, the level-3 equations would become:

$$\begin{cases} \beta_{00(k_1,k_2)} = \gamma_{0000} + \gamma_{0001} X_{k_1} + u_{00k_10} \\ \beta_{10(k_1,k_2)} = \gamma_{1000} + \gamma_{1001} X_{k_1} + \boldsymbol{u}_{10k_10} + u_{100k_2} \end{cases}, \quad \begin{pmatrix} u_{00k_10} \\ u_{10k_10} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{uk_1,00} & \\ \tau_{uk_1,01} & \tau_{uk_1,11} \end{pmatrix} \right] \tag{9}$$

and u_{100k_2} is assumed distributed as follows: $\sim N\left(0, \tau_{uk_2,11}\right)$ and is assumed independent of the other level-3 cross-classified factor's residuals. Note also that, in Eq. 9, k_1 and k_2 refer to first and second grade teachers, respectively. (For the middle and high school example, use of the two subscripts, k_1 and k_2, would be used to distinguish between the two different school classifications.) The Time variable included in the level-1 model (see Eq. 3) is assumed centered around the first measurement occasion and thus, the intercept refers to the predicted outcome (reading) score at the first measurement occasion (in first grade). The longitudinal model for the intercept, in Eq. 9, includes the treatment group membership variable (to control for differences between the groups at the first measurement occasion) and includes only the residual for the first grade teacher, u_{00k_10}. Inclusion of this residual reflects an assumption that there is variability only across first grade classes in the predicted reading score at the first measurement occasion (in first grade). It is unreasonable to attribute variability in first grade scores to second grade teachers' effects and therefore a residual for the second grade teacher is not included in the equation for the intercept. However, the model for the slope in Eq. 9, $\beta_{10(k_1k_2)}$, includes a residual for both first and second grade teachers, u_{10k_10} and u_{100k_2}, allowing variability in the growth over time in reading to be a function of both first and

second grade teachers' "effects." More explanation for this distinction can be found in Grady and Beretvas (2010).

Note that only very simple parameterizations of the MMREM and CCREM have been demonstrated here. Only the treatment group membership variable has been included as a predictor in the models. Additional predictors are easily added and the reader is referred to a number of resources to find more details about model interpretation and estimation (Beretvas, 2008, 2010; Goldstein, 2011; Hox, 2010; Rasbash & Browne, 2001; Raudenbush & Bryk, 2002). Clearly, additional methodological complications might be encountered in real-world family–school partnership data. For example, some first and second graders in the cross-classified data example might change classes within an academic year. For this scenario a combination of the MMREM and CCREM models would have to be used (see Beretvas, 2010; Grady & Beretvas, 2010; Rasbash & Browne, 2001). In addition, while "teacher" is used as an example of a clustering variable, other examples commonly found in family–school partnership research might be encountered including school, neighborhood, and intervention group clusters.

Methodological research has emphasized the need to appropriately handle multiple-membership and cross-classified data structure complications (Chung & Beretvas, 2012; Luo & Kwok, 2009, 2012; Meyers & Beretvas, 2006; Shi, Leite, & Algina, 2010). Failure to appropriately model these structures has been found to reduce the validity of statistical inferences that are made. And given the realities of educational, and more importantly, here, of family–school partnership research, more applied researchers need to begin to make use of these models to handle these data structure complexities (Beretvas, Keith, & Carlson, 2010).

Multivariate Multilevel Models

Multivariate Multilevel Models for Participants at Same Level

As noted earlier, one of the defining characteristics of family–school partnership interventions entails encouraging the development of cooperation between family members and school personnel ultimately to impact student outcomes. A family–school partnership researcher might wish to evaluate the effectiveness of such a program by assessing the family–school partnership intervention's effect on a family outcome (e.g., parental warmth) *and* on a school professional's outcome (such as constructive parent–professional communication) while also investigating how each of the outcomes (parental warmth and parent–professional communication) might relate to a distal student outcome like reading achievement. A set of three univariate multilevel models could be used to test the treatment's effect on each outcome. However, a three-level multivariate multilevel model could instead be used to simultaneously examine this set of applied research questions. The multivariate model provides a more efficient solution than the use of multiple univariate multilevel models as well as statistical tests with smaller standard errors and thus more powerful tests of treatment effects (Snijders & Bosker, 2012).

If the design of this multivariate family–school partnership evaluation study was a cluster-randomized trial such that classrooms (conveniently, here, one classroom per school) of students were randomly assigned to receive the family–school partnership training versus not, then students would be clustered within classrooms. To simplify presentation of this model, it will also be assumed that the intervention (and the comparison groups) was delivered to parent groups who were formed by matching them with the classroom grouping. In other words, the parents of students from an intervention classroom are grouped together to receive the parent component of the intervention. This means that parents are clustered within treatment groups and that clustering corresponds exactly with the students' classroom clustering.

In this multivariate multilevel model, level-1 is used to identify the (here, three related) outcomes for each participant (parent and student), and participants within classrooms are modeled at level-2 with variability across classrooms (which, here, correspond to intervention groups) modeled at level-3 (Goldstein, 2011; Hox, 2010; Snijders & Bosker, 2012). At level-1, the model would be:

$$Y_{qij} = \pi_{1ij} D_{1,ij} + \pi_{2ij} D_{2,ij} + \pi_{3ij} D_{3,ij} \tag{10}$$

where dummy coded variables, D_1, D_2, and D_3, are used to identify whether the outcome score, Y, refers to the student reading achievement, parent warmth, or parent–school professional communication outcome, respectively. At level-2, the participant (parent or child) level, these outcome coefficients could be modeled as follows:

$$\begin{cases} \pi_{1ij} = \beta_{10j} + r_{1ij} \\ \pi_{2ij} = \beta_{20j} + r_{2ij} \\ \pi_{3ij} = \beta_{30j} + r_{3ij} \end{cases}, \quad \begin{pmatrix} r_{1ij} \\ r_{2ij} \\ r_{3ij} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{r,11} & & \\ \tau_{r,12} & \tau_{r,22} & \\ \tau_{r,13} & \tau_{r,23} & \tau_{r,33} \end{pmatrix} \right] \tag{11}$$

where variability in each outcome across participants within each classroom (or parent–treatment grouping) is modeled by including outcome-specific level-2 residuals (the rs). At level-3, the clustering of participants within classrooms (or treatment groups for parents) could be modeled as follows:

$$\begin{cases} \beta_{10j} = \gamma_{100} + \gamma_{101} X_j + u_{10j} \\ \beta_{20j} = \gamma_{200} + \gamma_{201} X_j + u_{20j} \\ \beta_{30j} = \gamma_{300} + \gamma_{301} X_j + u_{30j} \end{cases}, \quad \begin{pmatrix} u_{10j} \\ u_{20j} \\ u_{30j} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{u,11} & & \\ \tau_{u,12} & \tau_{u,22} & \\ \tau_{u,13} & \tau_{u,23} & \tau_{u,33} \end{pmatrix} \right] \tag{12}$$

where, as in earlier equations, X identifies the participant's treatment group, and the associated γ_{q01} coefficient identifies the family–school partnership's treatment effect on outcome q for each of the outcomes (including, student achievement, parental warmth, and parent–school personnel communication). Inclusion of the outcome-specific level-3 residuals, the us, means that additional variability across

classrooms (or parent–treatment groups) after controlling for the treatment's effect on each outcome is also being modeled. As noted, this multivariate model handles the correlations between the related outcomes (the $\tau_{r,jj'}$ and $\tau_{u,jj'}$). These same covariance matrix elements could be used to quantify the interrelatedness of the three outcomes (achievement, warmth, and communication).

