Schools in contemporary society are charged with two major missions: to foster learning of academic material in various subject or content areas, and to help socialize young people into adherence to fundamental societal norms. In many cases, and usually unwittingly, schools serve a third function: They act as a host for the peer social system and peer interactions. The presence of the peer system and its ability to advance or thwart adult-driven missions regarding academic learning and child socialization drive much of the work reported in the chapters in this section. In offering a commentary on these chapters, our purpose is to suggest how an understanding of the organization and operation of the peer system—especially, processes of peer influence—can provide insight into the roles that peers play in young people’s academic learning and social comportment in school. We comment on the implications of the material presented in these chapters for both research (future studies of peer factors in learning) and practice (ways in which educators can organize learning to be mindful of peer influences).

The commentary is based on five major features of the peer system. We begin by pointing out its fundamental relationship to the school—an often neglected feature that is essential to understanding the connection between peers and learning or school behavior. We then examine insights from the chapters related to four other features of the peer system: the complex, multilayered organization of the peer system; the developmental nature of the peer system and peer relationships; the extent to which peer effects on learning are contingent on forces within the individual and beyond the peer group; and the variety of ways in which peers can influence individuals’ academic attitudes, efforts, or achievement. We close by considering implications of these five features for future research on peers and academic or social behavior in schools.
UNCERTAIN, UNEASY ALLIANCE BETWEEN SCHOOL AND PEER SYSTEMS

Perhaps the most remarkable feature of the peer system is that it has no place to call its own. The family has a home; the educational system has school buildings; the legal system has police stations and judicial centers; the neighborhood has a defined plot of land; the workplace has an office or retail space; sports teams have playing fields or courts. Unlike every other major social system touching the lives of young people, the peer group has no defined physical space assigned primarily to it. Instead, it must essentially invade a space intended for another purpose and either share usage or usurp the space for its own activities. Young people either have to work peer interactions into the activities that normally occupy a given context, or suspend their attention to the activities for which the space is designed and attend instead to peer issues. Because of this, the peer system is often perceived in negative terms, like a parasite feeding off of and undermining its more conventional host system. Children are counseled to avoid peer pressure; adults are instructed in how to "peer proof" their child (Scott, 1997). In reality, relations between peer and host systems can be contentious or collaborative.

Because youths spend a high portion of their waking hours in school, the school context easily becomes a major locus of peer activity. Students readily turn their attention to peer issues during "free time" at school—recess, lunch, passing time between classes. The expectations or demands of peers can also occupy students during structured learning time. Deciding whether or not to raise one's hand in response to a teacher's question may depend as much on the expected response from peers to this action as on one's confidence in knowing the answer to the question or one's interest in learning more about the topic at hand (Wentzel, Baker, & Russell, 2012). In other words, every academic action or performance in school is also, potentially, a performance to the peer group. Students often operate on this dual track, especially as they move into adolescence and issues of peer status and relationships become more salient (Rodkin & Ryan, 2011). The more preoccupied students are with peer issues, the less attentive they are likely to be to the agenda of school adults. These social dynamics contribute to adults' frequent feeling that the peer system is countermanding their interests or authority.

As many chapter authors in this section point out, however, peer group norms or activities need not undermine the basic functions of school. Wentzel and Muenks cite evidence that students who enter kindergarten or middle school with friends or who make friends quickly do better academically in school. Kindermann notes that peer acceptance can influence achievement levels, although the degree to which high achievement is associated with higher peer regard seems to be contingent on the value that classmates as a whole place on doing well in school (Dijkstra & Gest, 2015). This underscores the importance of programs to encourage prosocial or "pro-school" peer group norms (e.g., Hanish et al., this volume). The challenge for young people is to determine how to meet the expectations of adults as well as peers in the school setting. The challenge for school staff members is to create a school environment in which learning and peer social demands are not incompatible or highly competitive.

