Distinguishing Behavioral and Cognitive Dimensions of Parental Social Coaching: A Focused Examination of Parents' Social and Psychological Influence During Early Adolescence

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Abstract

As peer stress and internalizing problems rise around the transition to adolescence, parents often want to intervene to promote positive peer experiences and psychological well-being. However, there is a paucity of empirical research on the utility of detailed suggestions parents can give young adolescents facing peer challenges. The present study examined the effectiveness of parental social coaching about peer challenges for supporting young adolescents' social and psychological adjustment. Two studies were conducted to test hypotheses across diverse samples, measures, and contexts. Study 1 included 80 young adolescents and one parent per adolescent. Parental social coaching (i.e., behavioral advice and cognitive framing) and adolescent social-behavioral and social-cognitive skills were observed and reported during a lab-based peer-evaluative conversation task and subsequent parent-adolescent coaching discussion about negative peer evaluation. Study 2 included 123 young adolescents, along with one parent and teacher per adolescent, assessed at two occasions ten months apart. At Time 1, parents gave open-ended reports about their social coaching in response to three hypothetical peer stress scenarios. Parents and teachers also reported about adolescents' social-behavioral skills, peer acceptance, and internalizing problems at both time points. Additionally, adolescents completed questionnaires about their social-cognitive skills at Time 1 and Time 2. Analyses revealed that behavioral and cognitive dimensions of coaching were distinct, and social-behavioral and social-cognitive dimensions of adolescent skills were related but not redundant

constructs. Although a modest pattern of effects emerged for independent associations between higher-quality coaching and better adolescent social skills or fewer internalizing problems, both prosocial behavioral advice and benign cognitive framing predicted higher prospective peer acceptance (controlling for earlier levels of peer acceptance). Furthermore, analyses indicated that adolescent social skills moderated the link between coaching and peer acceptance. As hypothesized, higher-quality coaching predicted better peer acceptance for adolescents with lower, but not higher, social-behavioral skills, consistent with a remediation model. Additionally, higher-quality coaching predicted better peer acceptance among youths with higher, but not lower, social-cognitive skills, consistent with a capitalization model. Results of the present study underscore the importance of behavioral and cognitive dimensions of parental social coaching for young adolescents' social development, and suggest that optimal coaching strategies may depend on adolescents' social skills strengths and weaknesses. Findings and implications for parental social coaching, as well as adolescent social and psychological adjustment, are discussed.

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I. INTRODUCTION

Gaining peer acceptance and avoiding peer maltreatment and associated feelings of anxiety and depression are critical developmental challenges of early adolescence (Masten, Burt, & Coatsworth, 2006; Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 2006). Well-developed social skills help young adolescents navigate these social challenges (Bierman, 2004). More specifically, social-behavioral skills (e.g., friendliness, cooperative behaviors, conversational abilities) facilitate positive social interactions, while social-cognitive skills (e.g., benign social appraisals, social self-efficacy) underlie and support the use of those behaviors (Coie, 1990; Crick & Dodge, 1994; Nangle, Grover, Holleb, Cassano, & Fales, 2010).

One potential method of cultivating social skills occurs in the family setting. Paralleling adolescents' fears of negative peer experiences (Westenberg, Gullone, Bokhorst, Heyne, & King, 2007), parents report bullying and peer relationships as their foremost concerns as youths transition from primary to secondary school (Zeedyk et al., 2003). Parents' worries about social stress combined with their self-endorsed authority over their children's peer relationships (Smetana & Asquith, 1994) lead them to directly and indirectly intervene, attempting to shape their children's social capacities (Ladd & Pettit, 2002; Mounts, 2008). Indeed, according to adolescents, parents maintain moderate involvement in their peer relationships during this transitional period (Mounts, 2002; 2004).

Among various ways that parents exert influence in the peer domain, parental social coaching (i.e., behavioral advice or cognitive framing about peer challenges) may particularly affect adolescents' social skills development, and thereby their peer adjustment. Although young adolescents spend decreasing time in the broader family context, their connection with parents remains stable, especially as evidenced in their time spent alone with parents (Larson, Richards,

Moneta, Holmbeck, & Duckett, 1996). These one-on-one interactions provide valuable opportunities for parents to listen to their adolescents' social difficulties and give advice about how to behave or think about peer situations. Youths do indeed seem fairly receptive to parental conversations about peer relationships, as indicated by self-report (Mounts, 2004) and observations during a parent-adolescent discussion about peer stressors (Gregson, Erath, Pettit, & Tu, revise-resubmit). Furthermore, some research suggests that young adolescents profit from parental social coaching, as more frequent parent-adolescent conversations about peers are linked with higher levels of friendship intimacy (Vernberg, Beery, Ewell, & Abwender, 1993) and greater friendship quality (Mounts, 2004). In addition to the frequency of parent-adolescent social discussions, the quality of parental social coaching, in particular, may influence adolescents' peer adjustment, consistent with several studies of parental social coaching with younger children (Finnie & Russell, 1988; Mize & Pettit, 1997; Russell & Finnie, 1990; Pettit, Brown, Mize, & Lindsey, 1998; Werner, Eaton, Lyle, Tseng, & Holst, 2014). For example, among young adolescents, Poulin, Nadeau, and Scaramella (2012) linked high-quality parental social coaching concurrently with fewer conflicts with a best friend and prospectively with increases in prosocial behavior. A beneficial effect of high-quality parental coaching for older children also has been suggested in the intervention literature: participation in a parental friendship coaching intervention increased parents' facilitative coaching, and thereby improved children's general social skills (Mikami, Lerner, Griggs, McGrath, & Calhoun, 2010b).

Although there is some evidence that parental social coaching may support peer adjustment in early adolescence, this developmental period presents new challenges for parental involvement, as youths report low levels of disclosure about peer activities (Smetana, Villalobos, Tasopoulos-Chan, Gettman, & Campione-Barr, 2009) and are decreasingly willing to accept

parents' authority (Kuhn & Laird, 2011), particularly about peer-related experiences (Darling, Cumsille, & Martinez, 2008; Smetana, 2000; Smetana, Crean, & Campione-Barr, 2005). Thus, parents may have only minimal awareness of adolescents' social problems, or they may attempt to intervene when adolescents do not desire or accept help, resulting in parental coaching that is mismatched with adolescents' social needs and, hence, disregarded. Indeed, evidence for positive effects of parental social coaching during this period is modest and somewhat inconsistent. Gregson et al. (revise-resubmit) found only weak independent associations between the quality of parental social coaching and young adolescents' receptivity to coaching. Moreover, Poulin et al. (2012) reported a modest pattern of concurrent and prospective associations linking high-quality coaching with indices of adolescents' peer adjustment (i.e., no effects on aggressive behavior, number of friends, or self-reported social competence).