Use of this multivariate model (rather than multiple univariate models) permits testing of more complex research hypotheses. For example, this model could be extended to permit tests of differences in a treatment's effects across the related outcomes (Baldwin, Imel, Braithwaite, & Atkins, 2014). Thus, this multivariate multilevel model should prove useful for handling the complications typically encountered in family–school partnership research given the complexities of the systems (families and schools) in terms of both data structure and multiplicity of outcomes.

Multivariate Multilevel Model Outcomes of Participants at Different Levels

Building on the multivariate multilevel model presented in Eqs. 10 through 12, it is possible that the outcomes of interest might describe participants at different "levels" of the model. For example, a researcher might be interested in the intervention's effects on the student's reading achievement, on parental warmth and on the teacher's communication with parent. Remember that for this example, there are multiple students per class and the same clustering of students' parents within each class. However, there will only be a single teacher associated with each class of students and parents. Thus, students and parents are level-2 identifiers and teachers are at level-3.

The level-1 equation needed to handle this new kind of data looks the same as in Eq. 10. However, for this dataset, D_3 now represents a teacher outcome (such as a measure of teacher communication with parents) and no longer represents a parent outcome measure. The level-2 system of equations for participants (students and parents) looks similar with the equation for the teacher outcome, $\pi_3 ij$, looking different:

$$\begin{cases} \pi_{1ij} = \beta_{10j} + r_{1ij} \\ \pi_{2ij} = \beta_{20j} + r_{2ij}, \\ \pi_{3ij} = \beta_{30j} \end{cases} \quad \begin{pmatrix} r_{1ij} \\ r_{2ij} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{r,11} & \\ \tau_{r,12} & \tau_{r,22} \end{pmatrix} \right] \tag{13}$$

such that there is no residual included in the formulation of π_{3ij}. This score cannot vary across participants (students or parents) associated with each teacher as there is only a single score for each teacher on the teacher communication outcome. This coefficient, π_{3ij}, serves as a placeholder for the model for the teacher's outcome that allows simultaneous integration of models for participants (students, parents,

teachers) at different levels of the model. The level-3 (teacher level) equations could look exactly the same as in Eq. 12 with each of the β coefficients from Eq. 13 modeled as a function of the treatment variable, *X*, along with random effects for each outcome. The coefficients of the treatment variable, *X*, can be used to make inferences about the treatment's effect on each of the related outcomes. And, as with the earlier multivariate model (Eqs. 10 through 12), it is possible to use information by estimating this model to test differences in the treatment's effects across outcomes (Baldwin et al., 2014). Last, the associated residuals' covariance matrix elements (the τs) could be used to assess covariances between pairs of outcomes for the students, parents, and teachers.

Some family–school partnership researchers might want to assess directional hypotheses about a program's effects. For example, a researcher might wish to test whether the effect of a family–school partnership intervention on student reading achievement is *mediated* by its effects on parental warmth and on teacher communication with parents (see Fig. 5.5). While earlier procedures (for example, Baron & Kenny, 1986) for testing hypotheses about mediation have encouraged estimation of multiple models to obtain the relevant coefficients that constitute the test of mediation, it is more efficient to estimate all of the relevant coefficients in a single multivariate model. A mediated effect can be calculated as the product (*ab*) of a treatment's effect on the mediator (path *a* in Fig. 5.5) times the mediator's "effect" on a distal outcome (path *b* in Fig. 5.5) or as the difference ($c - c'$) between the total effect of an intervention on an outcome, *c*, minus the direct effect of the intervention on the outcome after controlling for the mediators, c'. I will focus on use of the *ab* product term because it is more commonly used and because its use allows tests of mediator-specific indirect effects in multiple-mediator models.

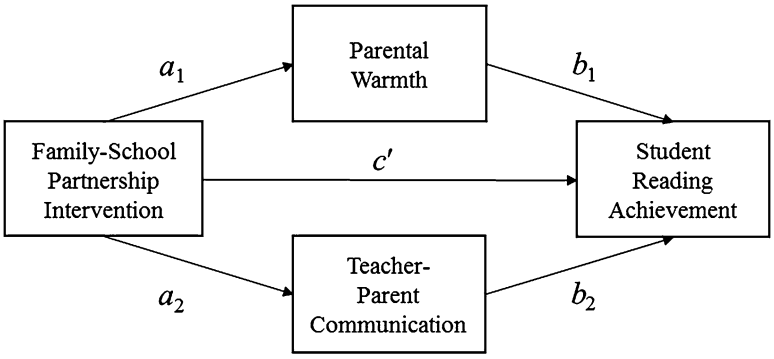

Fig. 5.5 Theoretical framework for hypothesis that a family–school partnership intervention's effect on student reading achievement is mediated by its effects on parental warmth and teacher–parent communication. Note that this is a depiction of the hypothesis and not a structural equation model because variables are not all measured at the same "level" of the associated multilevel model and errors and intercepts are omitted from the figure. The products of paired *a* and *b* coefficients (a_1 with b_1 and a_2 with b_2) provide estimates of the indirect effects, and c' is the direct effect

Multivariate Multilevel Latent Variable Regression Models for Directional Hypotheses