In recent years, schools have been faced with a new facet of peer interaction as the use of social media has burgeoned among young people (Greenhow & Askari, this volume). School-based technology capable of connecting to the Internet and intended to enhance student learning has been converted by students—or often subverted—to override the school's usage restrictions—into devices to communicate with peers. Instead of working diligently in the computer lab on classroom assignments, students sneak into social media programs to interact electronically with peers. Dramatic increases in smartphone ownership by secondary school students (Lenhart, 2015) have brought the Internet and its diversions to young people's fingertips—and to their own control. Personal or family-owned Internet devices allow young people to easily connect with a wide array of peers even after they leave school grounds. At its best, this allows young people to continue peer-based learning beyond the school day. Work group members can connect through social media to complete homework assignments collaboratively. At its worst, peer problems initiated at school can be extended into non-school environments. A face-to-face bullying incident on the playground can evolve into cyberbullying in the evening or over the weekend (Jussim & Gross, 2008). Legislatures are attempting to hold schools accountable for students' behavior online beyond the school grounds if the behavior can be traced to an incident initiated at school (Davis, 2011). Through social media the symbiotic relationship between peer and school systems has grown more intense and more extensive, increasing the challenges that the two systems face in coexisting or interacting constructively.

THE COMPLEX WORLD OF PEERS IN SCHOOLS

Healthy connections between school and peer systems are complicated further by the (often underappreciated) complexity of the peer social system. As Kindermann (this volume) notes, the "peer worlds of childhood and adolescence are more complex than many adults may suspect." Most research studies and most educational interventions concentrate on just one aspect of the peer system, often with the implicit assumption that one aspect is representative of peer influence as a whole. Hanish et al. (this volume) concentrate their efforts on establishing school-wide norms of comportment. Ramani et al. (this volume) present evidence from a mixture of studies addressing programs for dyads, small learning groups, or classrooms as a whole—but rarely from more than one at a time.

Should investigators and educators be looking for similar effects in the various facets of the peer system? Wentzel and Muenks (this volume) don't seem to think so. They provide a typology of peer relationships and then present evidence that different processes of peer influence seem to be dominant in different types of relationships. This takes the field an important step toward understanding how facets of the peer system fit together.

It is Kindermann (this volume), however, who provides a fully articulated conceptual model of the peer system. Building on Bronfenbrenner and Morris's (1998) ecological systems theory, he describes the peer system as a set of nested elements, differing not only in their proximity to the individual but also in their level of abstraction. From the immediacy of highly visible dyads (best friends, lab partners, tutor-tutee pairs) in the "microsystem" to the cognitive assignment of students to popularity status groups or peer crowds, these elements form interlocking components of a complex social system. As have Wentzel and Muenks, Kindermann points out different ways in which elements are identified, differentiating interaction-based elements arising from proximity or affinity from reputation-based collectives arising from categories that are sensible to system members (popularity, crowd affiliation). Brown (1999) provided a similar model of the hierarchical nature of the peer system but added the observation that various levels operate as filters for messages from within and outside the peer system. He argued that crowds establish normative climates for interpreting messages...
from adults: Those for whom close relationships with adults are valued may encourage members to embrace a program introduced by school adults, whereas crowds devaluing adult relationships may disparage the same program. Norms within friend dyads may foster open compliance or quiet defiance of crowd directives. The filtering process helps to account for variability in student responses to classroom or school-wide learning or comportment programs.

In school settings, complementing this informal peer social system is a parallel system whose elements or layers are organized by school staff. Dyads (tutor/tutee, lab partners) are formed for various instructional purposes, sometimes combining into larger clusters (work groups) that exist within a classroom, which itself is a unit of peer organization. Students may achieve a certain academic reputation or status within the school by virtue of participating in a particular structured learning or extracurricular activity, and the school's student body can establish a community-wide reputation. These formal groupings may intersect with layers of the informal peer system. Friends sign up to be in the same work group or sports team; the drama club achieves a reputation for attracting a particular peer crowd; making it into a certain activity elevates or diminishes one's status among peers. Students are charged with the task of understanding the layers of relationships within both formal and informal peer systems in the school, then deciphering the nature of connections between these two systems. School staff would do well to pursue a similar understanding.

