

Children's Achievement-Related Discourse with Peers:

Uncovering the Processes of Peer Influence

Ellen Rydell Altermatt

Hanover College

Children's Achievement-Related Discourse with Peers:

Uncovering the Processes of Peer Influence

There is substantial evidence that peers play an important role in children's school adjustment. Positive school adjustment has been linked to being well-accepted by one's peers (e.g., Ladd, 1990; Ladd, Herald-Brown, & Reiser, 2008; Ladd, Kochenderfer, & Coleman, 1997; Vandell & Hembree, 1994), having one or more close friends (e.g., Diehl, Lemerise, Caverly, Ramsay, & Roberts, 1998; Ladd, 1990; Ladd et al., 1997; Wentzel, Barry, & Caldwell, 2004; Wentzel & Caldwell, 1997), having friendships marked by high levels of positive qualities (e.g., validation, aid) and relatively low levels of negative qualities (e.g., conflict) (e.g., Berndt & Keefe, 1995; Berndt, Hawkins, & Jiao, 1999; Ladd, Kochenderfer, & Coleman, 1996) and belonging to peer groups or participating in friendships with children who are, themselves, academically well-adjusted (e.g., Altermatt & Pomerantz, 2003; Berndt & Keefe, 1995; Kindermann, 2007; Ryan, 2001; but see Altermatt & Pomerantz, 2005).

Together, these studies provide ample evidence that peers *do* influence children's school adjustment, but *how* they do so is less well understood (Bradford, Bakker, Ameringer, & Mahon, 2008; Guryan, Jacob, Klopfer, & Groff, 2008). Various mechanisms have been proposed in the extant literature, including modeling, reinforcement, information exchange, expectancy socialization, and the provision of informational and emotional support (see Altermatt & Kenney-Benson, 2006; Berndt, 1999; Berndt & Murphy, 2002; Rubin, Bukowski, & Parker, 2006; Ryan, 2000; Wentzel, 1999, 2005, 2009, for reviews). For example, it has been suggested that children with academically well-adjusted friends become more academically well-adjusted themselves over time because they model the behaviors of friends and friends provide reinforcement for positive school attitudes and behaviors (e.g., Altermatt & Pomerantz, 2003;

Ryan, 2001). Likewise, it has been suggested that children who have friends or who are well-liked by their classmates exhibit more positive school adjustment than children who do not have friends or who are less well-liked because they are less likely to have social and/or academic reputations that cause them to be excluded, ignored, or ridiculed, and, in turn, have more opportunities to receive advice and support from peers when faced with academic challenges (e.g., Ladd, 1990; Ladd et al., 1997). Surprisingly, however, very little research has examined these processes directly. Much work remains to be done to document the everyday interactions children have with peers in achievement contexts and to empirically link these interactions to changes in children's school adjustment over time.

The current chapter reviews research that has begun to uncover the processes of peer influence on children's school adjustment, focusing on research that has examined children's achievement-related discourse with peers. I argue that careful attention to this discourse can provide critical insights into many of the proposed mechanisms by which peers influence children's school adjustment – in ways that complement and extend other methods for examining peer influence processes. Methodological problems that have contributed to the dearth of research on children's achievement-related discourse with peers as a window onto the mechanisms by which peers may influence children's school adjustment are described and directions for future inquiry are suggested.

The term *school adjustment* has been used quite broadly in the extent literature (see Berndt & Keefe, 1996; Birch & Ladd, 1996; Wentzel, 2003). The current chapter focuses on peers' influence on three aspects of school adjustment: achievement-related beliefs (e.g., school liking, perceptions of academic competence), classroom behaviors (e.g., persistence on schoolwork; disruptiveness), and the performance outcomes that these often predict (e.g.,

academic achievement as assessed by report card cards). Indicators of children's relationships with peers (e.g., sociometric status, friendship quality) are viewed as correlates of school adjustment rather than as markers of school adjustment.

Approaches to Studying Processes of Peer Influence

Despite calls for investigators to supplement research examining *whether* peers are influential with research examining *how* peers exert their influence, empirical studies examining the processes of peer influence on children's school adjustment remain scarce (see Guryan et al., 2008). However, a number of different approaches have begun to emerge in the extant literature.

One approach to studying the processes of peer influence involves examining proposed mechanisms of influence (e.g., reinforcement or the provision of emotional support) *at a macro level* and empirically linking these processes to children's school adjustment. Studies on children's general perceptions of peer pressure often fall within this tradition. For example, drawing on work by Berndt (1979) and Clasen and Brown (1985) and supporting the notion that reinforcement of peer group norms and values is an important mechanism of peer influence, Sim and Koh (2003) found that children who believe that their peers are supportive of positive school involvement report a greater desire to earn good grades in school. Research on children's general perceptions of social support from peers also falls within this tradition. For example, based on her finding that students who believe that their peers care about their feelings and their learning report greater engagement in prosocial activities in the classroom context (e.g., helping a peer who is experiencing academic difficulty) than students who view their peers as less supportive, Wentzel (1998) suggests that emotional support is an important mechanism of influence (see also Dubow & Tisak, 1989; Hirsch & DuBois 1992; Ladd et al., 1996; Wentzel, 1998).

Several recent studies have begun to unpack these associations by examining more specific aspects of children's experiences with peers. Often, these studies have tested models that include peer variables (e.g., children's levels of peer acceptance), school adjustment variables (e.g., children's school engagement), and variables that are proposed to mediate the relationship between peer and school adjustment variables. A recent study by Buhs, Ladd, and Herald (2006) provides a particularly compelling example of this type of research. Here, the authors sought to better understand why children who are rejected by their peers experience declines in academic achievement over time. In a six-year longitudinal study, these authors found support for a model wherein peer rejection in kindergarten predicted chronic peer exclusion (e.g., consistently being ignored or avoided by peers). Chronic peer exclusion, in turn, predicted reductions in classroom participation and, ultimately, declines in achievement as children approached the transition to middle school (see also Ladd et al., 2008). These findings are consistent with the notion that children may develop social and academic reputations among their peers that influence the types of interactions in which they engage (e.g., rejected children may begin to avoid classroom activities in which they are likely to be excluded) and, ultimately, their ability to succeed academically.

Both of these approaches are important in beginning the work of uncovering the processes of peer influence. At the same time, these approaches often leave unanswered questions about the precise nature of children's everyday interactions with peers in achievement contexts and their consequences for children's school adjustment. For example: How (and how often) do children express a desire to be involved in the classroom? How (and how often) do children express care and concern for classmates? How (and how often) do children express a desire to exclude peers in classroom settings? What evidence do we have that children model and

support these expressed attitudes and behaviors (e.g., by repeating them or expressing agreement) or reject them (e.g., by teasing or expressing disagreement)? How do children respond to specific instances of peer support or peer exclusion and do responses change over time? Can these specific interactions predict immediate or day-to-day changes in children's school attitudes, behaviors, or outcomes?

These types of questions suggest the need for another, complementary approach to the study of the processes of peer influence. Specifically, more research is needed to closely examine the *micro-interactions* that children engage in with peers in achievement-related settings and, more importantly, to link these micro-interactions to changes in children's school adjustment over time (Berndt & Murphy, 2002; Ladd, 2009). This type of research is difficult insofar as it often necessitates direct observations of children's interactions with peers – either in naturalistic or laboratory settings – but is critical to the extent that it can help to uncover the mechanisms by which everyday interactions may contribute to short-term changes in children's achievement-related beliefs and behaviors which, presumably, accumulate to produce stable, long-term changes in school adjustment (Pomerantz, Ruble, & Bolger, 2004).¹ Studies that take a micro-analytic approach to the study of peer influence processes – including our own and others' work on children's achievement-related discourse – are the focus of the remainder of this chapter.