As emphasized earlier, the three-level multivariate model in Eqs. 10, 13, and 12 for assessing a treatment's effect on student reading achievement, parental warmth and teacher communication with parents assumes *covariances* among the outcomes. Instead, under mediation hypotheses, such as those depicted in Fig. 5.5, there might be explicit *directional* hypotheses such as the treatment affecting parental warmth which then influences student reading achievement (paths a_1 and b_1 in Fig. 5.5). Alternatively, while covariances describe the magnitude and direction of the relationships between pairs of variables, the researcher might be interested instead in understanding the change in one variable given a one-unit change in another related variable (Seltzer, Choi, & Thum, 2003). For example, the researcher might wish to estimate the effect of a one-point increase in parent–teacher communication on student reading achievement (see path b_2 in Fig. 5.5). Or the researcher might wish to quantify the effect on student reading achievement of a one-point increase in parental warmth (see path b_1 in Fig. 5.5). The latent variable regression (LVR) framework can be combined with the multivariate multilevel model to assess these kinds of directional research questions. Repeating, here, the level-1 multivariate multilevel model in Eq. 10 is still:

$$Y_{qij} = \pi_{1ij} D_{1,ij} + \pi_{2ij} D_{2,ij} + \pi_{3ij} D_{3,ij} \tag{14}$$

where D_1, D_2, and D_3 index student reading achievement, parental warmth, and teacher communication outcomes, respectively. At level-2, prediction of student reading achievement by parental warmth *within classrooms* is modeled as follows

$$\begin{cases} \pi_{1ij} = \beta_{10j} +_W b_{1j}\left(\pi_{2ij}\right) + r_{1ij} \\ \pi_{2ij} = \beta_{20j} + r_{2ij} \\ \pi_{3ij} = \beta_{30j} \end{cases}, \quad \begin{pmatrix} r_{1ij} \\ r_{2ij} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{r,11} & \\ 0 & \tau_{r,22} \end{pmatrix}\right] \tag{15}$$

where ${}_W b_{1j}$ represents the within-classroom portion of path b_1 in Fig. 5.5 (the influence of parental warmth on student reading achievement). Note that in the earlier version of this model (see Eq. 13), a covariance, $\tau_{r,12}$, was freely estimated between r_{1ij} and r_{2ij}, however, in this LVR version of the model, the relationship between those two residuals is now re-parameterized as the coefficient, ${}_W b_{1j}$. Thus, the covariance, $\tau_{r,12}$, is assumed equal to zero. At level-3, the system of equations could be modeled as follows:

$$\begin{cases} \beta_{10j} = \gamma_{100} + c' X_j +_B b_1\left(\beta_{20j} - \gamma_{200}\right) + b_2\left(\beta_{30j} - \gamma_{300}\right) + u_{10j} \\ \beta_{20j} = \gamma_{200} + a_1 X_j + u_{20j} \\ \beta_{30j} = \gamma_{300} + a_2 X_j + u_{30j} \end{cases} \tag{16}$$

where a_1 and a_2 represent the effects of the intervention on each mediator (parental warmth and teacher communication, respectively), b_2 is the influence of the teacher communication variable on the distal student reading achievement outcome and c' is the direct effect (see Fig. 5.5). In addition, the between-classroom portion of path b_1, ${}_Bb_{1j}$, is the coefficient for the prediction of the reading achievement in class j by class j's average parental warmth. As with the level-2 residuals' covariance matrix, the covariances between the student reading achievement level-3 residual and each of the other two outcomes' residuals are set to zero as this pair of covariances are instead parameterized as regression coefficients, ${}_Bb_1$ and b_2, in Eq. 16, such that:

$$\begin{pmatrix} u_{10j} \\ u_{20j} \\ u_{30j} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{u,11} & & \\ 0 & \tau_{u,22} & \\ 0 & \tau_{u,23} & \tau_{u,33} \end{pmatrix}\right].$$

Estimation of the model presented in Eqs. 14 through 16 provides the necessary coefficients and associated standard error estimates that can be used to test the multivariate multilevel multiple-mediator hypotheses depicted in Fig. 5.5. Although not detailed here, the product of each pair of a and b coefficients can be calculated and the relevant standard errors used with either MacKinnon, Fritz, Williams, and Lockwood's PRODCLIN software (2007), bootstrapping estimation (MacKinnon, Lockwood, & Williams, 2004) or summaries of Bayesian posterior distributions of the product term (Yuan & MacKinnon, 2009) to test the statistical significance of each mediated effect. While only very high level details about this model are presented here, the combination of the LVR modeling framework with multivariate multilevel modeling should prove useful for testing the kinds of mediation and directional hypotheses that might be of interest to family–school partnership researchers.

I should emphasize that in this chapter, the multilevel modeling framework for testing multilevel mediation hypotheses was demonstrated because some of the data structure complications mentioned at the start of the chapter (like multiple-membership and cross-classified data structures) are still more easily handled using this rather than the structural equation modeling framework. However, the reader is encouraged to review research on the benefits of using the multilevel structural equation modeling framework for testing multilevel mediation hypotheses for more straightforward multilevel data structure scenarios (Li & Beretvas, 2013; Preacher, Zhang, & Zyphur, 2011).

Multivariate Multilevel Models for Multiple-Membership Data

It is very possible that the earlier scenario in which the researcher is investigating the effects of a family–school partnership program on student reading achievement, parental warmth, and teacher communication is further complicated by some students changing classes during the academic year of interest. This added

complication introduces a multiple-membership structure into the data that requires modification of the model in Eqs. 10 through 12. The modification would be seen in the level-3 equations. Equation 12 would have to be modified to incorporate the MMREM parameterization as follows:

$$\beta_{q0\{j\}} = \gamma_{q00} + \sum_{h\in\{j\}} w_{ih}\left(\gamma_{q01}X_h + u_{q0h}\right) \tag{17}$$

for each outcome q of the three outcomes (student reading achievement, parental warmth, and teacher communication). And a similar modification could be incorporated into the level-3 model in Eq. 16 for the scenario in which the research question focused on mediation of the family–school partnership program's effect on reading achievement through parental warmth and teacher communication.

Multivariate Multilevel Models for Cross-Classified Data

It is also possible that the multivariate outcome data being analyzed entail a cross-classified data structure. For example, the intervention might have been timed to start at the beginning of first grade and gone on through the end of second grade with researchers working with the students' first and second grade teachers. Thus, the multivariate multilevel models in Eqs. 10 through 16 would have to be modified to recognize the cross-classified data structure because, as already mentioned, failure to model cross-classified data appropriately has been found to result in biased results (see, for example, Luo & Kwok, 2009, 2012; Meyers & Beretvas, 2006; Shi et al., 2010).