Raising even further questions, among the few studies of parental social coaching during middle childhood and early adolescence, some have found a reverse effect, such that higher-quality coaching (or more neutral forms of coaching) is linked with *poorer* social skills and adjustment. For instance, high-quality parental social advice predicted lower prosocial behavior and lower peer liking concurrently and one year later (McDowell & Parke, 2009; McDowell, Parke, & Wang, 2003). Additionally, parental corrective feedback about peer interactions was associated with lower social skills and lower peer liking (Mikami, Jack, Emeh, & Stephens, 2010a). Rather than adverse effects of parental social coaching, it is commonly assumed that negative associations between parental coaching and youths' peer adjustment reflect parents' attempts to remediate adolescents' pre-existing social problems (McDowell et al., 2003; McDowell & Parke, 2009). Nevertheless, based on the current evidence, it is unclear if parental social coaching bolsters social development.

Whereas there is some, albeit inconsistent, evidence for the effects of parental coaching on adolescent social skills and peer acceptance, research rarely has examined parental social coaching as a predictor of adolescent psychological adjustment. Although not yet shown in empirical studies, it is plausible that parental coaching promotes psychological adjustment, reducing anxiety or depressive symptoms among young adolescents. For example, parental social coaching may support peer adjustment (Mikami et al., 2010b; Poulin et al., 2012) which, in turn, may decrease internalizing problems (Bagwell, Newcomb, & Bukowski, 1998; Parker & Asher, 1987). Alternatively, high-quality parental social coaching may be associated with psychological adjustment only by virtue of its association with other positive parenting behaviors (Laird, Pettit, Mize, Brown, & Lindsey, 1994; McDowell & Parke, 2009; Mikami et al., 2010a).

It is also possible that parental social coaching yields unintentional psychological consequences, escalating internalizing problems. Pomerantz and Eaton (2000) documented such a process in the academic domain: As children age, they increasingly perceive parental academic helping, monitoring, and decision-making as indicative of their academic incompetence. Potentially then, young adolescents may view frequent and elaborate parental social-behavioral advice as a gauge of their social weaknesses, thereby cultivating anxiety or depressive symptoms. Indeed, preliminary evidence for this hypothesis was shown by McDowell et al. (2003), who linked mothers' high-quality advice with children's higher concurrent depression and loneliness and fathers' advice with increases in loneliness. Given the scarce and inconsistent evidence, the utility of parental social coaching for promoting social skills development and peer and psychological adjustment in early adolescence remains uncertain, and there is even some possibility that certain forms of coaching may inadvertently foster internalizing problems.

The preceding review of the literature on parental social coaching highlights several important gaps. First, the existing evidence is considerably lacking in detail, with most studies examining overall quality of parental social coaching or broad measures of social skills and adjustment. Indeed, empirical studies examining the utility of specific parental suggestions about facing peer challenges is nearly nonexistent (Lovegrove, Bellmore, Greif Green, Jens, & Ostrov, 2013). Dissecting behavioral and cognitive aspects of parental social coaching and adolescent social skills, as well as differentiating peer and psychological outcomes, may clarify how parents can help young adolescents navigate peer stress experiences. Second, few studies have considered the fit between parental social coaching and adolescent social skills (i.e., interactions between coaching and skills predicting adjustment), despite widespread recognition that parenting processes affect individual children differently (Bates & Pettit, 2014). Third, few longitudinal studies on parental social coaching exist, yet longitudinal studies are needed to disentangle parent from child effects and to explain the inconsistent results reviewed above. And fourth, there are relatively few multi-method studies of parental social coaching. Employing multiple informants and methods (e.g., questionnaire, behavioral observation) to assess parent coaching, adolescent skills, and peer and psychological outcomes can provide corroborating evidence and decipher whether the effects of coaching are limited to particular contexts or robust across contexts and measures.

In an attempt to address these gaps and advance the existing literature, the present study made several innovations. To elucidate conceptual issues (e.g., specificity of effects, fit between coaching and child characteristics), the present study **(1) distinguished between distinctive aspects** of parental social coaching, social skills, and peer and psychological adjustment, and **(2) tested interactions between parental social coaching and adolescent social skills** as

predictors of peer and psychological adjustment. Furthermore, to clarify contradictory effects due to methodological limits of prior studies, we **(3) employed longitudinal data**, and **(4) utilized multiple assessment methods** (i.e., observed-behavioral, as well as adolescent-, parent-, and teacher-reports). In order to accomplish these conceptual and methodological innovations, as well as test hypotheses across multiple samples and measures, two separate studies were conducted.

First, in an attempt to draw more specific conclusions about parental social coaching, this is the first known study among young adolescents to differentiate behavioral advice and cognitive framing dimensions of coaching. Indeed, empirical literature on parenting has often focused on constellations of parenting behavior (e.g., Baumrind, 1989), but some researchers recommend a differentiated approach to illuminate the relation of distinct parenting behaviors to child outcomes (McKee, Colletti, Rakow, Jones, & Forehand, 2008; O'Connor, 2002). However, very few studies of parental social coaching have examined separate dimensions of coaching (see Mize & Pettit, 1997 for an exception with a sample of preschoolers). The present study distinguished two dimensions of coaching and one additional dimension of general parenting. As a first dimension of coaching, behavioral advice refers to suggestions about how to interact with peers, how to gain peer acceptance, or what to do in challenging social situations (Mize & Pettit, 1997). In contrast, cognitive framing refers to parents' counsel to children about how to think about themselves or interpret peer stress situations or peer behaviors (Hane & Barrios, 2011; Mize & Pettit, 1997). Finally, parent positive involvement was included as a dimension of general parenting (primarily as a control variable in regression analyses), because positive parenting (e.g., warmth, interest, attunement) is reliably associated with adolescents' peer and psychological outcomes (Allen, Moore, Kuperminc, & Bell, 1998; McKee et al., 2008), and we

wanted to uncover the unique effects of parental social coaching above and beyond general positive parenting.

The present study also distinguished between adolescents' social-behavioral and social-cognitive skills, as well as peer (i.e., acceptance) versus psychological (i.e., internalizing) outcomes. Examining cognitive and behavioral dimensions of coaching and social skills, as well as separate adolescent peer and psychological outcomes, allows us to potentially model and understand unique effects of parental social coaching on separate adolescent outcomes (see Pomerantz, Ng, Cheung, & Qu, 2014 for a similar process of parenting in the academic domain).