In sketching connections among various elements of the peer system, it is important to acknowledge the imperfect fit among layers. Dyads do not necessarily come from the same friendship group; friendship group members are not all from the same crowd or the same level of social status (Brown, Mory, & Kinney, 1994; Molloy, Gei, & Rulison 2011; Ureberg, DeGirmenclioha, Tolson, & Halliday-Schier, 1995). Membership is also remarkably volatile. Kindermann and Vollet (2014) report high instability across sixth grade in groups identified by social cognitive mapping about half of group members differed at two time points. There is little research on the consistency of crowd affiliations or peer reputations over time, but since the crowd system itself seems to wax and wane across adolescence (Brown et al., 1994; Kinney, 1993), it is likely that crowd membership and level of popularity or acceptance among peers are volatile as well. Such volatility is important to consider in evaluating findings from longitudinal studies of peer influences. Changes in a student's attitudes or behavior may be the result of shifts in the peers who are impacting the individual rather than long-term effects of initial peer influences (Kindermann, this volume).

Students encounter numerous components of peer interaction throughout the school day, although they may vary in the degree to which they are attentive to them (Brown, Von Bank, & Steinberg, 2008). This means that when students engage in classroom or school activities—even something as simple as responding to a question a teacher has asked—they are probably playing to multiple audiences. They are likely to consider how school adults and parents will react to their various options for behavior, but they may be equally or more attentive to various segments of the peer system. They play to their entire set of peers in conveying an identity or seeking to establish or maintain a reputation. They play to members of their friendship group to navigate group norms. They may be playing to dyad partners to reinforce relationships or carry out relationship duties (e.g., assist a friend in learning something). Of course, these various audiences are also playing to the individual (Brechwald & Prinstein, 2012); young people are confronted with potential influences from a variety of peers. It is unlikely that any given action will please all of the peer audiences or enhance a person's position across all levels of the peer system, just as it is unlikely that all the influences an individual encounters from peers will be compatible or complementary.

As social-cognitive skills become more sophisticated (generally, with age), an individual's actions can be more strategic and calculated. Researchers and educators, however, need to appreciate how difficult that calculus is. Some investigators have applied the prototype willingness model (Gerrard, Gibbons, Houiban, Stock, & Pomery, 2008) to examine how people select one source of peer influence over another. Adolescents seek a peer group that is most compatible with their budding identity. They decipher the norms of that group and then adhere to the norms in hopes of gaining or retaining membership in the group, which provides a more secure sense of identity (Brechwald & Prinstein, 2012). Kindermann (this volume) explains how recent advances in research methodology can help scholars explore how influences on learning occur at one level of the peer system while controlling for influences at another level, or consider how influences at one level are contingent on features of the peer system at a different level. More careful mapping of social relationship patterns via programs such as RSiena, along with hierarchical linear modeling techniques, can reveal how multiple peer forces shape student behavior. Such approaches also can indicate how specific motives, such as normative regulation, operate through different influence mechanisms at different levels of peer interaction (e.g., Ryan, 2001). Of course, no single study can adequately capture the full array of forces shaping students' social world with peers. A better approach is to understand how the specific facets of peer interaction or peer influence examined in one study fit into the broader field of nested, interactive relationships that constitute the peer system. Lessons from several chapters in this section (especially, Kindermann, and Wentzel & Muenks) provide insights about how to proceed with this agenda.

DEVELOPMENTAL FACTORS IN THE PEER SYSTEM

The complex, layered structure of peer relationships is not apparent at the outset of a young person's school career. It emerges over time in response to the individual's cognitive abilities and psychosocial needs. Understanding connections between peers and learning requires an appreciation of the developmental nature of the peer system.