For example, the level-3 (teacher level) system of equations for the multivariate multilevel model for mediation in Eq. 16 would have to be adapted as follows:

$$\begin{cases} \beta_{10(j_1,j_2)} = \gamma_{1000} + c^{'}X_{(j_1,j_2)} +_B b_1\left[\beta_{20(j_1,j_2)} - \gamma_{2000}\right] + b_2\left[\beta_{30(j_1,j_2)} - \gamma_{3000}\right] + u_{10j_10} + u_{100j_2} \\ \beta_{20(j_1,j_2)} = \gamma_{2000} + a_1X_{(j_1,j_2)} + u_{20j_10} + u_{200j_2} \\ \beta_{30(j_1,j_2)} = \gamma_{3000} + a_2X_{(j_1,j_2)} + u_{30j_10} + u_{300j_2} \end{cases} \tag{18}$$

to recognize the cross-classification of participants (students and parents) by first and second grade teachers (j_1 and j_2, respectively). Note that in the model in Eq. 18, it is assumed that the student remains in the intervention or the comparison group across both first and second grades (and thus, there is a single indicator, X, identifying whether the student is in the intervention group). Last, under the conventional CCREM (for example, see Eq. 9), the set of residuals for each

cross-classified factor (first versus second grade teacher) are typically assumed distributed independently:

$$\begin{pmatrix} u_{10j_1 0} \\ u_{20j_1 0} \\ u_{30j_1 0} \\ u_{100j_2} \\ u_{200j_2} \\ u_{300j_2} \end{pmatrix} \sim N\left[\begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \tau_{uj_1,11} & & & & & \\ \tau_{uj_1,12} & \tau_{uj_1,22} & & & & \\ \tau_{uj_1,13} & \tau_{uj_1,23} & \tau_{uj_1,33} & & & \\ 0 & 0 & 0 & \tau_{uj_2,11} & & \\ 0 & 0 & 0 & \tau_{uj_2,12} & \tau_{uj_2,22} & \\ 0 & 0 & 0 & \tau_{uj_2,13} & \tau_{uj_2,23} & \tau_{uj_2,33} \end{pmatrix} \right].$$

Multivariate Multilevel Models for Longitudinal Data

The three-level multivariate multilevel models that have been described in this chapter would have to be further modified for scenarios in which the researcher might have gathered repeated measures for any of the participants. For example, instead of only gathering a single distal score on each outcome (reading achievement, parental warmth, and teacher communication scores), the family–school partnership researcher might have gathered repeated measures at four time points during a single grade for all three related outcomes for the students, parents, and teachers. Another (fourth) level would have to be added to the three-level multivariate model to handle the dependency of repeated measures within individuals. The level-1 equation would still be used to distinguish the three related outcomes:

$$Y_{qtij} = \theta_{1tij} D_{1,tij} + \theta_{2tij} D_{2,tij} + \theta_{3tij} D_{3,tij} \tag{19}$$

where the additional level-2 subscript, *t*, indexes measurement occasion. At level-2, the dependence from multiple measurements of reading achievement per student and of parental warmth per parent across time can be modeled as follows:

$$\begin{cases} \theta_{1tij} = \pi_{10ij} + \pi_{11ij}\text{Time}_{tij} + e_{1tij} \\ \theta_{2tij} = \pi_{20ij} + \pi_{21ij}\text{Time}_{tij} + e_{2tij} \\ \theta_{3tij} = \pi_{30ij} \end{cases} \tag{20}$$

where π_{30ij} provides the placeholder for the teacher communication measure's model. (Note that only linear growth is being modeled in this example although clearly other more complex trajectories could be incorporated into the model.) At level-3, the dependence of students and parents within classrooms and measurement occasions within teachers is simultaneously modeled:

$$\begin{cases} \pi_{10ij} = \beta_{100j} + r_{10ij} \\ \pi_{11ij} = \beta_{110j} + r_{11ij} \\ \pi_{20ij} = \beta_{200j} + r_{20ij} \\ \pi_{21ij} = \beta_{210j} + r_{21ij} \\ \pi_{30ij} = \beta_{300j} + \beta_{301j}\text{Time}_{ij} + r_{30ij} \end{cases} \tag{21}$$

where the intercept and slope for the student reading achievement and parental warmth trajectories are each modeled as varying across students (r_{10ij} and r_{11ij}) and parents (r_{20ij} and r_{21ij}), respectively, and the trajectory for the teacher communication scores across time is specified, π_{30ij}. Last, at level-4, the model for the intercept and slope parameters could be:

$$\begin{cases} \beta_{100j} = \gamma_{1000} + \gamma_{1001}X_j + u_{100j} \\ \beta_{110j} = \gamma_{1100} + \gamma_{1101}X_j + u_{110j} \\ \beta_{100j} = \gamma_{2000} + \gamma_{2001}X_j + u_{200j} \\ \beta_{110j} = \gamma_{2100} + \gamma_{2101}X_j + u_{210j} \\ \beta_{200j} = \gamma_{3000} + \gamma_{3001}X_j + u_{300j} \\ \beta_{210j} = \gamma_{3100} + \gamma_{3101}X_j + u_{310j} \end{cases} \tag{22}$$

where differences between treatment and control groups and variability in each parameter across classrooms are modeled for each outcome. Under this four-level multivariate model, typically covariances between pairs of residuals at each level would be estimated. A researcher might instead be interested in testing directional hypotheses about interrelationships among parameters and variables in the model. For example, a researcher might hypothesize that the effect of a family–school partnership intervention on growth in student reading achievement might be partially mediated by growth in parental warmth and teacher communication. Alternatively, a researcher might have the following hypothesis: measures of each of the three outcomes of interest at the first measurement occasion after the treatment has been started mediate the family–school partnership treatment's effect on growth in each outcome. The LVR extensions to the multivariate model (see examples in Eqs. 15, 16, and 18) could be used to modify the four-level multivariate model (Eqs. 19 through 22) to address these kinds of hypotheses. In addition, should there be mobility across classrooms during the time frame of interest, the model in Eqs. 19 through 22 could be adapted to handle the resulting multiple-membership and/or cross-classified data structure.

The fullest scenario in which repeated measures on every outcome was demonstrated in Eqs. 19 through 22. Modifications of this model could also be estimated for scenarios in which repeated measures were captured for a subset of outcomes. And as with all of the other models detailed here, additional predictors and covariates could be included in the models and some of the random effects could be constrained to zero.

Limitations and Additional Extensions

In this chapter, I have focused on clustered data structure complications and how to handle them using the CCREM and MMREM models. I introduced the use of LVR model extensions to the CCREM and MMREM for tests of mediation hypotheses. I have also described possible extensions to the univariate multilevel model that could be used to handle multivariate outcomes. The multivariate multilevel model extensions seem like a good fit for handling the complex systems of outcomes and different participants and participant contexts that are impacted by family–school partnership programs. Clearly, however, not every data structure scenario was discussed nor addressed in detail. Different data structures could be encountered that would require modification of the examples given here. For example, children selected for participation in a family–school partnership study might be randomly assigned to the treatment or comparison group. If assigned to the treatment arm of the study, then the children might be clustered by treatment group while children in the control arm of the study might not be in some corresponding control "cluster." The model for partially clustered data described in Bauer, Sterba, and Hallfors' study (2008) provides a simple solution for this scenario that can be easily extended to handle multivariate data as well as cross-classified or multiple-membership scenarios.