A second conceptual innovation of the present study was an assessment of interactions between coaching and skills as predictors of adolescent peer and psychological outcomes. Most prior studies have implicitly assumed that coaching is similarly effective for a wide range of adolescents, since they have not tested adolescent characteristics as moderators. Nevertheless, child developmental researchers increasingly highlight the various ways in which parenting may affect individual children differently (Bates & Pettit, 2014), and similar evidence related to parenting in the peer domain has begun to emerge (Abaied & Rudolph, 2011; Werner et al., 2014). The present study examined interactions between parental social coaching and adolescent social skills, and thereby provided evidence about variability in the effects of coaching, which may particularly inform intervention efforts.

Thirdly, the present study strengthens the empirical literature methodologically by assessing adolescent outcomes (i.e., social skills, peer acceptance, internalizing symptoms) at two time points, approximately one year apart. This longitudinal design allows stronger directional interpretations about the extent to which parental social coaching influences adolescent social development rather than an alternative interpretation in which adolescent social

problems drive parental social coaching. Thus, results of the present study may help resolve inconsistent positive and negative effects of parental social coaching found in prior studies.

And fourth, the multi-method approach of the present study allows us to test hypotheses across multiple assessments and settings. Specifically, parental coaching and adolescent skills were assessed at two levels of context: *context-specific* (i.e., observational assessments of adolescent social skills and parent coaching during a peer-evaluative conversation task and subsequent parent-adolescent discussion about negative peer evaluation) and *context-general* (i.e., adolescent-, parent-, or teacher-reports about parents' and adolescents' behavior across various social situations). Context-specific measures provide more objective information about parent and adolescent functioning in real-time, in response to a particular peer stressor, whereas context-general reports reflect broad trends of coaching and social skills across peer scenarios. Thus, context-specific and context-general assessments have complementary strengths and weaknesses, allowing a more thorough analysis of the effects of parental social coaching.

Aims of the Present Study

The present study focused on four aims, two preliminary and two central, in order to clarify associations between parental social coaching and adolescent peer and psychological adjustment (see Table 1 for an overview of study aims and hypotheses). These aims were addressed via two separate studies, in order to test hypotheses across samples and measures. The first two preliminary aims explored behavioral and cognitive dimensions of parental social coaching (**Aim 1; dimensions of coaching**) and adolescent social skills (**Aim 2; dimensions of skills**). Aim 1 was to examine the association between behavioral and cognitive dimensions of parental social coaching (i.e., behavioral advice, cognitive framing), with both context-specific (Study 1) and context-general (Study 2) assessments of each dimension, to determine whether

dimensions of coaching are separable and thus may influence youths differently. A similar second preliminary aim was to assess the interrelation between behavioral and cognitive dimensions of adolescent skills (i.e., social-behavioral, social-cognitive), again using both context-specific (Study 1) as well as context-general (Study 2) indices of each skill, to test the uniqueness of skills dimensions and the potential for coaching to affect skills independently. We expected modest to moderate associations across dimensions of parental social coaching (Aim 1) and adolescent social skills (Aim 2).

For the third central aim, we examined unique associations linking dimensions of parental social coaching with young adolescents' concurrent and prospective outcomes (**Aim 3; independent effects of coaching**). To probe these associations, we proposed three sub-aims and two exploratory aims. The sub-aims were to link dimensions of parental coaching with concurrent and prospective dimensions of adolescent social skills (Aim 3a; Studies 1 and 2), peer acceptance (Aim 3b; Study 2), and internalizing problems (Aim 3c; Study 2). We expected modest positive associations between coaching dimensions and concurrent levels of adolescent social skills (Aim 3a) and peer acceptance (Aim 3b); however, we anticipated that coaching would more strongly predict higher prospective skills (Aim 3a) and peer acceptance (Aim 3b), since concurrent associations may be dampened by adolescent effects on parental coaching. Additionally, we hypothesized that parental behavioral advice would be linked with higher concurrent and prospective internalizing problems (Aim 3c).

As an exploratory sub-aim for Aim 3, and in order to better characterize associations between parental social coaching and adolescent social skills, we considered various *types* of associations linking dimensions of coaching with dimensions of social skills (Aim 3d; Studies 1 and 2): (1) *differential* effects of coaching dimensions on skills dimensions (e.g., if parental

cognitive framing more strongly predicted adolescent social-cognitive skills than adolescent social-behavioral skills) versus *similar* effects of coaching dimensions on skills dimensions (e.g., if parental cognitive framing was similarly linked with adolescent social-cognitive and adolescent social-behavioral skills), and (2) *matched* effects of behavioral and cognitive dimensions of coaching and skills (e.g., if parental *cognitive* framing was more strongly linked with adolescent social-*cognitive* skills than social-*behavioral* skills) versus *unmatched* effects across coaching and skills dimensions (e.g., if parental *behavioral* advice was more strongly linked with adolescent social-*cognitive* skills than social-*behavioral* skills). We considered Aim 3d to be exploratory, and thus did not set forth hypotheses.

The final exploratory sub-aim for Aim 3 was to test adolescent sex as a moderator of the effects of parental social coaching on adolescent outcomes (Aim 3e; Studies 1 and 2). Very few studies among young adolescents have examined interactions between parental coaching and sex (see Abaied & Rudolph, 2010 for an exception). Thus, due to the lack of prior research and exploratory nature of this sub-aim, we did not present hypotheses.

For the fourth aim, we examined interactions between dimensions of parental social coaching (and parent positive involvement) and dimensions of adolescent social skills as predictors of adolescent adjustment outcomes (**Aim 4; interactive effects of coaching/ involvement x skills**; Study 2). Specifically, we assessed six interactions as predictors of concurrent and prospective levels of adolescent peer acceptance and internalizing problems: parent behavioral advice x adolescent social-behavioral skills, parent behavioral advice x adolescent social-cognitive skills, parent cognitive framing x adolescent social-behavioral skills, parent cognitive framing x adolescent social-cognitive skills, parent positive involvement x adolescent social-behavioral skills, and parent positive involvement x adolescent social-cognitive

skills. We analyzed patterns of interaction effects to determine whether they were consistent with any of three possible models: capitalization, remediation, or psychological protection. A capitalization model suggests that parental social coaching promotes peer acceptance especially for highly-skilled adolescents (Pluess & Belsky, 2013); a remediation model suggests that parental social coaching promotes peer acceptance especially for low-skilled adolescents (Elliott & Gresham, 1993; Ladd & Mize, 1983); and a psychological protection model suggests that parent positive involvement attenuates internalizing problems for low-skilled adolescents (see Stadler, Feifel, Rohrmann, Vermeiren, & Poutska, 2010; Yeung & Leadbeater, 2010; Yeung Thompson & Leadbeater, 2012 for a similar process). We hypothesized that evidence for remediation and psychological protection models would emerge.