Given that this research is still in its infancy, I begin by briefly describing research that demonstrates that careful examination of children's discourse with peers has been important in understanding mechanisms of peer influence in other domains. Specifically, I describe research that has examined children's discourse with peers to better understand the processes by which peers influence children's experiences with externalizing and internalizing symptoms (see Bukowski, Brendgen, & Vitaro, 2007, for a review). I then discuss research that has examined

children's discourse with peers in achievement contexts, focusing on how these studies can provide important insights into several of the proposed mechanisms of influence including modeling, expectancy socialization, and the provision of informational and emotional support.

Peer Discourse and Externalizing Symptoms

One focus of peer influence research has been to examine whether and how peers might contribute to the development of externalizing behaviors in children and adolescents. *That* peers are influential is clear. For example, there is ample evidence that children who associate with peers who engage in externalizing behaviors – including substance use and violence – engage in more of these same behaviors themselves over time (Engels, Knibbe, DeVries, Drop, & van Breukelen, 1999; Hawkins, Catalano, & Miller, 1992; Snyder et al., 2005). Although modeling and reinforcement have been suggested as key mechanisms by which peer affiliation and these problem behaviors are linked, rarely have these processes been examined in actual interactions among peers (Bukowski, et al., 2007; Dishion & Dodge, 2006).

Dishion and his colleagues have begun to fill this gap in the literature by carefully observing the specific social interactions in which delinquent youth and their peers engage. Results suggest that delinquent friendship dyads engage in more deviant talk (e.g., conversations about engaging in illegal acts) than non-delinquent dyads, that delinquent dyads respond more positively to one another in response to deviant talk (e.g., by laughing), and that the duration of deviant talk (together with other indicators of deviant friendship processes, including time spent with deviant friends) predicts adjustment problems including substance abuse and violent behavior (Piehler & Dishion, 2007; see Dishion, McCord, & Poulin, 1999, and Granic & Dishion, 2003, for reviews). Subsequent work employing a dynamic systems framework indicates that children who exhibit high levels of problem behaviors often become “stuck” in

patterns of deviant talk (i.e., they find themselves engaged in deviant talk for increasingly longer durations) and that children who are increasingly drawn to deviant talk may be particularly vulnerable to long-term behavioral problems (Dishion, Piehler, & Myers, 2009; Granic & Dishion, 2003).

Together, these results confirm that peers can be powerful socializers of problem behaviors in children and adolescents. Moreover, they suggest that careful attention to the ways in which the conversations of deviant youths differ from those of their normative counterparts can provide insights into the processes of peer influence and, ultimately, into the development of effective interventions. For example, interventions designed to assist deviant youth in regulating negative emotions (e.g., anger) may also be beneficial in helping these youths avoid becoming “absorbed” in deviant talk.

Peer Discourse and Internalizing Symptoms

Another focus of peer influence research has been to examine whether and how peers might contribute to children’s psychological well-being, particularly to internalizing symptoms such as loneliness, depression, or anxiety. Again, there is clear evidence *that* peers are influential. For example, a wealth of research indicates that children who have at least one stable friendship (with a well-adjusted peer) are less likely to report feelings of depression and loneliness than children who are friendless (Bagwell, Newcomb, & Bukowski, 1998; Bukowski, et al., 2007; Pedersen, Vitaro, Barker, & Borge, 2007).

Several mechanisms have been suggested to explain these linkages. First, friendships may offer children a “stable base” from which they can explore and develop self-confidence in new domains (Birch & Ladd, 1996). Second, close friends may help children better cope with stressors by providing a forum for self-disclosure and both emotional and instrumental support

(Bukowski et al., 2007; Klima & Repetti, 2008). Third, children with friends may be more likely than children without friends to enjoy protection from the negative consequences of peer harassment (Hodges, Boivin, Vitaro, & Bukowski, 1999).

Again, however, the specific social interactions that contribute to better adjustment among “friended” children have received very little attention (see Vitaro, Boivin, & Bukowski, 2009, for a review). This lack of attention is especially problematic given that one of the hypothesized mechanisms of influence (i.e., the provision of emotional support) has received, at best, mixed support in the extant literature. In particular, the hypothesis that interactions between friends will be more supportive than interactions between non-friends has not always been supported, especially in studies employing observational (rather than survey-based) methodologies (Berndt, Perry, & Miller, 1988; Newcomb & Brady, 1982; see Newcomb and Bagwell, 1995, for a review).² Similarly, there is increasing evidence that seeking and receiving emotional support is not always associated with positive outcomes and, at high levels, may actually be associated with negative outcomes (e.g., Altermatt, 2007; Causey & Dubow, 1992; Harlow & Cantor, 1994; Rose, 2002).

The lack of clear associations between emotional support and adjustment has led several researchers to call for research examining how *specific* interpersonal exchanges in *specific* contexts may contribute to *specific* indices of adjustment (see Coyne & DeLongis, 1986; Heller, Swindel, & Dusenbury, 1986; Rook, 1987). Research in this area is still relatively new, but has yielded interesting findings about the nature and consequences of friendship support. For example, Denton and Zabatany (1996) examined the conversations of pre-adolescent, adolescent, and adult friends after one friend disclosed a negative event (e.g., conflict with a friend or relative). Results indicated that pre-adolescents’ friends frequently used distraction

during the conversations and that distraction led pre-adolescents to feel better about the negative event post-discussion. Interestingly, distraction was not effective in reducing the negative affect of adolescents or adults. The authors hypothesize that distraction may be effective among pre-adolescents because it is a technique that is easily understood and implemented by pre-adolescents. It gives disclosers a chance to regain composure, and friends – who may be just learning effective social support skills -- a chance to generate alternative, more sophisticated support strategies. By adulthood, distraction may communicate a lack of concern or effort and, therefore, be insufficient to reduce negative affect. Instead, adults may rely on friends to help them co-construct a reality in which they are not responsible for the negative event. Indeed, the only support strategy that reduced negative affect among adults was excuse-validation (excuse-validation was not effective among adolescents, perhaps because they frequently missed opportunities to validate excuses). Interestingly, responses that included the provision of emotional support (e.g., “I know how you feel.”) occurred relatively infrequently and were not predictive of changes in negative affect in any of the age groups.

The importance of examining these processes in the actual conversations of friends should not be underestimated. Although distraction and excuse-validation have rarely been identified in self-report studies of social support (in which children and adults are asked to report on their memories or expectations of friends’ social support strategies), the results of this study suggest that they are both prevalent in the everyday conversations of friends and predictive of individuals’ ability to reduce the negative affect associated with negative events.

Peer Discourse and School Adjustment

Despite its potential to provide a window onto the processes by which peers contribute to changes in children’s school attitudes and behaviors, research on children’s conversations with

peers in achievement contexts is quite scarce. Here, I review the limited research that has examined children's discourse with peers to better understand modeling, expectancy socialization, and informational and emotional support as potentially important mechanisms of influence. Next, I discuss reasons for the dearth of studies in this area and suggest directions for future inquiry.