There are also extensions to the MMREM and CCREM that were not described in this chapter but that could prove useful for the kinds of data and analyses conducted in family–school partnership research. For example, while residuals for each cross-classified factor in a CCREM are assumed independently distributed as described in the text following Eqs. 9 and 18, this assumption seems overly restrictive. This assumption means that, for example, the "effect" of a student's first grade class is independent of the "effect" of the student's second grade class (where effect is loosely operationalized as the residual). However, it seems more likely that there is some degree of correlation between the effects of the classes and of within-level cross-classified factors more generally (Kaplan & Beretvas, 2014). Leyland and Næss (2009) have suggested several useful extensions to the CCREM (and to the MMREM) that release some of the constraints typically assumed with these models. For example, one of the models that they suggest allows a non-zero correlation between pairs of residuals across cross-classified factors. However, these less conventional CCREM and MMREM model extensions require use of more complicated estimation procedures that are not built into point-and-click multilevel modeling software. Thus, the solutions are currently less readily available to applied researchers.

Although I have not discussed mixture modeling in any detail in this chapter, it offers another analytic framework that could prove useful to family–school partnership researchers. For example, in his chapter in this series, Crosnoe describes a typology of engagement between home and school systems (in press). Latent class or factor mixture modeling (see Pastor & Gagné, 2013 for a readable introduction) could be very pertinent for testing theories about, for example, discrete types of

engagement patterns that might distinguish interactions among parents and schools and their influence on student outcomes. Growth mixture modeling could be used to assess hypotheses about distinct types of growth trajectories for the multiple outcomes and participants commonly encountered in family–school partnership intervention research.

As noted earlier, this chapter focused on the use of the multilevel modeling framework for handling data structure complexities commonly found in educational and social science research and in particular in family–school partnership research. The models that were discussed failed to incorporate measurement error into the models for outcomes and predictors. Some of the simpler models that were presented can be extended to incorporate measurement error through use of the multilevel structural equation modeling or cross-classified structural equation modeling framework. However, incorporation of the modeling of measurement error into some of the more complicated models with three or more levels and cross-classified factors might require the applied researchers to write their own estimation procedures.

Software

There are lots of options for statistical software programs that facilitate estimation of the models mentioned in this chapter. MLwiN provides a very flexible multilevel modeling software package that can be used to estimate a very large range of multilevel models including most of those suggested in this chapter. Mplus and Stata's GLLAMM are also very flexible software programs that offer the capacity to estimate a wide range of multilevel modeling, structural equation modeling, and multilevel structural equation modeling models including mixture models. Some of the more basic multilevel models mentioned here can be estimated using more general statistical software programs like, for example, R functions, SAS procedures, and SPSS. The more complicated models that include three or more levels, LVR and cross-classified and/or multiple-membership data structures (as well as those that might handle measurement error) will more likely require use of Markov Chain Monte Carlo (MCMC) estimation through OpenBUGS, WinBUGS or JAGS or researcher-created estimation routines. Last, Paras Mehta's N-level structural equation modeling freeware (xxM) also holds promise for estimating these complex models.

Of course, before selecting the relevant software to estimate the model, the researcher must fully understand how best to handle the complexities of the data being handled through the relevant model's parameterization. It is hoped that the series of models that have been described in this chapter provide a helpful starting point for understanding some of the nuances of model parameterizations necessary for applied researchers who encounter some of the inevitable data structure complexities inherent in family–school partnership research.

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Chapter 6
Commentary: Strengthening Networks and Attachments to Promote Child Development

Thomas J. Power

The evolution of research on family involvement in education has been unfolding at a rapid pace. Although researchers have known for many years that families can support their children's education in numerous ways (i.e., in the home, at school, through parent–teacher collaboration) and that more involvement is generally better, recent research is starting to uncover mediating mechanisms explaining how family involvement contributes to educational outcomes (Dearing, Sibley, & Nguyen, 2015). For example, one way in which family involvement in education improves academic performance is by aligning the family and school so that children are educated in a symmetrical and consistent manner across these systems (Crosnoe, 2015). Further, family involvement improves school performance by increasing the social capital of parents, thereby enabling parents to be more effective in socializing their children to benefit from school (Dearing et al., 2015).

Second, research is elucidating key moderating variables, that is, factors that have an effect on the relationship between family involvement and outcomes. For example, level of schooling is a potentially important moderating variable; certain types of family involvement (e.g., parental micromanagement of homework) may be more appropriate and effective at some levels of development and schooling (i.e., elementary school) as opposed to other levels (i.e., high school; Hill, 2015). Further, cultural factors have moderating effects; some forms of family involvement (e.g., close collaboration between parents and teachers) may be more fitting and acceptable for families from some cultural backgrounds (e.g., middle class, European American) as opposed to others (e.g., Chinese–American, Latino; Holloway & Kunesh, 2015). Third, research is accounting for the reality that family–school

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relationships occur in the context of communities with families of varying cultures, resources, and stressors. The culture of families is highly dynamic and responsive to the challenges of the community and broader ecology, resulting in rich variation among cultural groups (Holloway & Kunesh, 2015). Fourth, research is generating statistical models to account for the complexity of schooling, including the effects of clustering (school, classroom), time of year, and student mobility across classrooms, grade levels, and schools. Further, statistical models have developed to the point that multiple mediators and moderators can be examined in an integrated manner in the same multilevel model (Beretvas, 2015).

The purpose of this chapter is to highlight key themes presented in the chapters of this volume. Given that my research relates primarily to practice, the main focus is on identifying ways in which themes offered in the previous chapters can directly inform educational practice and generate research in the future to eventually result in improvements in practice.

Building Social Capital in a Culturally Responsive Manner

The social capital accumulated by parents and teachers about how to promote the development and academic socialization of children is a major way in which family involvement in education has an effect on academic performance (Crosnoe, 2015; Dearing et al., 2015; Hill, 2015). Most of the focus in family involvement research has been on understanding processes and developing strategies that enable parents to accumulate social capital. There has been less focus on how teachers can accumulate social capital to be more responsive to the culturally defined values and perspectives of children and families (Holloway & Kunesh, 2015).

Building the Social Capital of Parents

Parents who are well educated have a distinct advantage with academic socialization. These parents typically have relatively high levels of social capital at the outset of schooling and acquire social capital rapidly; they are comfortable in school environments and are oriented to preparing their children for higher education and successful careers. As such, it may be natural for them to place a high value on education and to create home contexts that prepare their children for schooling. The challenges are often much more significant in communities in which parents are less educated and/or belong to cultural groups that are not matched to the backgrounds of the educational staff. In these latter settings, initiatives taken by school professionals to promote family involvement in education often prove unsuccessful.

Social networks have a critical role in fostering the accumulation of social capital. Well-educated parents often have friends and colleagues in their social networks who socialize them about how to navigate complex systems in the community, such as schools, healthcare systems, recreation programs, and state and county services.