Wentzel and Muenks (this volume) point out that several facets (layers) of the peer system are more apparent in adolescence than childhood. Others have suggested that the transition to middle school in the United States triggers a heightened concentration on peers and expansion of peer relationships (Brown & Larson, 2009). This is due partially to the increasing cognitive capacities described by Gauvain (this volume). Advancing social-cognitive skills allow young people to understand others' viewpoints and create more abstract categories. These abilities engender the emergence of a peer status system and an array of peer crowds that describe different stereotypes. Early adolescents move beyond the concrete realities of visible interactions to appreciate restrictions on relationships between individuals of different status levels or crowd affiliations (Elder, 1985). They can even use crowd affiliation to ward off unwanted interactions with peers (Beck & Kerr, 2009). Some cognitive advances may actually be prompted by participation in peer relations. Greenhow and Askari (this volume) cite growing evidence that young people's use of social media hones numerous cognitive skills. The broad reach of social media may hasten young people's perspective-taking skills as they struggle to predict how various followers or friends will respond to something they say or do on social media.
Although cognitive advances create the ability for young people to navigate a more complex peer system, the emergence of such a system is contingent on psychosocial needs. In cultures that emphasize autonomy and individual identity for young people, the peer system expands to meet these developmental needs—and may contract again once autonomy or identity have been established (Brown et al., 1994). In more collectivist cultures emphasizing harmonious relationships, an elaborated system of peer statuses and crowds is not needed—and, indeed, is rarely reported by researchers (Brown & Larson, 2009).

Given these developmental features of peer relationships, the social harmony program that Hanish et al. (this volume) describe seems ideally suited for the US elementary school system at which it is aimed. Young people at this age can appreciate the advantages of harmonious interactions in dyadic or small-group relationships. In later elementary school they have the social–cognitive skills to understand social harmony in more abstract terms and endorse it as an objective for the broader peer group. A harmonious classroom and school environment allows students to be more open to peer learning situations. Experiencing the academic and social advantages of harmonious relations at this age may inoculate them from the inclination to create antagonistic divisions among peers when they transition into the more complex social environment of middle schools.

Other research points to sharp differences in academic orientations among adolescent peer groups—differences that influence the academic trajectories of group members (Hamm, Schmid, Farmer, & Locke, 2011). Efforts to alter academic norms of middle school peer groups have met with limited success. For example, Hamm, Farmer, Lambert, and Gravelle (2014) trained sixth-grade teachers to provide a more engaging curriculum and better classroom management practices to promote a more positive learning culture among students. They tested the efficacy of the intervention on changing peer injunctive norms regarding learning and achievement, designating each classroom as a peer culture. They reported some success (in intervention compared to control classrooms) in promoting a closer connection between academic competence and effort and peer status, but a persistent negative relationship between valuation of school and peer status. The program enhanced early adolescents' admiration for peers who tried hard or did well academically, but not for those who liked school, which would signal a level of compliance with adult authority that contradicted the strong developmental need to assert more autonomy from adults and their institutions. An important next step in such intervention work is to examine subgroups of peers that normally exist within a classroom or grade level—as demonstrated by Kindermann (this volume)—to see if there are substantially different levels of compliance with the intervention.

Two of the chapters in this section point to ways in which developmental factors may affect the connection between peers and learning on a more specific level. Gauvin asserts, "at certain ages particular forms of peer interaction are more beneficial than others. These differing contributions reflect changes over development in the social and cognitive skills that are implicated in this learning” (p. 87). She explains how a reliance on observation and imitation in early childhood progresses to collaborative learning enhanced by direct conversation in middle childhood, then evolves into early adolescents' capacity for transactive discussions involving reasoning about others' ideas. Ramani et al. agree that the value of direct communication between peers as a learning tool changes across childhood. Guavin argues, further, that the merits of peer-assisted learning vary across levels of expertise. It is more valuable in early phases of skills development; at more advanced levels children do better by working on their own.

Because of these developmental factors, studying the connections between peers and learning is like chasing a moving target. Young people move in and out of specific relationships as both formal and informal associations trace their own developmental trajectories. The broader peer system transforms to address the changing developmental needs and abilities of youths. These factors can make it difficult to compare studies and pinpoint ways in which peers affect students' learning or comportment at school.

**FACTORS "WITHIN" AND "BEYOND" THAT AFFECT PEER INFLUENCE**

Although it may seem at times as if the peer system is a monolithic force in the lives of young people, especially adolescents, in truth its impact is contingent on several factors operating within the individual and beyond the peer group. Chapters in this section refer to some of these factors, which provide vital frames for any investigation of peer influences on learning.