These aims were addressed with two studies, in order to test hypotheses across samples and measures, and capitalize on the strengths of each study. Study 1 incorporated context-specific measures of both parental social coaching and adolescent social skills. Specifically, parental coaching was observed during a parent-adolescent discussion about negative peer evaluation, and adolescents' social skills were observed and verbally reported during a peer-evaluative conversation task. Due to the limited assessment of peer acceptance and small sample size in Study 1, this study addressed only Aims 1, 2, 3a, 3d, and 3e. Utilizing a larger sample and longitudinal design, along with both parent and teacher reports of peer acceptance, Study 2 addressed all study aims (1-4) and included context-general measures of parental coaching and adolescent skills, as well as peer and psychological adjustment. Parents reported about their social coaching and positive involvement at the first time point, and adolescents, parents, and teachers reported about adolescent social skills, peer acceptance, and internalizing problems at two time points, approximately one year apart.

II. LITERATURE REVIEW

Developmental Setting: Early Adolescence

Youths crave close relationships and a sense of belonging (Parker et al., 2006), and the friendships, cliques, and social networks that strengthen during this period are vital for adolescents' development in multiple arenas (e.g., academic, moral, social). Although peers provide ample opportunities for learning, support, and intimacy during early adolescence, they can also present the prospect of isolation and rejection. As such, young adolescents increasingly fear adverse peer interactions, such as negative social evaluation, exclusion, and rejection (Westenberg et al., 2007), and accordingly display peaking rates of social anxiety (Beidel & Turner, 2007; Somerville, 2013). Peer exclusion becomes a common experience (Sandstrom, 2004), and around 15% of young adolescents report frequent or severe peer harassment or victimization (Nansel et al., 2001; Wang, Iannotti, & Nansel, 2009; Williams & Guerra, 2007).

Along with the intensifying social climate, additional changes occurring within the individual and the social structure merge to exacerbate peer stress experiences. For example, better-developed abstract thinking capabilities may stimulate worries about social evaluation and comparison (Parker et al., 2006), with youths commonly comparing their competence and performance to that of their peers. Furthermore, increased recognition of the motivation behind peer aggressive behaviors may exacerbate adolescents' social fears and worries (Coie & Dodge, 1998; Crick & Grotpeter, 1995; Underwood, 2003). These cognitive-developmental changes may breed self-critical evaluations and heightened sensitivity to peers' behaviors, both of which can intensify normative peer stress experiences.

In addition, social-structural changes may further challenge positive peer interactions. Young adolescents increasingly spend unsupervised time with peers (compared to earlier stages;

Larson & Richards, 1991) and levels of school-based supervision and structure also decline across the transition from elementary to middle school (Eccles, Lord, & Buchanan, 1996), heightening the risk for negative peer exchanges. In addition, with the number of peers growing and the composition of the peer group diversifying (Barber & Olson, 2004), along with school classes becoming departmentalized (by subject and ability), adolescents' existing friendships may be disrupted (Eccles et al., 1993; 1996). Thus, maintaining established relationships and initiating new friendships can be worrisome and challenging (Anderson, Jacobs, Schramm, & Splittgerber, 2000; Duchesne, Ratelle, & Roy, 2012).

Adolescents who succeed in gaining acceptance from peers often benefit in multiple domains of development, including finishing high school, engaging in fewer juvenile or adult delinquent behaviors (for a review, see Parker & Asher, 1987), and experiencing higher self-worth in young adulthood (Bagwell et al., 1998). In contrast, rejected youth are at risk for educational underachievement, depression, and antisocial behaviors (Parker & Asher, 1987; Parker et al., 2006). Similarly, peer victimization predicts concurrent and prospective difficulties: internalizing symptoms (e.g., anxiety, depression, loneliness; see Reijntjes, Kamphuis, Prinzie, & Telch, 2010 for meta-analysis), externalizing and aggressive behaviors (see Reijntjes et al., 2011 for meta-analysis), and declines in academic performance (see Nakamato & Schwartz, 2010 for meta-analysis). Thus, stressful peer experiences across the transition to middle school, coupled with individual developmental and social-structural shifts, may exacerbate peer and psychological difficulties, increasing the need for effective parental intervention.

Theories about Parental Involvement in the Peer Domain

Ladd and Pettit (2002) proposed a model in which parents are directly and indirectly involved in socializing their children's peer relationships. They identified four roles in which

parents directly influence or manage social development: "designer, mediator, supervisor, and advisor or consultant" (p. 287). As a designer, parents structure the environment in which their child interacts with peers, by choosing a neighborhood, child care, and community activities. Mediating, or linking, children with potential playmates, parents assist by coordinating opportunities to meet or play with peers, and actively influencing those interactions (e.g., arranging the setting, setting the frequency of contact, teaching initiation strategies). In a supervisory role, parents participate in children's peer exchanges in three primary ways: directing children's interactions in the midst of peer play, intervening before or after peer interactions to address problem behaviors, and monitoring more distally by maintaining awareness and knowledge of children's peer activities.

The final role, advising or consulting (termed "parental social coaching" in the present study) may be particularly relevant during early adolescence. Specifically, in conversations aimed at past, present, or future peer exchanges or stressors, parents "talk with children after school, in the car, before bedtime, or at other times about how to initiate friendships, manage conflicts, maintain relationships, deflect teasing, repel bullies, and so on" (Ladd & Pettit, 2002, p. 293). As children exit childhood and enter adolescence, coaching may occur more frequently than other forms of direct parental involvement in children's peer relationships (Parke et al., 2003). Indeed, the social structure of early adolescence demands less participatory supervision from parents and more one-on-one interactions between parent and adolescent.

Although parental social coaching may occur more frequently during this stage and have potential to shape adolescents' peer adjustment, the effectiveness of coaching as a positive intervention is disputable. As noted by Mounts (2008), applying Ladd and Pettit's (2002) model to parent socialization of adolescents' (rather than children's) peer relationships, the evidence is

mixed for coaching fostering more advanced social skills and positive relationships. Alternatively, coaching may be linked with adolescents' *poorer* skills and relationships, explained as high levels of coaching interfering with the natural development of social skills and relationships, or coaching functioning as parents' reactive attempts to intervene in youths' negative peer experiences (Mounts, 2008).