As an example, many parents have friends or colleagues who are healthcare professionals. If a member of the family needs an examination from a medical specialist, these parents typically activate members of their social network and acquire helpful recommendations about how to access the healthcare system and select a competent provider. Similarly, many parents, especially those who are well educated, have friends who are school professionals. These parents can learn academic socialization strategies and methods to navigate the complex school environment through their informal social network of friends who are educators.

What can parents do when their informal social networks do not include educators and other professionals who can help them to promote their children's development? Although it may be useful to schedule meetings at school (e.g., home–school association meetings, family education sessions) to provide parents information and offer them an opportunity to interact with individuals who are knowledgeable about the educational process, these meetings typically are not well attended. A more successful strategy may be to understand and build upon the natural help-seeking patterns of families (Cauce et al., 2002; Eiraldi, Mazzuca, Clarke, & Power, 2006) and natural ways in which parents promote the education of their children. Families of lower income status often avoid formal systems and gravitate towards informal networks (e.g., faith-based organizations, neighborhood clubs, recreation centers, block captains) to obtain information and support.

How can school professionals get connected with the informal social networks through which parents learn how to navigate complex community systems? More fundamentally, what can be done to help educators understand the importance of connecting with these networks and motivate them to reach out, connect, listen, learn, and transmit what they learn to other educators? Although it may not be feasible for educators to become highly involved in the informal social networks embedded in their neighborhoods, a potentially useful resource is the large group of paraeducators who work in paid and volunteer roles in schools as aides in classrooms, the lunchroom, and the playground (Leff, Costigan, & Power, 2004; Power, Dowrick, Ginsburg-Block, & Manz, 2004). These individuals typically are family members of students attending the school who live in the neighborhoods adjacent to the school. Paraeducators who work in close partnership with educators can serve important roles as cultural brokers. They participate in parents' informal social networks and can help parents accumulate social capital about how to educate their children. Also, paraeducators work side-by-side with educators in teaching and socializing children in schools. A problem is that paraeducators are often an undervalued resource in schools. Educators often fail to recognize the critical role paraeducators can serve in improving the social capital of both parents and teachers (Manz, Power, Ginsburg-Block, & Dowrick, 2010). Thus, a key strategy for enabling a school to become more community-responsive is to affirm the importance of paraeducators, guide teachers to form meaningful, nonhierarchical partnerships with these individuals, and find ways to recognize paraeducators for the outstanding contributions they make to the development of children.

An approach used by many schools in urban settings is to create a community school or full-service school (Dryfoos, 1994). Community schools are developed

through partnerships with leaders and members of the community. Although the community school movement climaxed in the 1980s and 1990s, elements of this approach persist in many urban schools today. These schools provide a wide array of services to address the range of child development programs and activities valued by community members. These services might include health centers, mental health programs, dental services, recreation activities, daycare programs, and social events. By establishing a community school, educators create opportunities for parents to congregate in schools and form peer networks that promote the academic socialization of their children.

Building the Social Capital of Teachers

Virtually all parents value education and schooling and have multiple ways in which they promote the education of their children, which sometimes are not apparent to school professionals (Holloway & Kunesh, 2015). The key for school professionals is to appreciate the strong value parents place on education, identify the ways in which parents promote their children's education, affirm parents for their dedication to their children's schooling, and build upon parents' natural educational helping patterns. One method to accomplish this is to establish learning collaboratives, a method developed by healthcare organizations to improve the quality of services (Cavaleri et al., 2010). Applied to education, learning collaboratives consist of major stakeholders from the community, including strong representation from parents, who have invested in the success of the school and the education of neighborhood children. Learning collaboratives are similar to advisory boards, but participants typically get more actively involved in planning, implementation, and evaluation than members of advisory groups. Learning collaboratives incorporate the principles of participatory action research and intervention (Nastasi, Moore, & Varjas, 2004); they engage families, school professionals, and other community members in ongoing, rapid-cycle quality improvement activities. Through these collaboratives, parents and teachers have opportunities to form partnerships, understand, and appreciate each other, and solve important educational problems. The work of these communities is targeted to change specific behaviors, data driven, iterative, and outcome-oriented, using the well-established plan-do-study-act methodology (Kilo, 1998).

Learning collaboratives can help to build the school–community relationship and shape the school's response to parental needs. Although this process may set in motion a series of quality improvement projects at the school level, the challenge is to engage the teaching staff in this work so that there is buy in at the grade and classroom level. One strategy that may promote the diffusion of ideas generated from these collaboratives throughout the school is to engage teachers who are key opinion leaders in the school from the outset (Atkins et al., 2008). Because of their strong reputation among teachers in the school, these individuals may have the ability to promote attitude and behavior change among their colleagues. Another strategy is

to incent teachers for their involvement in learning collaboratives and quality improvement projects directed at helping teachers understand the natural educational patterns of parents and promote culturally responsive family involvement practices.

Ultimately, the education of a child involves a partnership involving a family, a set of school professionals, and relevant professionals from the community (e.g., pediatric primary care provider, mental health provider, educational advocate; Power, Blum, Guevara, Jones, & Leslie, 2013). Effective programs have been developed to promote strong connections among systems and guide professionals in building resources and resolving child problems, such as conjoint behavioral consultation (Sheridan & Kratochwill, 2008). Although these programs have been developed as interventions for children with identified risk factors or problems, they can be highly useful in addressing the common, everyday issues that arise with children during the course of schooling. Knowledge of developmental and cultural factors can inform the appropriate approach for school professionals to use, but every child is in essence his or her own experiment or quality improvement project. Through partnership, shared decision making, progress monitoring, and intervention adaptation over time, the approaches that work best for a particular child can be identified.

Strengthening Key Relationships

Consistent with attachment theory and developmental ecological theory, relationships form the essential foundation for child development. With regard to the education of children, three relationships are absolutely critical: the parent–child relationship, the teacher–student relationship, and the family–school relationship. These relationships are highly interdependent (Pianta, 1999). Although developmental and educational researchers uniformly affirm the importance of relationships in the education of children, the centrality of the parent–child relationship is often assumed and at times ignored in educational research and practice.

Affirming the Centrality of the Parent–Child Relationship

Research on parent–child attachment has clearly affirmed that the quality of this relationship has a strong effect on a child's ability to relate and perform effectively in and outside of the home. Warm, secure attachment promotes behavioral control, emotion regulation, literacy, and the ability to relate effectively to peers and adults outside the home (O'Connor & McCartney, 2006; Pianta, Nimetz, & Bennett, 1997). Further, the quality of the parent–child relationship has been found to moderate the effect of family involvement in education on student achievement (Simpkins, Weiss, McCartney, Kreider, & Dearing, 2006). More specifically, a higher level of parent–child warmth, as perceived by mothers, was shown to strengthen the relationship between family involvement and school performance.