Individual differences in cognitive ability can affect a young person's openness to peers as co-learners or shape the type of peers a student favors. Several authors mention the debate over whether a young person learns more from peers who share their level of cognitive ability or task mastery—co-construction of knowledge on the basis of principles articulated by Piaget—or from peers with higher levels of mastery who can challenge the person within what Vygotsky refers to as the zone of proximal development (see chapters by Gauvin; Ramani et al.; Wentzel & Muenks). A definitive answer to this debate would help educators and practitioners determine which of several peer learning arrangements that Vygotsky outlines (e.g., community of practice, tutorial, community of learners, thinking together) would be most productive, but results of research studies are inconsistent. One reason for this may underlie the provocative conclusion of Duran and Gauvin's (1993) study that, among young children, learning is maximized when working with more cognitively advanced but same-age peers. Underscoring the symbiotic nature of the school and peer social systems, this arrangement may enhance peer system relationships while simultaneously addressing school-related learning needs. Yet, individual differences in social interests also may be partly responsible for inconsistencies in Piagetian- versus Vygotskyan-based peer learning strategies. Having peers as learning partners or tutors may not appeal to youths with low interest in peer social relationships (Webb, 1982). Levels of extraversion also may affect the types of peers whom a young person regards as a desirable learning partner: a close friend for those high in extraversion; a smart classmate for those low in extraversion.

Complementing these individual differences in cognition or personality are features of child-adult relationships that can affect peer influences. Hanish et al. (this volume) point to studies indicating that school adults may unwittingly inflate peer influences if they organize students into large classes or create a stressful working atmosphere for teachers. Kindermann and Vollet (2014) found that peer group engagement predicted changes in student engagement only when students felt that teachers had little investment in their learning.

Less adequately explored in these chapters are the effects on peer influence of social and cultural conditions. Most of the studies referred to by chapter authors involve students in the United States, where the dominant culture is more individualistic than collectivistic, academic pressures are only moderately intense, and school-sponsored
non-academic extracurricular activities coexist with scholarly pursuits. These factors give the peer system more authority in schools than it is likely to enjoy in more collectivist and academically focused cultural settings. Even within the United States, community differences in an emphasis on academic achievement alter norms in school peer groups (Garner, Bootcheck, Lorr, & Rauch, 2006). Studies are sorely needed that compare peer learning programs across these different cultural or community contexts.

**PEER INFLUENCE PROCESSES RELATED TO LEARNING**

Awareness of these important features of the peer system in the school context set the stage for closer examination of the processes by which peers exert influence over student learning. Kindermann (this volume) points to closer study of mechanisms of influence as the most promising route to understanding the impact of peers on learning. To pursue this route we believe it is important to be very clear about what peer influence is and how to differentiate modes, motives, objectives, and consequences of peer influence (see Brown, Bakken, Ameringer, & Mahon, 2008).

We define peer influence as a specific action of a peer that has an impact on an individual. The influence need not be intentional; a student may copy a peer's behavior in class even though that peer was not attempting to serve as a model for the student. Usually, however, motives are apparent either on the part of the influencing peer or influenced individual. For example, a student who encourages an associate to join a rally to raise money for leukemia research (influencing behavior) may be motivated by the desire to strike up a friendship with the associate. The student's objective is to find a way to spend more time and share an activity with the associate, but a major consequence may be the associate's learning about biomedical research. Of course, the associate may have his or her own motives for acceding to or resisting the influencing behavior.

Often, young people get involved in reciprocal influence chains. A student may playfully start building a tower with equipment for a science experiment only to be berated by the lab partner for "screwing around," whereupon the student says, "Well, what am I supposed to do, then?" and the lab partner responds, "You're a good artist; make a diagram of the chemical reaction we're analyzing." Each specific behavior has an impact on the other person, and each demonstrates a different mode of influence: behavioral display (doing something with the equipment that the lab partner could copy, or "model"), aggression or derision (chiding the student for off-task behavior), structuring opportunity (asking for direction and thereby giving the partner an opportunity to exercise leadership), and reinforcement (complimenting the student's artistic abilities). These and a few other modes—encouragement or "peer pressure," obstruction—form the corpus of standard modes of influence (Brown et al., 2006). Reinforcement may be underrated as a mode of influence (and, to date, too narrowly focused on negative behavior such as deviancy training), whereas peer pressure appears to be overrated and much less frequent than adults think (Brechwald & Prinstein, 2012).