In addition to theories about parenting in the peer domain, the present study used developmental psychopathology (Cicchetti, 2006) and person by environment theoretical frameworks (see Bates & Pettit, 2014, for a review of child temperament by parenting) to inform our investigation of parental coaching x adolescent social skills predicting adjustment outcomes (Aim 4). These two frameworks suggest that individual risk and protective factors interact with environmental risk and protective factors to shape adjustment. Particularly relevant to the proposed study, the goodness-of-fit model, which is an application of the person by environment framework, proposes that the match between child temperament and environmental factors is a key predictor of adjustment (Lerner & Lerner, 1994; Thomas & Chess, 1977). Specifically, an environment compatible with child temperament promotes optimal adjustment, whereas incompatibility hinders development (e.g., gentle, not harsh, discipline is associated with fearful children's conscience development; Kochanska, 1991; 1995). Using an extension of this framework, although with an assessment of child social experiences rather than temperament, Abaied and Rudolph (2011) documented an instance of *poor* fit (or incompatibility) between parenting and child experiences. Specifically, they demonstrated that maternal disengagement coping suggestions were not problematic for young adolescents exposed to low levels of peer stress; however, among youths exposed to high social stress, disengagement suggestions predicted adolescents' maladaptive coping responses. Using the goodness-of-fit model and

building on Abaied and Rudolph's (2011) examination of parenting in the peer domain x child experiences, the present study examined how parental social coaching may interact with adolescent social skills to optimize or impair adjustment (Aim 4). Indeed, the match between coaching and skills may be critical for determining whether adolescents benefit, suffer from, or experience no effects of parental involvement in their peer relationships at this critical developmental stage.

Behavioral and Cognitive Dimensions of Parental Social Coaching (Aim 1)

The first (preliminary) aim of the present study was to examine the interrelation between behavioral and cognitive dimensions of parental social coaching. The degree of overlap or differentiation informs the interpretation of subsequent analyses concerning unique associations linking dimensions of parental social coaching with adolescent social skills and peer and psychological adjustment. The present study distinguished two dimensions of parental social coaching, behavioral advice and cognitive framing, and one additional dimension of general parenting, positive involvement. Behavioral advice and cognitive framing are conceptually distinct features of parental coaching about peer problems. Parent positive involvement was included in the present study primarily as a control variable, since it encompasses broader parenting behavior not confined to the peer domain, and furthermore, because it may have particular relevance for young adolescents' peer and psychological adjustment (Allen et al., 1998; McKee et al., 2008).

Coaching dimension 1: Behavioral advice. Parents' behavioral advice refers to suggestions about how to interact with peers, how to gain peer acceptance, or what to do in challenging social situations (Mize & Pettit, 1997). Measured on a continuum in the present study (based on coding systems developed by McDowell & Parke, 2009; Mize & Pettit, 1997;

Poulin et al., 2012), low-quality behavioral advice involves defensive, hostile, avoidant, or otherwise ineffective strategies (e.g., suggestions to avoid peers; redirection of attention to school rather than peers). Advice in the mid-range consists of vague (albeit positive) suggestions about how to behave in social situations, gain peer acceptance, or interact with other non-peers (e.g., advice about acting nice or friendly, or about planning an activity with a family member). Finally, high-quality advice entails positive, specific, engaging, prosocial strategies (e.g., suggestions to talk about particular activities or interests they have in common, or to plan social interactions with well-matched peers).

The prosocial behaviors (e.g., social participation, kindness, cooperation) that would presumably stem from high-quality parental behavioral advice are indeed normative in the peer group (Greener & Crick, 1999) and consistently promote peer acceptance (Aikins & Litwack, 2011; Newcomb, Bukowski, & Pattee, 1993; Rubin, Bukowski, & Parker, 2006). In contrast, aggressive, disruptive, and avoidant behaviors are generally considered less acceptable by peers (Goldstein & Tisak, 2010), and reliably predict negative peer responses (e.g., rejection, victimization; Pope & Bierman, 1999; Reijntjes et al., 2011; Rubin, Coplan, & Bowker, 2009). Thus, parental behavioral advice about how to *act* in peer situations may shape young adolescents' social interactions and resulting peer experiences.

Coaching dimension 2: Cognitive framing. A related, yet distinguishable, dimension of coaching, cognitive framing, includes parents' attempts to help children *think* about (rather than *act* in) social situations (Mize & Pettit, 1997). Parental cognitive framing may have particular relevance at this developmental stage, since young adolescents' developing abstract thinking capabilities may stimulate increased self-reflection and peer comparison (Parker et al., 2006). On a continuum (based on coding systems developed by Hane & Barrios, 2011; Mize & Pettit,

1997), low-quality cognitive framing includes negative, threatening, or dismissive interpretations about peer behaviors or peer situations (e.g., hostile appraisals about peers or their behavior; down-play of the significance of the situation; suggestions that the adolescent's worries are silly or unimportant). Framing in the mid-range consists of vague (albeit positive) interpretations about peers (e.g., cliché sayings about everything being okay or working out eventually; reminder to think positively or have a good attitude). Lastly, high-quality framing involves specific, benign messages about the youth's social competence and peer experiences (e.g., nonthreatening appraisals of challenging social situations; references to prior successes with peers; normalizing comments about this particular experience occurring for other peers; reminder of the adolescent's existing friendships).

Thus, high-quality cognitive framing should inherently promote benign social cognitions and positive self-perceptions, which indeed foster peer acceptance (Ryan, Jamison, Shin, & Thompson, 2012). Conversely, hostile social cognitions and negative self-perceptions are linked with lower sociometric ratings and peer victimization (Prinstein, Cheah, & Guyer, 2005; Rah & Parke, 2008; Ziv, Leibovich, & Shechtman, 2013). Therefore, the cognitive framing dimension of parental social coaching may also predict adolescents' peer experiences.

Additional general parenting dimension: Positive involvement. In addition to the aforementioned two dimensions of coaching, the present study included parent positive involvement as an aspect of general parenting. Representing a wide range of interaction situations (e.g., routine activities, emotional issues, academic challenges, disciplinary situations, etc.), general positive parenting differs from parental social coaching (focused directly on peer problem situations), but may account for substantial variance in adolescent peer and psychological outcomes (Allen et al., 1998; McKee et al., 2008; Simpkins et al., 2009). Parent

positive involvement refers to the connectedness of the parent-child relationship, as characterized by levels of attentiveness, genuine interest, and participation in activities with the child. Various measures of positive parenting (e.g., connectedness, support, warmth, attachment, positive communication) have been linked with indices of adolescents' positive social adjustment, including better observed social problem-solving (Allen et al., 2002), more observed relatedness with peers (McElhaney, Porter, Thompson, & Allen, 2008), higher adolescent-reports of social skills (Engels, Finkenauer, Meeus, & Dekovic, 2001), and greater peer-rated acceptance (Allen et al., 1998). Additionally, according to two meta-analyses, perceived parental warmth (e.g., acceptance, support, involvement) consistently predicts youths' psychological adjustment (e.g., self-esteem, anxiety, depression; Khaleque, 2013; Khaleque & Rohner, 2002). Considering the well-established connections between general positive parenting and adolescent peer and psychological outcomes, the present study accounted for parent positive involvement (as a control variable in regression models linking coaching with adolescent outcomes; Aim 3), so that the unique effects of parental social coaching would be uncovered. Additionally, the interaction between parent positive involvement and adolescent social skills was tested as a predictor of adolescent internalizing problems (Aim 4), since general positive parenting may especially protect youth with poor social skills (and corresponding negative peer interactions) from developing anxiety or depressive symptoms.