Given the centrality of the parent–child relationship and its importance in promoting child development and success in school, what can educators do to affirm and strengthen this relationship? One approach is to provide education to parents about parenting strategies. Some schools have offered single-session parent education programs and multisession parent training programs to improve parenting practices. Although the effectiveness of some of these efforts may be questioned, there is no question that well-designed parent training programs reduce ineffective discipline practices, improve child behavior, and can have a positive effect on school behavior for preschool and elementary school-age children (Eyberg, Nelson, & Boggs, 2008; Webster-Stratton, Reid, & Hammond, 2004). A potential limitation of these programs is that they are relatively formal and time consuming, which may limit the number of parents who will participate in them.

An alternative approach is to educate teachers about the critical importance of the parent–child relationship and potential strategies they can use to promote family relationships. In their interactions with parents, teachers can affirm repeatedly the centrality of the parent–child relationship. While they are guiding parents in ways to support their children's education, teachers can highlight the need for playtime and fun educational activities at home and in the community. In fact, teachers can assign homework that will engage parents in enjoyable activities. The Getting Ready program provides an excellent example of how teachers can coach parents in strategies to promote children's development during the preschool years. Through this program parents receive support in strategies to strengthen relationships with their children and support their children's emerging autonomy and engagement in learning (Sheridan, Marvin, Knoche, & Edwards, 2008).

Similar strategies for promoting parent–child relationships can be implemented at the elementary and secondary levels. For example, teachers can give a homework assignment requesting parents to observe and affirm their children for 15 min while playing a game of the child's own choosing. Also, teachers can suggest tasks such as scheduling family reading time, cooking with the child on weekends, and discussing a news article for a brief time in the evening. In general, it is also important for students to complete structured homework assignments at home. However, homework can be the source of enormous stress for families and strain to parent–child relationships. It is important for teachers to understand how families interact during homework and whether the assignments contribute to family conflict and family stress. Indeed, there may be minor modifications in the amount or difficulty level of homework assigned that can help to reduce family conflict and allow time for more fun and affirming parent–child activities (Mautone, Carson, & Power, 2014).

Guiding Families to Strengthen the Teacher–Student Relationship

The critical importance of the teacher–student relationship has come into clearer view since 1990. The quality of the teacher–student relationship is associated with more positive attitudes among students towards school and learning and greater

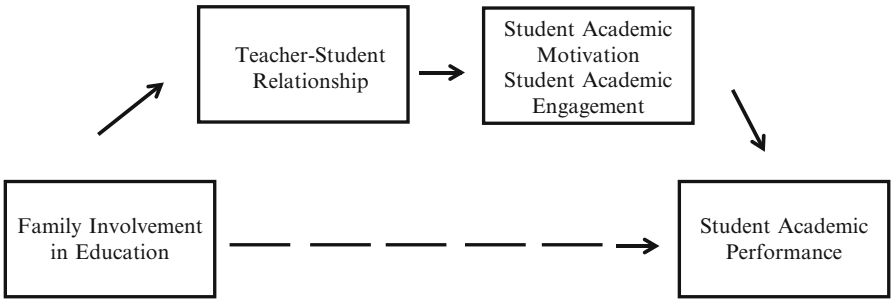

Fig. 6.1 Potential mediating effect of teacher–student relationships on the association between family involvement in education and student academic performance

self-efficacy related to academic performance, which in turn is related to increased academic engagement, motivation, and higher achievement (Crosnoe, Johnson, & Elder, 2004; Hamre & Pianta, 2005). Although warm, supportive teacher–student relationships can be beneficial for all children, the benefits appear to be greater among more vulnerable students from low-income, high-stress communities. As such, improving the quality of teacher–student relationships across schools in urban, suburban, and rural communities may be one strategy for reducing educational disparities among students of diverse socioeconomic and racial/ethnic backgrounds.

Evidence is emerging that parents can have a significant effect on the quality of the relationship teachers have with their children (Dearing, Kreider, & Weiss, 2008). How do parents have an effect on the teacher–student relationship? Unfortunately, little is known about this; research is needed to elucidate how teacher–student relationships mediate the effect of family involvement in education on student academic performance (see Fig. 6.1). One hypothesis is that through family involvement with the school, parents communicate to their children the value of education and model strategies for adaptively relating to school professionals. In turn, children are more likely to value schooling and interact respectfully with teachers, resulting in successful teacher–student relationships. Second, through effective family–school collaboration, teachers have the opportunity to learn from parents about the unique needs of students and useful methods to relate to them (i.e., increase the social capital of teachers), which can guide teachers in relating effectively to students. Third, family–school partnerships provide parents opportunities to affirm teachers for their efforts to understand and adapt to the unique needs of their children and provide additional supports to students when needed. By the process of operant conditioning, parental reinforcement of teacher investment in student learning increases the likelihood that teachers will remain invested and perhaps enhances the level of teacher support of the student. Fourth, by establishing a collaborative relationship with teachers, parents can offer teachers support in coping with the unique challenges presented by their child, which enables teachers to feel understood, supported, and appreciated.

For many families it is natural and easy to engage school professionals in relationships that are collaborative and that promote warm, supportive teacher–student relationships. For example, families with cultural backgrounds that align with teachers have a distinct advantage. Also, families with children who are well-regulated and families who are not overly burdened with stress have a clear advantage in relating to the school. What about families of children with neurodevelopmental disabilities and fundamental problems with executive functioning resulting in undermotivation and poor self-regulation? These children are challenging to teach, often resulting in frustration to educators. These children are also challenging to parents, often resulting in higher levels of family stress and conflict. In these situations, parents and teachers may find it difficult to understand each other and collaborate. Parents who are frustrated with the school may not be inclined to speak positively about school professionals, model respectful attitudes for approaching the school, detect and reinforce teacher investment in their children's education, and provide support to teachers who are stressed and frustrated in coping with their children.

Addressing Child and Family Risk Factors

Although educational practice strongly suggests that child and family risk factors contribute to dysfunctional family–school relationship patterns, there is limited research in this area. Further, there is virtually no research on how child and family risk factors moderate the influence of family–school relationships on teacher–student relationships, even though there is evidence that a strong teacher–student relationship can have a buffering effect for children with learning and developmental problems (Baker, 2006). This research is essential in developing prevention and intervention strategies to support families at risk for engaging in family–school relationships that are counterproductive for their children.