Modeling

Modeling has been identified as a potentially important mechanism of peer influence in the achievement context in a number of prior reviews of the literature (see Brown et al., 2008; Hartup, 2009; Ryan, 2001). In the current review, modeling is broadly defined to include the processes by which children adopt, via observation of peer models, both specific (e.g., How long must I persist on this problem?) and more general (e.g., How important is it to do well in school?) achievement-related attitudes and behaviors. Although there is considerable evidence to suggest that children and adolescents can improve their academic performance by engaging in peer tutoring and cooperative learning (e.g., Azmitia, 1988; Bargh & Schul, 1980; Shachar & Sharan, 1994), the processes by which modeling might contribute to children's acquisition of specific academic skills (e.g., the ability to solve fractions) is beyond the scope of this chapter.

Early support for the importance of modeling as a mechanism of peer influence derives from a set of experimental studies assessing the degree to which children self-reward on an experimental task after observing the self-reinforcing behavior of a peer. These studies generally indicate that children who observe a peer model imposing strict standards for reward subsequently apply stringent criteria for reinforcing their own performance (e.g., Bandura, 1971; Masters & Mokros, 1974). Consistent with this trend, Lepper, Sagotsky, and Mailer (1995) found that when children observed a peer model verbalize high standards for reward (e.g., "That's an

OK score, but it's not good enough to deserve a penny.”), they adopted these same high standards for themselves. Sagotsky and Lepper (1982) extended this work to peer model influences on children's choice of difficult versus easy tasks and, furthermore, demonstrated that these effects are both relatively persistent and generalizable. Children who were exposed to a peer model who demonstrated a preference for challenge on physical tasks also oriented toward more difficult physical tasks. These same children showed a preference for difficult academic tasks in the classroom setting three weeks later.

Though this literature provides clear evidence that children's task-specific behaviors (e.g., criteria for self-reward) are influenced via peer modeling, much additional work is needed to determine the degree to which children and adolescents rely on peer models to form more general orientations toward school (e.g., attitudes about extent to which education should be valued). A handful of studies examining children's discourse with peers have yielded promising findings. In one study, Berndt, Laychak, and Park (1990) presented eighth grade students with achievement dilemmas in which they had to make a decision that reflected either a high level of achievement motivation or a low level of achievement motivation. High-achievement alternatives were designed to characterize students who placed a high priority on school-related activities and who were interested in their schoolwork (e.g., studying for an examination rather than going to a rock concert). Low-achievement alternatives reflected a devaluing of school and a desire to avoid challenge. Students made a decision alone and, then, after discussing the dilemma with a close friend. As predicted, adolescents came to make decisions that reflected high levels of achievement motivation when friends supported these decisions in their conversations.

Similar evidence for modeling as an important mechanism of evidence comes from our own work. In a laboratory-based study, we examined the types of conversations fourth-through-sixth grade focal children had with friends after focal children experienced difficulty completing a series of geometric puzzles (Altermatt & Broady, 2009). Our results indicated that when friends made negative task statements (“Those puzzles were stupid.”), focal children responded to the failure in more learned helpless ways (e.g., they were less interested in attempting the puzzles a second time). Sequential analyses were used to better understand this phenomenon by examining what happened *after* friends made these statements. Results indicated that focal children responded by modeling (i.e., repeating) these statements more often than expected by chance.

Together, these results suggest that modeling may, indeed, play an important role in explaining why children and their friends come to adopt similar achievement-related beliefs and behaviors over time. Additional research is needed, however. For example, although our own work suggests that children demonstrate increasingly negative responses to failure when children’s friends make disparaging comments about the task at hand *because* children model friends’ statements, a more compelling case for the importance of modeling requires additional evidence. Specifically, research is needed to demonstrate that children who model task-negative statements are more likely than children who do not model these statements (and, instead, ignore them or evaluate the task positively) to develop learned helpless responses to failure.

Expectancy Socialization

Expectancy socialization may also be an important mechanism of peer influence. In the current review, expectancy socialization is defined to include the processes by which others’ perceptions (e.g., regarding the child’s likely academic success) shape the child’s own

expectations and, ultimately, their behavior. Most often, expectancy socialization has been demonstrated by showing predictive relationships between the perceptions of a given socializing agent (usually parents and teachers) and the child's own perceptions. This literature provides clear evidence that others' perceptions can have a powerful impact on children's achievement-related beliefs and behaviors. For example, Frome and Eccles (1998) found that parents' perceptions of children's academic competence predicted children's own perceptions of competence, and had a stronger effect on children's competence perceptions than children's grades (see Pomerantz, Grolnick, & Price, 2005, for a review). Less attention has been paid to the ways in which expectancy messages are communicated. One possibility is that socializing agents communicate their expectations directly. Alternatively, communication may be primarily indirect, perhaps included quite subtly as part of the way in which praise, criticism, and help are administered (e.g., Eccles Parsons et al., 1982; Graham & Barker, 1990; Hokoda & Fincham, 1995; Jodl, Michael, Malanchuk, Eccles, & Sameroff, 2001; Jussim, 1986).

Although most work on expectancy socialization has focused on parents and teachers as the key agents of socialization, a growing literature on peer reputations suggests that similar processes may be at work in peer groups. Most of this work has focused on children's *social* reputations with peers and suggests that these reputations can be important predictors of long-term outcomes. For example, Gest, Sesma, Masten, and Tellegen (2006) found that children who had a reputation for popularity-leadership experienced greater social successes and reported greater romantic competence ten years later than children who did not have this reputation. Questions regarding whether children develop *academic* reputations among their peers and the extent to which these reputations are predictive of changes in achievement-related outcomes have received less attention, but recent work by Gest and his colleagues (Gest, Domitrovich, &

Welsh, 2005; Gest, Rulison, Davidson, & Welsh, 2008) has yielded promising results. For example, Gest et al. (2008) found that children's positive and negative academic peer reputations (e.g., for being a good or poor reader) predicted changes in children's academic self-concept, teacher-rated effort, and report card grades over time, even after controlling for teacher ratings of children's academic skills.

The specific social interactions that lead to the formation peer reputations in academic contexts have yet to be uncovered. One possibility is that children pick up on the expectancy cues used by parents and teachers (e.g., verbal comparisons, differential praise) and use these to form their own beliefs and modify their behaviors toward their peers accordingly (e.g., Ames & Ames, 1984; Schwartz, 1981). These behaviors, in turn, may lead the targeted child to respond in ways that perpetuate the perceptions of their peers. Another possibility is that students are more directly attuned to the achievement-related behaviors of their classmates. Indeed, there is reason to believe that peers may have some *unique* insights into peers' achievement-related behaviors because of their close vantage point for observing peer behaviors and that these insights might influence children's day-to-day interactions with peers (Gest et al., 2008). Consistent with this viewpoint, research by Weiner (1980) suggests that college students feel less sympathy toward and report being less willing to lend their notes to a classmate who is perceived to be responsible for missing class than to a peer who is deemed to have missed class due to reasons beyond his or her control. Juvonen and Nishina (1987) suggest that similar processes may be at work in junior high school classrooms. Requests for help from students who are perceived by their peers as academically motivated may be met by elaborated information regarding the method by which a correct solution can be reached. Students who are perceived as lazy and unmotivated may, in contrast, be provided only with the correct answer.