Uniqueness of coaching dimensions. Although scarce prior research has examined parental behavioral advice and cognitive framing separately, they are conceptually distinct and thus may operate through different processes to affect adolescents' development. For example, behavioral advice instructs an adolescent about how to *act* in challenging peer situations, and thereby presumably provides tangible ideas for peer interactions, equipping the adolescent to

face novel peer stress situations. Conversely, cognitive framing provides youths with an interpretive frame for how to *think* in challenging peer situations, and thus may cultivate positive perceptions of self, peers, and social stress scenarios, as well as reduce anxieties about potential negative peer exchanges, both of which might in turn foster more competent behavior with peers.

Moreover, parents may offer different levels of behavioral advice and cognitive framing, for separate purposes, a notion that is illustrated by the domain-specific model of parenting. According to this model, parent socialization behaviors differ across domains of parent-child interaction (e.g., guided learning, protection, control; Grusec & Davidov, 2010) and domains of child development (e.g., social, moral, academic; Costanzo & Woody, 1985). Parental efforts in each domain are affected by children's strengths or deficits, as well as parents' values or concerns in that particular domain. Accordingly, parenting behaviors across domains of parent-child interaction (Grusec & Davidov, 2010) and child development (Costanzo & Woody, 1985) may be weakly associated (e.g., parents may interact in a positive, instructive manner about academics, but use forceful correction about moral issues).

This model of specificity may also apply to parenting within the peer domain. Indeed, the content of parental social coaching may depend on adolescents' strengths or deficits in social-behavioral and social-cognitive skills dimensions. For example, when a youth reports negative social cognitions, the parent may make extra efforts to encourage positive interpretations of peer stress situations. Conversely, a parent may focus on behavioral advice to an adolescent with weak conversation or peer initiation abilities. Likewise, parents' own goals, beliefs, and experiences may influence their coaching strategy (Mounts, 2008). For instance, a parent motivated by fear of her child feeling hurt by peers may highlight benign interpretations of social situations (i.e., cognitive framing), whereas a parent aiming for his child to establish

relationships with positive peers may emphasize suggestions about which peers to seek out and how to approach them in conversation (i.e., behavioral advice). Thus, a parent may display higher levels of one coaching dimension and lower levels of the other, depending on the child's skills needs or the parent's own concerns.

Parenting researchers in the last few decades have advocated for in-depth examinations of links between specific parenting behaviors and distinct child outcomes (McKee et al., 2008; O'Connor, 2002). These unique effects of particular aspects of parenting (i.e., behavioral advice or cognitive framing, in the present study) may help illuminate distinct ways in which parenting supports child adjustment (Caron, Weiss, Harris, & Catron, 2006). Nevertheless, to our knowledge, behavioral advice and cognitive framing have not yet been examined separately in early adolescence. Instead, prior studies of young adolescents have exclusively tested one dimension of coaching (Barrett, Rappee, Dadds, & Ryan, 1996; Hane & Barrios, 2011), assessed general quality of parental social coaching (e.g., specificity, feasibility, quantity; McDowell et al., 2003; McDowell & Parke, 2009; Poulin et al., 2012), or focused on the style in which coaching is delivered (Mikami et al., 2010a; 2010b). In the only known study to distinguish these dimensions, Mize and Pettit (1997) found moderately strong ($r \sim .50$) positive associations between maternal prosocial behavioral advice (i.e., suggesting friendly, engaging peer strategies; discouraging aggressive, withdrawing strategies) and benign cognitive framing (i.e., providing resilient, optimistic interpretations about outcomes) during conversations with preschoolers about hypothetical social scenarios. However, more advanced cognitive capacities and complex peer interactions of early adolescence (see Parker et al., 2006 for a review) may cause parents to give a greater range of advice and framing, creating variability that may yield greater discrepancies between the coaching dimensions. Thus, behavioral advice and cognitive framing

may be merely modestly correlated during early adolescence, potentially affecting adolescent outcomes separately.

For the purposes of the present study, behavioral advice and cognitive framing dimensions of parental social coaching were differentiated and measured via both context-specific and context-general measures. Context-specific indices of behavioral advice and cognitive framing were obtained during a developmentally-salient parent-adolescent discussion about a particular peer stressor, negative peer evaluation (Study 1). Additionally in Study 2, context-general assessments included parents' responses to several hypothetical peer stress scenarios, reflecting the quality of general behavioral advice and cognitive framing. Aim 1 was to examine the strength of associations between context-specific and context-general assessments of behavioral advice and cognitive framing, as an indication of the degree to which these dimensions are separable, and may thus affect adolescent outcomes uniquely.

Behavioral and Cognitive Dimensions of Adolescent Social Skills (Aim 2)

Paralleling the distinction between dimensions of parental social coaching, the present study also differentiated two aspects of adolescents' social skills, in an attempt to specify the effects of parental social coaching. Adolescents' social skills are typically conceptualized as involving a *behavioral* repertoire of skills (e.g., friendly behaviors, conversational abilities), as well as underlying *social cognitions* that support the use of those behaviors (e.g., accurate interpretation of social cues, social self-efficacy; Coie, 1990; Crick & Dodge, 1994; Nangle et al., 2010). An extensive body of literature has linked social-behavioral and social-cognitive skills dimensions separately with peer acceptance (for reviews, see Aikins & Litwack, 2011; Ryan et al., 2012). Some studies reveal associations between social-behavioral and social-cognitive skills (Erath, Flanagan, & Bierman, 2007; Nelson & Crick, 1999; Orobio de Castro, Veerman, Koops,

Bosch, & Monshouwer 2002), yet the relatively modest associations suggest that children's social-behavioral and social-cognitive skills are often not equivalent, and thus parental social coaching may influence these dimensions of social skills differently.

Skill dimension 1: Social behavior. Social behavior is the most visible skill dimension and thus an overt component of adolescents' social performance and integrally related to peers' perceptions. In particular, friendly or prosocial behaviors (e.g., cooperating, helping, sharing; Bierman, 2004) apply broadly to a variety of social interactions and are indeed robustly associated with higher sociometric status among youths in middle childhood and adolescence (for reviews, see Aikins & Litwack, 2011; Newcomb et al., 1993; Rubin et al., 2006). In contrast, aggressive and disruptive behaviors reliably predict negative peer responses (e.g., rejection, victimization; Pope & Bierman, 1999; Reijntjes et al., 2011). Furthermore, socially withdrawn and avoidant youths (who can also be conceptualized as extremely low in prosocial behavior) are at heightened risk for loneliness and exclusion from the peer group (for a review, see Rubin et al., 2009).