This perspective on peer influence affirms Kindermann's assertion that young people are not passive recipients of peer influence but actively engage in shaping the nature and outcomes of influence. It departs modestly from the depictions of mechanisms of influence offered in chapters by Kindermann and Wentzel and Muenks, which we believe mix motives and behaviors, or which include the response of the influenced young person (e.g., peer contagion) rather than the influencing behavior. Distinguishing between modes, motives, objectives, and outcomes may be especially useful in designing interventions or learning activities that focus on peer activity. There are times when it is easier to try to affect peer motives than peer modes of influence. Hanish et al. (this volume), for example, encourage certain behavioral norms in the hopes that students' interactions, which may encompass a variety of influence modes, will be motivated by the desire to maintain the new norm (in this case, a norm of social harmony). There are other times when a more direct focus on modes of influence may be preferable, such as honing students' skills in encouragement and reinforcement when working collaboratively on an assignment. As another example, Dougherty, Fowler, and Paine (1985) reported a successful intervention in which elementary school children were appointed as monitors and trained to guide the behavior of disruptive peers during recess. The monitors were able to praise target peers' good behavior (reinforcement) and take away points for negative behavior. Interestingly, the monitors' own disruptive activity on the playground (behavioral display) decreased significantly once appointed as a monitor, and this corresponded to decreases in disruptive behavior of the target child.

The mode/motive/objective OUTCOME system helps to decipher some of the situations of peer influence that appear in the chapters in this section. It is common for investigators to uncover a learning outcome that seems to be attributable to peer influence but stop short of identifying the mode of influence responsible for the learning achievement. For example, Ramani et al. emphasize the importance of communication in peer learning but suggest that the optimal style of communication may differ across learning content. They cite studies (e.g., Mashburn, Justice, Downey, & Pianta, 2009) indicating that pre-kindergarten children in classrooms with peers with higher language abilities showed more language improvement than those in classrooms with peers of equal or lesser language ability, even controlling for other factors. What could account for this? Transforming Ramani et al.'s (this volume) conjectures into our list of influence modes, it could be behavioral display (higher-ability students showing others how to read) or it could be structuring opportunities (higher-ability students compelling teachers to offer instruction at a higher level, which benefited all students). Without closer scrutiny, it is possible to attribute learning advances to some unspecified form of peer influence when other factors are actually in play. For example, are peer learning tasks or work groups more successful than whole-class discussion or teacher presentations because they feature the attraction of peer interaction (a peer influence effect) or because they allow each student to communicate more and, in so doing, learn something more effectively (an individual, developmental effect)? Despite the reputation of peer influence as a purveyor of negative behaviors, Wentzel and Muenks (this volume) point out that all modes of influence also can sponsor prosocial activity. They argue that peer contagion, commonly associated with deviant activity, can also be the source of positive behaviors at school. Much of the research on peer tutoring or mentoring is predicated on the principle that peers can serve as constructive role models. Through such modes as behavioral display, reinforcement, or encouragement they can inspire academic achievement or social adjustment in their mentees or tutees. This is a fundamental principle underlying many of the cross-age learning programs that Ramani et al. (this volume) discuss as well as the social harmony behavioral program that Hanish et al. (this volume) present.

Chapter authors tend to focus their attention on situations of direct peer influence. There are also circumstances in which peer influence operates indirectly to affect learning. Wentzel and Muenks refer to situations in which sociometric status structures opportunities that foster or impede learning. Students who are accepted...
by peers are more likely to have access to peers who can encourage positive school behavior, whereas sociometrically rejected students may be left in the hands of peers who encourage negative school behavior. Students' concentration on learning may be enhanced when it advances an objective they have within the peer system, but students' attention also may be diverted from learning activities into issues of social relationships with peers, thereby obstructing their opportunities for academic achievement. Scholars must be attentive to indirect as well as direct instances of peer influence on learning.