Very little attention has been paid to children's actual classroom interactions to determine how (and how often) expectancy messages are communicated and whether these messages contribute to long-term academic peer reputations. However, some of our own findings suggest that this may be a fruitful area of inquiry. For example, in Altermatt, Pomerantz, Ruble, Frey, and Greulich (2002), we report the results of an observational study in which we attempted to predict changes over time in elementary school children's perceptions of academic competence from the types of verbal interactions in which they and their peers engaged in the naturalistic setting of the classroom. Based on some preliminary analyses, we anticipated that children who made statements in which they evaluated themselves positively (e.g., "My picture is the best!") would report more positive competence perceptions over time, but *only* if peers responded in a way that communicated (implicitly or explicitly) that they agreed with children's positive self-assessments. Consistent with this prediction, we found that children who were permitted opportunities to follow one positive self-evaluation with another or who had a classmate respond with a statement in which the classmate evaluated himself or herself negatively and the focal child positively (e.g., "Yeah. Yours is good. I can't draw.") reported significantly higher self-perceptions of competence, controlling for earlier competence perceptions, than children whose positive self-evaluations were not affirmed.

Although these findings suggest that peers may communicate their expectations via the types of praise they give (and the types of self-praise they allow children to engage in), much additional work is needed. A promising area of inquiry will be to link children's academic peer reputations to particular social interactions (see Gest et al., 2008). Do children with positive peer reputations differ from those with negative peer reputations in the types of praise they are given or in the types of help they receive? Are these children more likely to be sought out for academic

assistance? Research that can empirically demonstrate that these everyday interactions predict changes in children's academic peer reputations over time will be especially valuable.

Informational and Emotional Support

A final way in which peers have been theorized to influence children's achievement-related behaviors and beliefs is by providing social support. Two types of support are generally discussed. First, peers may offer informational support, serving as a resource that children can tap when they experience academic difficulties and find themselves in need of assistance. Second, peers may offer emotional support, bolstering students' self-esteem and reducing feelings of emotional distress that come with academic challenges (see Berndt, 1999; Ladd, 1990; Ladd et al., 1997; Wentzel, 1998; Wentzel & Caldwell, 1997; Wentzel et al., 2004). Both types of support have generally been viewed as a positive function of children's friendships. However, as noted earlier, there is increasing evidence – including evidence derived from our own research examining children's achievement-related discourse with peers – that the consequences of seeking (and receiving) social support can sometimes be negative.

One reason why seeking social support from peers may lead to negative outcomes is simply that children do not always receive the social support they need or desire. Our observations of children's everyday interactions in classroom settings support this notion. For example, in Altermatt et al. (2002), we reported sex differences in the consequences of seeking and receiving help from peers. Girls who frequently sought help from classmates experienced gains in their academic competence perceptions over time. In contrast, seeking help did not significantly predict changes in boys' perceptions of competence. To explore this finding further, we used sequential analyses to examine what happened after children asked for assistance. The results suggested that help-seeking was more efficacious for girls than for boys. For example,

girls were significantly more likely than boys to receive help when they requested it. In contrast, boys were significantly more likely than girls to have classmates respond to requests for help by evaluating themselves negatively (e.g., “I don’t know what I’m doing.”). Future work will be important in examining why girls are more likely than boys to secure effective assistance from classmates. On the one hand, boys may be asking for help from other boys who, as a group, are typically more competitive and less cooperative in their communication styles than are girls (see Leaper, 1991; Leaper et al., 1999; Maccoby, 1990). On the other hand, it is possible that boys are equally likely to select male and female classmates as potential helpers, but are either less successful at or less concerned about selecting a classmate who can provide reasonable assistance. Boys may, for example, make their choices based on factors other than achievement-level, including the proximity of the classmate, whether the classmate is a friend, or how well-liked the classmate is in general. Alternatively, boys may actually purposely choose to ask for help from classmates whom they deem to be academically inferior to themselves. Such choices would be consistent with the suggestion made by Maccoby (1995) that boys are motivated to conceal their shortcomings, particularly from other boys.

A second reason why social support may not predict positive outcomes is that it may lead children to focus excessively on the source of their distress (or simply be a marker that they *are* focused excessively on the source of their distress). This hypothesis has found some support in research on college students’ responses to academic difficulties. For example, Harlow and Cantor (1994) found that college women who frequently sought reassurance from friends when they encountered academic problems reported lower social satisfaction than those who sought reassurance relatively infrequently. Results from our own research (Altermatt, 2007) suggest that a similar phenomenon may occur among school-aged children and adolescents. Here, we asked

children to report on the nature of their interactions with friends following everyday academic challenges. Children also reported on their levels of academic worry at two time points, six months apart. On the surface, girls' interactions appeared more positive than those of boys'. Specifically, girls were more likely than boys to report sharing academic failure experiences with friends, doing so for the purposes of receiving emotional support, and receiving the emotional support they desired. However, girls also reported significantly higher levels of academic worry than boys at both time points. One reason for these apparently inconsistent findings is that the types of interactions that girls are engaged in are not as positive as they might appear. Indeed, we found that children – regardless of gender – who frequently shared failures for the purposes of gaining emotional support reported higher – not lower – levels of worry over time. One reason is that high levels of sharing reflect a continued preoccupation with the failure experience and concern with how one's friends might evaluate oneself in light of the failure. These findings are consistent with those reported by Rose and her colleagues in their research on co-rumination. Rose (2002) defined co-rumination as an extreme form of self-disclosure in which personal problems are discussed excessively. Co-rumination is associated with some positive outcomes. Specifically, children who engage in high levels of co-rumination also report that their friendships are characterized by high friendship quality and closeness. However, co-rumination also has its costs: co-ruminators report higher levels of anxiety and depression over time.

Together, these results suggest that simple, straightforward relationships between informational and emotional support seeking and school adjustment are unlikely to be found. Instead, the consequences of these interactions are likely to depend on a number of factors – including the gender of the participants, their relative levels of achievement, the goals children have for seeking social support, the responses of friends, and children's willingness to

incorporate information gleaned from help-seeking into their problem-solving (see Kempler & Linnenbrink, 2006, for a review). To examine these factors, a combination of methods must be used – including studies that carefully observe the actual conversations that children have with peers, especially in naturalistic settings. To date, this research is quite limited.

Challenges and Directions for Future Inquiry

One of the challenges faced by researchers interested in examining children's discourse with peers to better understand the processes of peer influence is that the types of conversations that are most likely to contribute to changes in children's school adjustment over time (e.g., instances in which peers express disapproval for off-task behavior or instances in which peers praise or criticize the competence of a target child) may occur relatively infrequently, especially in naturalistic settings.

Two recent studies demonstrate this problem. In the first, Sage and Kindermann (1999) recorded over 12,000 behaviors in a fifth-grade classroom, including instances of on-task and off-task behavior (as exhibited by focal children) and instances of approval and disapproval for these behaviors (as exhibited by peers). Supporting the notion that everyday behavioral contingencies may be an important mechanism of influence, these authors found that highly-motivated students were more likely than less highly-motivated students to receive approval for on-task behaviors from members of their peer group (who were also, typically, highly-motivated). Somewhat surprisingly, however, the authors did not find evidence that less highly-motivated children were more likely than more highly-motivated children to receive approval for off-task behaviors. On the one hand, these null results may indicate that off-task behaviors were enjoyed by classmates, regardless of peer group affiliations. On the other hand, they may reflect the difficulty of using naturalistic observations to examine behaviors with low base rates: both

off-task behaviors (defined as behaviors that represented a clear disruption of ongoing classroom activities) and peer disapproval made up only a small proportion of children's observed interactions with peers. We have noted similar challenges in our own research. For example, in Altermatt et al. (2002), we recorded over 6,000 statements made children and their classmates, anticipating, among other things, that children who were frequently criticized by classmates would experience declines in their competence perceptions over time. Surprisingly, we found no evidence to support this hypothesis. On the one hand, these null results may indicate that even very young children have begun to master what appears to be a broader human tendency to eschew information that reflects unfavorably on the self and interpret negative feedback in a manner that is less damaging to one's self-image (see Taylor & Brown, 1988; Wood, 1989).³ On the other hand, the null findings may simply be the result of the relatively low frequency of these types of statements.