In addition to prosocial behaviors which apply to a wide range of peer interactions, conversation skills (e.g., appropriate self-disclosure and affective expression, positive and contingent responses to others' statements) are more context-specific behavioral skills that may be particularly relevant during early adolescence. Less parent-imposed structure and more interpersonally-oriented interactions (as opposed to activity-oriented interactions in childhood; Parker et al., 2006; Rubin et al., 2006) increase the demands for young adolescents' conversation skills. Indeed, conversations are a common setting for peer evaluation in early adolescence, consistent with evidence that better conversation skills are linked with higher peer-rated liking and sociability and lower victimization (Erath et al., 2007; Hops, Alpert, & Davis, 1997).

Furthermore, as a key feature of adolescent friendships, conversations increasingly involve intimate self-disclosure and thus require skills beyond general prosocial behavior, including attentiveness, perspective-taking, and sensitivity (Bierman, Torres, & Schofield, 2010; Parker et al., 2006). In the present study, social behavior was measured via context-specific (i.e., observed conversation skills during a peer-evaluative conversation task; Study 1) and context-general assessments (i.e., parent and teacher reports of general prosocial behavior; Study 2).

Skill dimension 2: Social cognitions. Social cognitions often underlie behavior (Crick & Dodge, 1994), but may also function independently to predict peer adjustment. In an attempt to encompass several aspects of adolescents' social cognitions, the present study focused on three steps in Crick and Dodge's (1994) well-validated social information-processing model of children's peer adjustment. Specifically, step 2 includes interpretations of social cues, step 4 refers to response planning, and step 5 involves response decision (Crick & Dodge, 1994). During the interpretive stage, children build a mental representation of a social situation, informed by social cues available in the situation as well as their internal database of social schemas, knowledge, and memories; these interpretations or appraisals include inferences about peers' intent and behavior. In response planning (step 4), children construct a social reaction to a situation, either from memory or based on their interpretations of social cues. Finally in step 5, they evaluate and decide whether to act on the constructed plan, based on outcome expectations, self-efficacy in enacting the plan (i.e., beliefs in abilities to perform successfully and achieve desired social outcomes; Bandura, 1977a), and appraisals of the plan's effectiveness. In his theory of self-efficacy and behavior, Bandura (1977a) also highlights these steps, suggesting that individuals' social behavior depends on what they identify as effective (i.e., interpretation of social cues and response planning) and what capabilities they perceive in themselves (i.e.,

response decision). Indeed, these social information-processing steps are particularly relevant for young adolescents, who frequently have to interpret and plan social responses during unsupervised, stressful peer interactions and whose critical self-evaluations (due to aforementioned cognitive changes during this stage) may threaten their perceived ability to carry out social strategies (Parker et al., 2006).

Young adolescents' positive social cognitions (e.g., benign attributions, prosocial response planning) are robustly associated with peer adjustment (for a review, see Ryan et al., 2012). Furthermore, several studies have linked social self-efficacy or self-rated social competence with higher peer acceptance (Chambliss, Muller, Hulnick, & Wood, 1978; Erath et al., 2007; Hymel, Bowker, & Woody, 1993; Kurdek & Krile, 1982; Patterson, Kupersmidt, & Griesler, 1990). Conversely, young adolescents' avoidant or aggressive response plans and hostile attributions are associated with lower sociometric ratings (Rah & Parke, 2008) and more teacher-rated peer victimization (Ziv et al., 2013), and their critical self-evaluations are also associated with higher peer victimization (Prinstein et al., 2005).

In addition to context-general assessments of social information-processing, social cognitions *during peer evaluative experiences* may provide complementary information that is even more applicable to naturalistic situations. Experimental evidence for the predictive value of context-specific social cognitions (i.e., benign attributions, self-efficacy) has been provided by Rabiner and Coie (1989). During one particular peer stressor, meeting new peers (for the second time) in an unstructured setting, rejected children (3^{rd}-5^{th} grade) who received a positive expectancy induction (i.e., told that the peers had liked them at a prior meeting and were looking forward to seeing them again) were rated more favorably by new playmates than non-inducted rejected children. In the present study, social cognitions were assessed with context-specific (i.e.,

lab-based adolescent reports of social response plan and social self-efficacy during one particular peer stressor, peer evaluation; Study 1) and context-general measures (i.e., adolescent reports of social appraisals and social self-efficacy across several hypothetical peer situations; Study 2).

Uniqueness of social skills dimensions. As reviewed, empirical evidence suggests that social behaviors and social cognitions each predict positive peer adjustment. It is conceivable that these dimensions of social skills might be strongly related, since youths who interpret social situations positively, plan prosocial responses, and exhibit high self-efficacy would presumably exhibit more friendly and cooperative social behavior. However, it is also possible that social-behavioral and social-cognitive skills are relatively distinct. Social cognitions involve a dynamic progression of information-processing stages, and thus particular stages may not directly predict social behavior, since each individual stage may be changed by subsequent stages. For example, even though an adolescent may initially appraise a social situation as favorable (step 2), they may exhibit withdrawn behaviors, due to low social self-efficacy (step 5). Thus, other social information-processing stages may intervene, modifying the expected association between certain social cognitions and social behaviors.

Furthermore, many studies show modest associations between social cognitions and social behaviors. For instance, in a meta-analysis of links between hostile attributions and aggressive behavior, Orobio de Castro et al. (2002) found a significant but small mean effect size (r = .17). With more positive indices of social behavior and social cognition, Nelson and Crick (1999) reported similar intent attributions about ambiguous peer stress vignettes among high-prosocial and average-prosocial fourth graders, though high-prosocial sixth graders endorsed more benign intent attributions and prosocial response plans than average-prosocial sixth graders. Additionally, Erath et al. (2007) found that adolescents' positive social performance

expectations were only modestly positively associated with observed conversation skills. Furthermore, McMahon et al. (2013) found no significant correlation between prosocial behavior and self-efficacy for resolving peer conflict.

As additional support for the hypothesis that behavioral and cognitive dimensions of social skills may be only modestly related, two well-documented adolescent subgroups, perceived popular and socially anxious youth, exhibit a somewhat surprising combination of strengths and weaknesses across skills dimensions. Prominent in status, perceived popular youth utilize a mix of aggressive and prosocial behaviors (Findley & Ojanen, 2013; Hawley, 2003; Sandstrom & Cillessen, 2006), yet possess high social self-efficacy (Puckett, Aikins, & Cillessen, 2008). A second subgroup, some socially anxious adolescents, also exhibit a mixed profile of social-cognitive and social-behavioral skills, displaying competent social behavior, but reporting negative self-evaluations (Cartwright-Hatton, Tschernitz, & Gomersall, 2005; Inderbitzen-Nolan, Anderson, & Johnson, 2007; Tuschen-Caffier, Kuhl, & Bender, 2011).