Finally, just as social media can be used to extend peer activities or issues that began at school beyond the confines of the school building, these media also may be able to extend learning opportunities beyond the classroom walls as well. Greenhow and Askari (this volume) point to emerging studies of how young people use social media for various learning tasks—from mastering technology to seeking help with homework. This work is too novel to include much attention to the peer influence processes that are driving youths' use of media, but issues of influence mechanisms could and should become part of future studies in this domain. Peer pressures (encouragement) are likely to underlie students' choice of media platforms to master. Social media could be a format in which young people privately connect with peers for help with homework or other learning tasks without the public scrutiny of peers that exists at school.

**IMPLICATIONS FOR FUTURE RESEARCH**

The chapters in this section deftly summarize studies addressing numerous aspects of peer processes affecting learning; but they also illustrate a bitter reality about research in this domain: There is little consensus about the processes that account for peer effects on learning and little agreement about theories best suited to examining these effects. To move forward, it would be helpful for scholars to agree on essential elements and processes of peer interaction so that they can be incorporated more consistently and systematically into future research.

A first step would be to locate any specific study within the larger network of peer relationships that exists in a given school context. Kindermann (this volume) has provided an excellent foundation for understanding the peer social system, but others have proposed useful models that help scholars to understand the imperfect but influential connections among layers (e.g., Brown, 1999). Second, researchers should follow the trend that Brechwald and Prinstein (2012) note in concentrating on specific peers or categories of peers, rather than assessing peer influence in general. Better yet would be studies that consider multiple sources of influence across different levels of the peer system, using the more sophisticated statistical tools that can isolate effects at various levels of peer interaction (see Kindermann). In considering peer effects, scholars must be aware of the network of formal and informal peer relations that students encounter as well as ways in which these two networks come into (e.g., when students choose close friends to be work group members).

Third, it is vital to maintain awareness of developmental factors within the individual and the peer system that affect learning potentials, the salience of peers, and the ways in which peers can be most effective in enhancing student learning (see chapters by Guarrant; Ramani et al.; Wentzel & Muenks). The reciprocal nature of relationships (e.g., peer interactions spurring cognitive development but also being contingent on advances in cognitive abilities) must be carefully considered. Such considerations should lead to more conscientious designs of interventions that are developmentally appropriate and targeted at the right component of the peer system (e.g., Hanish et al., this volume).

Fourth, complementing attention to specific peers or types of peer relationships, there should be attention to specific modes of influence. Consensus is needed on the full list of influence mechanisms and on key features of influence—for example, whether or not a particular peer influence is intentional, whether it emanates from desired or disliked peers, what motivates the influencer and the target of influence (Kindermann, this volume). New measurement strategies and tools are needed to assess peer influence accurately. At least at this point, chapter authors have effectively illustrated the fact that every mode of influence can be directed at prosocial behaviors that enhance learning, not just at antisocial behavior or activities that undermine learning (see, especially Wentzel & Muenks, this volume).

Finally, investigators must be attentive to forces beyond the peer system—or even the school—that affect peer influences on learning. Community or cultural norms regarding learning and peer interactions help to situate studies of peer influence in a particular context. Family values shapes students' peer preferences (Whitbeck, Simons, Conger, & Lorenz, 1989). Social media extend learning contexts and peer influences on learning beyond the confines of the school grounds (Greenhow & Askari, this volume).

The awkward connection between peer and school systems—sometimes seemingly parasitic, sometimes collaborative—may make these two seem like strange bedfellows, but they are certainly not incompatible or even necessarily oppositional. The chapters in this section illustrate the enormous potential of peers to contribute to learning and academic success of children and adolescents. They provide direction for future work that can illuminate the complex dynamics that underlie peers' actual contributions to student learning.

**REFERENCES**


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**Section II**

**Perspectives on Teacher Influence**