Importantly, the challenges that researchers face in capturing particular types of discourse among peers in naturalistic settings do not render this discourse unimportant. Typically, researchers capture only a very small sample of children's experiences. Even a single instance of praise or criticism received during a thirty-minute or one-hour time frame implies that a student may receive considerable amounts of praise or criticism during the course of an average week. Moreover, the very distinctiveness of certain types of achievement-related discourse may encourage children to pay particularly close attention to it (e.g., being told you are stupid by an admired peer may have a significant impact on perceptions of competence, even if it occurs only once; see Eccles Parsons et al., 1982). Still, the relative infrequency of certain types of discourse in classroom contexts has implications for the analyses we can do and the interpretations we can draw from these analyses. For example, in our own work (Altermatt et al., 2002), we have had to

pool data across multiple children, ignoring a number of potentially important individual differences (e.g., in academic performance or sociometric status) that may moderate the effects of achievement-related discourse on school adjustment and allowing for the generalization of the results only to the subset of students and their interaction partners who actually engaged in the types of discourse examined (see also Bakeman & Gottman, 1997).

One solution to this conundrum is to supplement classroom-based work with research conducted in semi-naturalistic or laboratory-based settings where heightened levels of achievement-related discourse (or other behaviors of interest) can be promoted (see, for example, Altermatt & Broady, 2009 and Altermatt & Ivers, 2011). Of course, this type of research presents its own problems and questions. Most importantly, to what extent do interactions observed in a laboratory really reflect children's interactions in classroom settings? To the degree that findings from classroom-based studies and lab-based studies overlap, we can feel more confident.

A second challenge faced by researchers interested in examining children's discourse with peers to better understand the processes of peer influence is that peer influence is a bidirectional process involving two (and often more) interaction partners (Ladd, 2009). Few methods have been designed to address this bidirectionality (Brown et al., 2008) and, as a result, researchers have often focused on the behaviors of a single interaction partner (e.g., a randomly selected focal child *or* his or her friend). This approach is problematic at many levels, especially insofar as it ignores the reality that peers' responses to children's discourse play a critical role in the effects of this discourse on children's school adjustment. The importance of the responses of interaction partners has been demonstrated in research on parent-child interactions (e.g., Hokoda & Fincham, 1995) as well as in research on peer interactions, including our own. For example, in Altermatt & Broady (2009), we observed conversations between children and their same-sex

friends after children performed poorly on a puzzle task. We found that boys who frequently commented on their poor performance (e.g., “I didn’t get *any*.”) reported more learned helpless responses to failure than boys who commented on their poor performance less frequently. These types of negative performance statements did not predict maladaptive responses to failure among girls. We then used sequential analyses to examine whether boys’ and girls’ friends differed in their responses to negative performance statements. They did – and in ways that provided some insight into why negative performance statements predicted maladaptive responses to failure for boys, but not girls. Specifically, boys’ friends were more likely than girls’ friends to respond to negative performance statements by checking on the focal child’s performance, in effect asking them to repeat the negative performance statements (e.g., “*How* many did you miss?). Boys’ friends were also more likely to respond by making positive statements about their own performance (e.g., “Really? I got them all.”). These types of responses likely highlighted boys’ poor performance in ways that made them less-than-anxious to tackle additional puzzles. In contrast, girls were significantly more likely than boys to have friends respond by mirroring the negative performance statements (e.g., “Yeah. Me too.”). Thus, the social comparison information that girls received was far less damaging than that received by boys. We found similar evidence for the importance of friends’ responses to children’s requests for help. Here, children who frequently asked for help from friends reported more adaptive responses to failure, but only when their friends also failed. Sequential analyses again provided some insights into this phenomenon. Specifically, children were less likely to receive help immediately after asking for it when friends succeeded than when friends failed. The reason may be that successful friends realized the potentially negative self-evaluative consequences of needing to ask for help (see Ryan, Pintrich, & Midgley, 2001) and held off providing it to help the focal “save face”. This

approach may, however, have forced children to ask for help a second time, leading children to feel less competent than if their friend had offered immediate assistance. Together, these findings confirm the importance of examining the behaviors of both interaction partners in future studies of peer influence processes.

A third challenge faced by researchers interested in examining children's discourse with peers to better understand the processes of peer influence is that can be difficult for observers to appreciate the meaning of exchanges between children without substantial knowledge about the characteristics of the children involved (e.g., what are their relative levels of achievement? what are their academic goals?), their relationship status and history (e.g., is help-seeking a typical or atypical feature of this particular relationship?; what types of interactions did these students have earlier in the day?), and the classroom context in which discourse occurs (e.g., is this a classroom in which help-seeking is encouraged?; is this a classroom in which relative performance is made salient?). This problem is not completely surmountable in any given study, but reinforces the point that researchers interested in studying the mechanisms of peer influence (via observational methods or any other method) must recognize that peer influence is not a monolithic process that works similarly in all peer interactions and in all contexts (see Brown et al., 2008). Uncovering some of the factors that influence the nature and consequences of children's interactions with peers will be critical in future research.

One source of debate in the extant literature concerns which types of peer relationships are most likely to be influential. One possibility is that peer influence will be strongest in the context of stable, close friendships. This assumption seems reasonable given (some) evidence that friends are more likely than non-friends to engage in frequent conversation and to interact in ways that are characterized by high levels of sharing, cooperation, and advice-giving (see

Newcomb & Bagwell, 1995, and Rubin, Bukowksi, & Parker, 1998, for reviews; but see Berndt, Perry, & Miller, 1988). However, some have argued that the attention afforded to stable, close friendships may be misguided. For example, Brown and his colleagues (2008) suggest that peer influence effects may be most powerful in the very early stages of friendship formation (when children are most concerned about gaining the approval of others) or even when children are not-yet friends, but have opportunities to observe and interact with highly-admired peers. Both hypotheses have received some empirical support. For example, Wentzel and Barry (2006) found that friends' prosocial behavior predicted positive changes in children's prosocial goal pursuit, but only when children and friends interacted frequently. In contrast, in a study in which children reported on the relative influence of friends and acquaintances, Burton, Ray, and Mehta (2003) found that children expected acquaintances to have more influence than best friends on their decision to cheat (or not to cheat) in school.