What can be done in the meantime for families at risk for engaging in dysfunctional family–school relationships? Fortunately, there are several programs that are likely to be beneficial for these families. The Family Checkup Program is a child and family psychosocial intervention that has been developed for application in school settings. This intervention places a strong emphasis on promoting family engagement in intervention and motivation to change to address students' behavioral and academic problems (Stormshak, Connell, & Dishion, 2009; Stormshak, Fosco, & Dishion, 2010). This program has a major focus on improving parenting practices, but there is also an emphasis on supporting parents in their interactions with school professionals. The Conjoint Behavioral Consultation (CBC) model was developed to address children's difficulties at home and school. This program places a strong emphasis on strengthening the family–school partnership so that parents and teachers can be successful in enhancing students' competence and resolving academic and behavioral problems (Sheridan et al., 2012; Sheridan,

Ryoo, Garbacz, Kunz, & Chumney, 2013). In the context of a strong working relationship between family and school, parents and teachers are prepared to engage in problem identification, problem analysis, intervention implementation, and evaluation. Research has demonstrated that the effects of CBC on student behavior are mediated by improvements in teacher-reported relationships with parents (Sheridan et al., 2012). Finally, the Family–School Success program was developed specifically for vulnerable students with attention-deficit/hyperactivity disorder (ADHD). This program includes parent training strategies to improve the parent–child relationship, strategies for parents to support their children's education at home, and family–school consultation strategies (Clarke et al., 2015; Power et al., 2012). This program has a major focus on strengthening the family–school partnership to enable parents and teachers to resolve challenges related to homework performance and design daily report cards that can be successful in improving school behavior and performance.

Although these programs are well developed and have been evaluated using randomized clinical trials, they focus primarily on intervention for students with problems as opposed to prevention for students with emerging signs of risk. An exception to this rule is the Family Resource Center (FRC), which was designed as a prevention and early intervention program to support families in the context of the school. The FRC is staffed by a part-time parent consultant whose role is to serve as a liaison between the family and school. The parent consultant collaborates with families, provides them valuable information about their child's performance and behavior in school, collaborates with school professionals, and promotes problem solving that will be responsive to the needs of the child and the values and preferences of parents (Stormshak, Dishion, Light, & Yasui, 2005). The FRC is supported by substantial evidence and this program has the potential to address some of the child and family risk factors that often contribute to dysfunctional family–school relationships and conflictual teacher–student relationships. Additional research is needed to develop and validate universal prevention programs aimed at promoting strong family–school partnerships for all children and selective prevention programs for children with emerging evidence of risk for academic and behavioral problems. The FRC provides a useful foundation upon which to further develop these initiatives.

Family–school prevention and intervention programs have been developed and tested at all levels of schooling. However, it is not clear how the components of programs need to be adapted across developmental levels. Further, research on the mechanisms of action of these programs is beginning to emerge, but there is virtually no research elucidating how cultural factors influence mediating mechanisms, which is critical to inform adaptations of family involvement initiatives. Statistical methodologies have evolved to the point that multiple moderators and mediators can be accounted for in the same analytic model (Beretvas, 2015); what is needed are the theoretical models and datasets to formulate and test potentially useful models.

Supporting Families Across Transitions in Schooling

A high proportion of the research on family involvement in education has focused on children in preschool and elementary school. The focus on these levels of schooling is understandable given that school increasingly becomes a major vehicle for the education of children during these years. In addition, patterns of family involvement typically become established during these early years. As such, it is important to understand emerging family involvement patterns during the preschool and early elementary years and to implement strategies that will foster family involvement and strong family–school interactions.

Transitions in schooling often pose challenges in how families relate to schools. Families may experience a change in the transition from the preschool to school-age years in the direction of less family-centered education and less encouragement of family involvement in education. This trend may become more evident as students transition from the lower to upper elementary levels. There is typically a dramatic shift when students transition to middle school. This transition is challenging for parents who may discover that patterns of family involvement used at the elementary level may be less supported by teachers at the middle school level. Parents may be even more confused about how to support their child's education at the high school level and schools typically provide limited guidance in this area (Hill, 2015).

Transitions across levels of schooling pose a risk to interrupting useful patterns of family–school interaction. Effective communication from schools can buffer the challenges of transitions in schooling (Crosnoe, 2009), but efforts to communicate often are insufficient and not responsive to the natural help-seeking patterns of families. Although school professionals often focus on preparing students for transitions in schooling, there is typically less emphasis on preparing and supporting families in a family-centered, culturally responsive manner. Learning collaboratives, described earlier, can be highly useful in developing programs to support families during periods of transitions. These collaboratives can recommend methods of communicating with families in a manner that is likely to be understood and generate family engagement in the transition process.

Research and practice have clearly underemphasized the role of parents in supporting students' education at the middle and high school levels (Hill, 2015). Involving youth in the process of determining how parents can be effective in supporting students' education is especially important at these levels (Oyserman, Bybee, & Kathy, 2006). One way to involve youth is to include them in meetings with parents and teachers, but these meetings typically occur infrequently in these grades. Another method for involving youth is to organize youth forums to help in the development of family and community activities. Further, students at the middle school and high school levels can be included in learning collaboratives to help in planning and organizing transition programs and ongoing family involvement activities.

Conclusions

Engaging families in the educational process is an essential practice for promoting child development. The research described in the chapters of this volume has substantially improved our understanding of how families can contribute to the education of children. A major function of family involvement in education is to improve the social capital of parents and teachers so they are aligned in their efforts to promote student success. Typical methods for improving social capital are school-based and relatively formal, which may fail to engage some families in the educational process, especially those of racial and ethnic minority background and low socioeconomic status. School professionals often fail to capitalize on the natural help-seeking networks through which parents often receive support and critical information about child development. Enlisting paraeducators in efforts to promote family involvement is one strategy to form connections with parents' informal helping networks and build the social capital of parents and teachers. Paraeducators participate in social networks in the community and can orient families about how to work effectively with the school. Also, paraeducators work in collaboration with teachers and can guide educators to communicate effectively with parents. Forming learning collaboratives in districts and schools is another strategy to develop the social capital of parents and teachers. Through these collaboratives parents and educators can design and implement quality improvement projects leading to more family-centered, culturally responsive education. A direction for research in the future is to develop and evaluate strategies that capitalize on informal help-seeking networks in the community by incorporating paraeducators and neighborhood leaders in important roles.

The education of children is greatly facilitated by strong attachments in both the family and school systems. The parent–child relationship is central to the education of children, although the role of teachers in affirming and strengthening this attachment has been underemphasized. A large volume of research has affirmed the critical importance of the teacher–student relationship for the education of students, but little is known about how families can strengthen this relationship or promote change when teacher–student relationships are distant or conflictual. A fruitful direction for future research is to examine mechanisms mediating the relationship of family factors on the quality of teacher–student interactions. This research in turn can inform the development of parenting interventions to improve the student–teacher relationship.

Most of the research on family involvement in education has been conducted at the preschool and elementary levels. Our understanding of how family involvement in education has an effect on student performance among students at the middle school and high school levels is highly underdeveloped, as is our knowledge of what school professionals can do to promote family involvement at these levels of schooling. What is known is that youth are necessary partners in determining helpful methods of family involvement at these levels; it is critical to involve students in all aspects of planning in developing family involvement practices and policies at the middle and high school levels.

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