There are a number of potential reasons for these discrepant findings. One possibility is that children's self-reports on the processes of influence (as reported in Burton et al., 2003) are unreliable simply because children are unaware of which peers are most influential or are underestimating the role that close friends play in a culture that emphasizes the importance of independent thinking (see Brown et al., 2008, Berndt & Murphy, 2002, and Ladd, 2009, for reviews). A second possibility is that the relative influence of close friends, frequent interaction partners, highly-respected peers, acquaintances, and the larger peer group will depend on the outcome variable of interest. This possibility has met with some support. For example, Molloy, Gest, & Rulison (2011) found that changes in 7th graders' *self-concept* were predicted most strongly by the self-concept scores of peers with whom these students interacted most frequently. However, changes in 7th graders' *school engagement* were predicted most strongly by the

engagement scores of close friends. A third possibility is that the relative influence of various types of peer relationships will depend on the larger contexts in which peer interactions occur. For example, critical statements from classmates may be both more frequent and more likely to influence students' school adjustment in classrooms in which relative performance is made salient and competition is highlighted over cooperation.

Direct observations of children's interactions with peers will be helpful in gaining insights into the processes of influence as they occur in different peer and classroom contexts and into the veracity of children's self-reports of these processes: Are children more likely to attend to the achievement-related behaviors of friends than non-friends? Do high-status or highly-respected peers (who may not be friends) garner special attention? How do children respond when they are confronted with conflicting messages from friends and non-friends? To what degree does the tone set by teachers in classrooms (e.g., the degree to which performance goals are highlighted over mastery goals or the degree to which students are nurtured and supported) change the tenor of students' achievement-related discourse with peers or the implications of this discourse for students' school adjustment?

Conclusions

To date, most research on peer influence in academic (and other) contexts has either ignored or made assumptions about the specific mechanisms by which peers exert their influence (Brown et al., 2008; Ryan, 2001). One reason for this lack of attention lies in the difficulties inherent in capturing processes of peer influence at work and linking these processes to changes in children's school adjustment over time: children's school adjustment is influenced – often simultaneously and sometimes in inconsistent ways -- by the interactions they have with acquaintances, close friends, cliques, and the larger peer group; peer influence sometimes results

in immediate behavioral or attitudinal change and sometimes the effects of peer interactions aren't seen for quite some time; children are influenced not only by the actual behaviors of peers, but by their perceptions of these behaviors. Despite these challenges, I have, in this chapter, echoed calls made by others for researchers to begin to carefully examine mechanisms of peer influence in their work (see also Berndt & Murphy, 2002; Brown, 2008; Ladd, 2009; Ryan, 2001) and have suggested that observational work examining children's achievement-related discourse with peers may offer some important insights. This work will be most effective to the degree that it is conducted in conjunction with research employing other methods, including survey assessments of children's daily interactions with peers (see Altermatt, 2007, 2011) and phenomena thought to be linked to these everyday interactions (e.g., peer academic reputations or chronic peer rejection; see Gest et al., 2005, 2008; Ladd et al., 2008). Together, this work will help us to better understand the ways in which peers contribute to (or undermine) the types of positive academic attitudes and behaviors which are, in turn, predictive of school success.

Footnotes

¹ Research that employs daily diary measures of children's everyday interactions with peers may complement observational work. This methodology has been used infrequently to date, but may yield promising insights into peer influence processes. For example, Sandstrom and Cillessen (2003) noted that children who were not well-liked by peers reported greater levels of daily mistreatment from peers than children who were well-liked. Children's social reputations did not predict differences in daily positive interactions.

² One interpretation of these findings is that children may overestimate the supportiveness of their friendships. Consistent with this view, Ray and Cohen (1996) provide evidence that although children hold high expectations for social support for best friends in general (e.g., for an ideal best friend), they are much less likely to hold these expectations for their actual friendships. Children seem to expect that their actual relationships will be characterized by competition and conflict (see Berndt & Murphy, 2002).

³ This hypothesis is consistent with results from follow-up sequential analyses in which children responded to classmate criticism by evaluating themselves positively (e.g., "I know what I'm doing.") significantly more often than would be expected by chance (see Altermatt et al., 2002).

References

- Altermatt, E. R. (2007). Coping with academic failure: Gender differences in students' self-reported interactions with family members and friends. *The Journal of Early Adolescence, 27*, 479-508.
- Altermatt, E. R. (2011). Capitalizing on academic success: Students' interactions with friends as predictors of school adjustment. *Journal of Early Adolescence, 31*, 174-203.
- Altermatt, E. R., & Broady, E. F. (2009). Coping with achievement-related failure: An examination of conversations between friends. *Merrill-Palmer Quarterly, 55*(4), 454-487.
- Altermatt, E. R., & Ivers, I. E. (2011). Friends' responses to children's disclosure of an achievement-related success: An observational study. *Merrill-Palmer Quarterly, 57*(4), 429-454.
- Altermatt, E. R., & Kenney-Benson, G. A. (2006). Friends' influence on school adjustment: A review of three perspectives. In A. V. Mitel (Ed.), *Trends in Educational Psychology* (pp. 137-153). New York: Nova Science Publishers.
- Altermatt, E. R., & Pomerantz, E. M. (2003). The development of competence-related and motivational beliefs: An investigation of similarity and influence among friends. *Journal of Educational Psychology, 95*, 111-123.
- Altermatt, E. R., & Pomerantz, E. M. (2005). The implications of having high-achieving versus low-achieving friends: A longitudinal analysis. *Social Development, 14*, 61-81.
- Altermatt, E. R., Pomerantz, E. M., Ruble, D. N., Frey, K. S., & Greulich, F. K. (2002). Predicting changes in children's self-perceptions of academic competence: A naturalistic examination of evaluative discourse among classmates. *Developmental Psychology, 38*, 903-917.

- Ames, C., & Ames, R. (1984). Systems of student and teacher motivation: Toward a qualitative definition. *Journal of Educational Psychology, 76*, 535-556.
- Azmitia, M. (1988). Peer interaction and problem solving: When are two heads better than one? *Child Development, 64*, 430-444.
- Bagwell, C. L., Newcomb, A. F., & Bukowski, W. M. (1998). Preadolescent friendship and peer rejection as predictors of adult adjustment. *Child Development, 69*, 140-153.
- Bakeman, R., & Gottman, J. (1997). *Observing interaction: An introduction to sequential analysis (2nd ed.)*. New York: Cambridge University Press.
- Bandura, A. (1971). Vicarious and self-reinforcement processes. In R. Glaser (Ed.), *The nature of reinforcement*. New York: Academic Press.
- Bargh, J. A., & Schul, Y. (1980). On the cognitive benefits of peer teaching. *Journal of Educational Psychology, 72*, 593-604.
- Barry, C., & Wentzel, K. (2006). Friend influence on prosocial behavior: The role of motivational factors and friendship characteristics. *Developmental Psychology, 42*(1), 153-163.
- Berndt, T. J. (1979). Developmental changes in conformity to peers and parents. *Developmental Psychology, 15*, 606-616.
- Berndt, T. J. (1999). Friends' influence on students' adjustment to school. *Educational Psychologist, 34*, 15-28.
- Berndt, T. J., & Keefe, K. (1995). Friends' influence on adolescents' adjustment to school. *Child Development, 66*, 1312-1329.
- Berndt, T. J., & Murphy, L. M. (2002). Influences of friends and friendships: Myths, truths, and research recommendations. *Advances in Child Development and Behavior, 30*, 275-310.

- Berndt, T. J., Hawkins, J. A., & Jiao, Z. (1999). Influences of friends and friendships on adjustment to junior high school. *Merrill-Palmer Quarterly*, *45*, 13-41.
- Berndt, T. J., Laychak, A. E., & Park, K. (1990). Friends' influence on adolescents' academic achievement motivation: An experimental study. *Journal of Educational Psychology*, *82*, 664-670.
- Berndt, T. J., Perry, B. T., & Miller, K. E. (1988). Friends' and classmates' interactions on academic tasks. *Journal of Educational Psychology*, *80*, 506-513.
- Birch, S. H., & Ladd, G. W. (1996). Interpersonal relationships in the school environment and children's early school adjustment: The role of teachers and peers. In J. Juvonen, & K. R. Wentzel (Eds.), *Social motivation: Understanding children's school adjustment* (pp. 199–225). New York: Cambridge University Press.
- Brown, B. B., Bakken, J. P., Ameringer, S. W., & Mahon, S. D. (2008). A comprehensive conceptualization of the peer influence process in adolescence. In M. J. Prinstein, & K.A. Dodge (Eds.), *Understanding peer influence in children and adolescents* (pp. 17-44). New York: Guilford Press.
- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement. *Journal of Educational Psychology*, *98*, 1-13.
- Bukowski, W. M., Brendgen, M., & Vitaro, F. (2007). Peers and socialization: Effects on externalizing and internalizing problems. In J. E. Grusec, & P. D. Hastings (Eds.), *Handbook of socialization: Theory and Research* (pp. 355-381). New York: Guilford.
- Burton, B., Ray, G., & Mehta, S. (2003). Children's evaluations of peer influence: The role of relationship type and social situation. *Child Study Journal*, *33*(4), 235-255.

- Causey, D. L., & Dubow, E. F. (1992). Development of a self-report coping measure for elementary school children. *Journal of Clinical Child Psychology, 21*, 47-59.
- Clasen, D. R., & Brown, B. B. (1985). The multidimensionality of peer pressure in adolescence. *Journal of Youth and Adolescence, 14*, 451-468.
- Coyne, J. C., & DeLongis, A. (1986). Going beyond social support: The role of social relationships in adaptation. *Journal of Consulting and Clinical Psychology, 54*, 454-460.
- Denton, K., & Zarbatany, L. (1996). Age differences in support processes in conversations between friends. *Child Development, 67*, 1360-1373.
- Diehl, D. S., Lemerise, E. A., Caverly, S. L., Ramsay, S., & Roberts, J. (1998). Peer relations and school adjustment in ungraded primary children. *Journal of Educational Psychology, 90*, 506-515.
- Dishion, T. J., & Dodge, K. A. (2006). Deviant peer contagion in interventions and programs: An ecological framework for understanding influence mechanisms. In K. A. Dodge, T. J. Dishion, & J. E. Lansford (Eds.), *Deviant peer influences in programs for youth: Problems and solutions* (pp. 14-43). New York: Guilford Press.
- Dishion, T. J., McCord, J., & Poulin, F. (1999). When interventions harm: Peer groups and problem behavior. *American Psychologist, 54*(9), 755-764.
- Dishion, T. J., Piehler, T. F., & Myers, M. W. (2009). Dynamics and ecology of adolescent peer influence. In M. J. Prinstein, & K. A. Dodge (Eds.), *Understanding Peer Influence in Children and Adolescents* (pp. 72-93). New York: Guilford.
- Dubow, E. R., & Tisak, J. (1989). The relation between stressful life events and adjustment in elementary school children: The role of social support and social problem-solving skill. *Child Development, 60*, 1412-1423.

- Eccles Parsons, J., Adler, T., & Kaczala, C. (1982). Socialization of achievement attitudes and perceptions: Parental influences. *Child Development, 53*, 310-321.
- Engels, R. C. M. E., Knibbe, R. A., De Vries, H., Drop, M. J., & van Breukelen, G. J. P. (1999). Influences of parental and friends' smoking and drinking on adolescent use: A longitudinal study. *Journal of Applied Social Psychology, 29*, 337-361.
- Frome, P., & Eccles, J. (1998). Parents' influence on children's achievement-related perceptions. *Journal of Personality and Social Psychology, 74*(2), 435-452.
- Gest, S. D., Domitrovich, C. E., & Welsh, J. A. (2005). Peer academic reputation in elementary school: Associations with changes in self-concept and academic skills. *Journal of Educational Psychology, 97*, 337-346.
- Gest, S. D., Rulison, K. L., Davidson, A. J., & Welsh, J. A. (2008). A reputation for success (or failure): The association of peer academic reputations with academic self-concept, effort, and performance across the upper elementary grades. *Developmental Psychology, 44*, 625-636.
- Gest, S. D., Sesma, A., Masten, A. S., & Tellegen, A. (2006). Childhood peer reputation as a predictor of competence and symptoms 10 years later. *Journal of Abnormal Child Psychology, 34*, 509-526.
- Graham, S., & Barker, G. P. (1990). The downside of help: An attributional-developmental analysis of helping behavior as a low-ability cue. *Journal of Educational Psychology, 82*, 7-14.
- Granic, I., & Dishion, T. (2003). Deviant talk in adolescent friendships: A step toward measuring a pathogenic attractor process. *Social Development, 12*, 314-334.

- Guryan, J., Jacob, B., Klopfer, E., & Groff, J. (2008). Using technology to explore social networks and mechanisms Underlying peer effects in classrooms. *Developmental Psychology, 44*, 355-364.
- Harlow, R. E., & Cantor, N. (1994). Social pursuit of academics: Side effects and spillover of strategic reassurance seeking. *Journal of Personality and Social Psychology, 66*, 386-397.
- Hartup, W. (2009). Critical issues and theoretical viewpoints. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 3-19). New York: Guilford Press.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin, 112*, 64-105.
- Heller, K., Swindle, R. W., & Dusenbury, L. (1986). Component social support processes: Comments and integration. *Journal of Consulting and Clinical Psychology, 54*, 466-470.
- Hirsch, B. J., & DuBois, D. L. (1992). The relation of peer social support and psychological symptomatology during the transition to junior high school: A two-year longitudinal analysis. *American Journal of Community Psychology, 20*, 333-347.
- Hodges, E. V., Boivin, M., Vitaro, F., & Bukowski, W. M. (1999). The power of friendship: Protection against an escalating cycle of peer victimization. *Developmental Psychology, 35*, 94-101.
- Hokoda, A., & Fincham, F. D. (1995). Origins of children's helpless and mastery achievement patterns in the family. *Journal of Educational Psychology, 87*, 375-385.

- Jodl, K. M., Michael, A., Malanchuk, O., Eccles, J. S., & Sameroff, A. (2001). Parents' roles in shaping early adolescents' occupational aspirations. *Child Development, 72*, 1247-1265.
- Jussim, L. (1986). Self-fulfilling prophecies: A theoretical and integrative review. *Psychological Review, 93*(4), 429-445.
- Juvonen, J., & Nishina, A. (1997). Social motivation in the classroom: Attributional accounts and developmental analysis. In P. R. Pintrich, & M. L. Maehr (Eds.), *Advances in Motivation and Achievement* (Vol. 10, pp. 181-211). JAI.
- Kempler, T. M., & Linnenbrink, E. A. (2006). Helping behaviors in collaborative groups in math: A descriptive analysis. In S. Karabenick & R. Newman (Eds.), *Help seeking in academic settings: Goals, groups, and contexts* (pp. 89-115). Mahwah, NJ: Lawrence Erlbaum Associates.
- Klima, T., & Repetti, R. L. (2008). Children's peer relations and their psychological adjustment: Differences between close friendships and the larger peer group. *Merrill-Palmer Quarterly, 54*(2), 151-178.
- Ladd, G. W. (1990). Having friends, keeping friends, making friends, and being liked by peers in the classroom: Predictors of children's early school adjustment? *Child Development, 61*, 1081-1100.
- Ladd, G. W. (2009). Trends, travails, and turning points in early research on children's peer relationships: Legacies and lessons for our time? In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 20-41). New York: Guilford Press.

- Ladd, G. W., Herald-Brown, S. L., & Reiser, M. (2008). Does chronic classroom peer rejection predict the development of children's classroom participation during the grade-school years? *Child Development, 79*, 1001-1015.
- Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1996). Friendship quality as a predictor of young children's early school adjustment. *Child Development, 67*, 1103-1118.
- Ladd, G. W., Kochenderfer, B. J., & Coleman, C. C. (1997). Classroom peer acceptance, friendship, and victimization: Distinct relational systems that contribute uniquely to children's school adjustment. *Child Development, 68*, 1181-1197.
- Leaper, C. (1991). Influence and involvement in children's discourse: Age, gender, and partner effects. *Child Development, 62*, 797-811.
- Leaper, C., Tenenbaum, H. R., & Shaffer, T. G. (1999). Communication patterns of African American girls and boys from low-income, urban background. *Child Development, 70*, 1489-1503.
- Lepper, M. R., Sagotsky, G., & Mailer, J. (1975). Generalization and persistence of effects of exposure to self-reinforcement models. *Child Development, 46*, 618-630.
- Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist, 45*, 513-520.
- Maccoby, E. E. (1995). The two sexes and their social systems. In P. Moen, G. H. Elder, & K. Luscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 347-364). Washington, DC: American Psychological Association.
- Masters, J. C., & Mokros, J. (1974). Self-reinforcement processes in children. In H. W. Reese (Ed.), *Advances in child development and behavior*. New York: Academic Press.

- Molloy, L. E., Gest, S. D., & Rulison, K. L. (2011). Peer influences on academic motivation: Exploring multiple methods of assessing youths' most "influential" peer relationships. *The Journal of Early Adolescence, 31*, 13-40.
- Newcomb, A. F., & Bagwell, C. L. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin, 117*, 306-347.
- Newcomb, A. F., & Brady, J. E. (1982). Mutuality in boys' friendship relations. *Child Development, 53*, 392-395.
- Pedersen, S., Vitaro, F., Barker, E. D., & Borge, A. I. H. (2007). The timing of middle-childhood peer rejection and friendship: Linking early behavior to early-adolescent adjustment. *Child Development, 78*, 1037-1051.
- Piehler, T. F., & Dishion, T. J. (2007). Interpersonal dynamics within adolescent friendships: Dyadic mutuality, deviant talk, and patterns of antisocial behavior. *Child Development, 78*(5), 1611-1624.
- Pomerantz, E. M., Grolnick, W. S., & Price, C. E. (2005). The role of parents in how children approach achievement. In A. J. Elliot, & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 259-278). New York: Guilford.
- Pomerantz, E. M., Ruble, D. N., & Bolger, N. (2004). Supplementing the snapshots with video footage: Taking a developmental approach to understanding social psychological phenomena. In C. Sansone, C. C. Morf, & A. T. Panter (Eds.), *The Sage handbook of methods in social psychology* (pp. 405-425). Thousand Oaks, CA: Sage Publications, Inc.
- Ray, G. E., & Cohen, R. (1996). Children's friendships: Expectations for prototypical versus actual best friends. *Child Study Journal, 26*, 209-227.

- Rook, K. S. (1987). Social support versus companionship: Effects on life stress, loneliness, and evaluations by others. *Journal of Personality and Social Psychology*, *52*, 1132-1147.
- Rose, A. J. (2002). Co-rumination in the friendships of girls and boys. *Child Development*, *73*, 1830-1843.
- Rubin, K. H., Bukowski, W. M., & Parker, J. G. (1998). Peer interactions, relationships, and groups. In W. Damon (Series Ed.), & N. Eisenberg (Vol. Ed.), *The handbook of child psychology* (5th ed., pp. 619-700). New York: Wiley.
- Ryan, A. M. (2000). Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educational Psychologist*, *35*, 101-111.
- Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development*, *72*, 1135-1150.
- Ryan, A. M., Pintrich, P. R., & Midgley, C. (2001). Avoiding seeking help in the classroom: Who and why? *Educational Psychology Review*, *13*, 93-114.
- Sage, N. A., & Kindermann, T. A. (1999). Peer networks, behavior contingencies, and children's engagement in the classroom. *Merrill-Palmer Quarterly*, *45*, 143-171.
- Sagotsky, G., & Lepper, M. R. (1982). Generalization of changes in children's preferences for easy or difficult goals induced through peer modeling. *Child Development*, *53*, 372-375.
- Sandstrom, M. J., & Cillessen, Antonius H. N. (2003). Sociometric status and children's peer experiences: Use of the daily diary method. *Merrill-Palmer Quarterly*, *49*(4), 427-52.
- Schwartz, F. (1981). Supporting or subverting learning: Peer group patterns in four tracked schools. *Anthropology and Education Quarterly*, *12*, 99-121.
- Shachar, H., & Sharan, S. (1994). Talking, relating, and achieving: Effects of cooperative learning and whole-class instruction. *Cognition and Instruction*, *12*(4), 313-353.

- Sim, T. N., & Koh, S. F. (2003). Domain conceptualization of adolescent susceptibility to peer pressure. *Journal of Research on Adolescence, 13*(1), 58-80.
- Snyder, J., Schrepferman, L., Oeser, J., Patterson, G., Stoolmiller, M., Johnson, K., et al. (2005). Deviancy training and association with deviant peers in young children: Occurrence and contribution to early-onset conduct problems. *Development and Psychopathology, 17*(2), 397-413.
- Taylor, S. E., & Brown, J. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103*, 193-210.
- Vandell, D. L., & Hembree, S. E. (1994). Peer social status and friendship: Independent contributors to children's social and academic adjustment. *Merrill-Palmer Quarterly, 40*, 461-470.
- Vitaro, F., Boivin, M., & Bukowksi, W. M. (2009). The role of friendship in child and adolescent psychosocial development. In K. H. Rubin, W. M. Bukowksi, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 568-585). New York: Guilford.
- Weiner, B. (1980). May I borrow your class notes? An attributional analysis of help-giving in an achievement related context. *Journal of Educational Psychology, 72*, 676-681.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology, 90*, 202-209.
- Wentzel, K. R. (1999). Social influences on school adjustment: Commentary. *Educational Psychologist, 34*, 59-69.

- Wentzel, K. R. (2003). School adjustment. In Miller, G. E., & Reynolds, W. M., *Handbook of psychology: Educational psychology*, Vol. 7. (pp.235-258). New York, NY, US: John Wiley & Sons, Inc.
- Wentzel, K. R. (2005). Peer relationship, motivation and academic performance at school. In A. J. Elliot, & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 279-296). New York: Guilford.
- Wentzel, K. R. (2009). Peers and academic functioning at school. In K. H. Rubin, W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 531-547). New York: Guilford.
- Wentzel, K. R., & Caldwell, K. (1997). Friendships, peer acceptance, and group membership: Relations to academic achievement in middle school. *Child Development*, 68, 195-203.
- Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology*, 96, 195-203.
- Wood, J. V. (1989). Theory and research concerning social comparisons of personal attributes. *Psychological Bulletin*, 106, 231-248.