The reviewed studies indicate that social-behavioral and social-cognitive skills are at least somewhat distinct. Some adolescents may exhibit strengths in one dimension of social skills with simultaneous weaknesses in another, suggesting that adolescents may have different needs for parental coaching that targets their social-behavioral skills compared to their social-cognitive skills, which may result in different effects of parental coaching on social-behavioral and social-cognitive skills. To first establish the value of examining skills dimensions separately, the present study examined interrelations among social-behavioral and social-cognitive skills dimensions (Aim 2), using both context-specific assessments during a peer evaluative conversation task (Study 1) and context-general indices (i.e., self-, teacher-, and parent-reports; Study 2).

Independent Effects of Parental Social Coaching (Aim 3)

Aim 3, a central aim of the present study, was to examine unique associations between dimensions of parental social coaching (i.e., cognitive framing and behavioral advice) and several adolescent outcomes, including social-cognitive and social-behavioral dimensions of social skills (Aim 3a), peer acceptance (Aim 3b), and internalizing problems (Aim 3c). In addition, an exploratory aim was to examine differential (compared to similar) and unmatched (compared to matched) associations between dimensions of parental social coaching and dimensions of adolescent social skills (Aim 3d). The final exploratory aim was to test sex as a moderator of associations between parental coaching dimensions and adolescent outcomes (i.e., social skills, peer acceptance, and internalizing problems; Aim 3e).

Coaching predicting social skills (Aim 3a). With the possibility that dimensions of parental social coaching and dimensions of social skills may be separable and function somewhat independently, the present study investigated associations linking parents' behavioral advice and cognitive framing with social-behavioral and social-cognitive dimensions of adolescent skills. No known studies have examined associations between unique dimensions of coaching and dimensions of social skills, instead primarily considering effects of general coaching quality on behavioral skills alone (McDowell et al., 2003; McDowell & Parke, 2009; Poulin et al., 2012) or on social skills more broadly construed (Mikami et al., 2010a; 2010b). More precise connections between dimensions of coaching and dimensions of social skills is an understudied possibility in the parental social coaching literature, and may potentially illuminate how parents can effectively support children's social development.

The existing evidence for links between parental social coaching and adolescent social skills is mixed. Several studies provide evidence for positive effects of high-quality coaching (or

similarly, negative effects of poor coaching). In the only known study to differentiate behavioral advice and cognitive framing dimensions of coaching, albeit with a sample of preschoolers, Mize and Pettit (1997) measured behavioral advice as maternal endorsement of friendly, outgoing, prosocial strategies and cognitive framing as maternal suggestions of non-hostile, optimistic interpretations during a parent-child discussion about hypothetical peer stress video vignettes. Behavioral advice was linked with lower levels of teacher-rated aggressive behavior and with girls' teacher-rated general social skills (although not with boys' social skills; Mize & Pettit, 1997). Cognitive framing was also associated with lower aggressive behavior and higher general social skills among both boys and girls (Mize & Pettit, 1997). Also with a preschool sample, Pettit et al. (1998) linked high-quality maternal coaching (i.e., combination of prosocial suggestions and elaborative social interpretations about hypothetical peer stress video vignettes) with higher teacher-rated prosocial behavior. A similar beneficial effect of *general* parental social coaching quality was demonstrated in a short-term intervention study with older children (6-10 year old boys), in which parents were randomly selected to receive eight weeks of a parental friendship coaching intervention (Mikami et al., 2010b). Parents who participated in the intervention engaged in more facilitative coaching to assist the child in engaging unfamiliar peers in a play group, and in turn their children displayed increases in parent-reported general social skills following the intervention, compared with parents and children who did not receive the intervention (Mikami et al., 2010b). Furthermore, with a sample of young adolescents, Poulin et al. (2012) found that higher quantity and specificity of coaching (including behavioral and interpretive suggestions) during a parent-adolescent discussion about peer problems at the end of seventh grade predicted increases in adolescents' teacher-rated prosocial behavior following eighth grade, but was not associated with concurrent or prospective aggressive behavior. Poulin

et al. (2012) also reported a negative effect of lower-quality coaching, such that parental intrusive problem-solving during a parent-adolescent discussion about peer difficulties predicted prospective decreases in middle schoolers' teacher-rated prosocial behavior.

In contrast, several studies found a reverse effect, whereby higher-quality coaching (or more neutral forms of coaching) is associated with *lower* social skills. Specifically, higher levels of parents' realistic, elaborate solutions during a triadic discussion between mother, father, and child about peer stressors predicted fourth-graders' lower peer- and teacher-rated prosocial behavior, concurrently and one year later (McDowell & Parke, 2009). Similarly, although with a more ambiguous index of coaching (neither positive or negative), more frequent observed parental corrective feedback to change a child's behavior during a playgroup session with unfamiliar peers was associated with lower parent- and teacher-rated general social skills (Mikami et al., 2010a). The present study will help clarify inconsistent evidence for associations between parental social coaching and adolescent social skills, by controlling for earlier levels of adolescent social skills when testing parental social coaching as a predictor of later social skills (Study 2), and by differentiating cognitive and behavioral dimensions of parental social coaching and adolescent social skills (Studies 1 and 2).

Coaching predicting peer acceptance (Aim 3b). Relatedly, only a handful of studies have directly assessed parental social coaching as a predictor of young adolescents' peer acceptance (or other indices of peer adjustment). Three studies provide evidence for the social benefits of high-quality coaching (or vice versa, the risks of poor coaching). Again with the only study differentiating behavioral advice and cognitive framing, Mize and Pettit (1997) found associations linking both advice and framing with preschoolers' higher peer-rated acceptance. Additionally, among seventh and eighth graders, Poulin et al. (2012) found only a modest pattern

of positive effects of coaching, such that higher quantity and specificity of coaching (including behavioral and interpretive suggestions) during a parent-adolescent discussion about peer problems was concurrently associated with fewer adolescent-reported conflicts with a best friend, but not linked prospectively with best friend conflicts or with concurrent or prospective adolescent-reported number of friends or social competence. In a similar vein, but with an assessment of negative coaching, parents who participated in a parental coaching intervention were less irritable, hostile, and critical in their feedback about their child's behavior after a playgroup with unfamiliar peers, which, in turn, predicted higher teacher-rated acceptance (Mikami et al., 2010b). This same parental coaching intervention decreased teacher-rated peer rejection among girls but not boys (Mikami et al., 2010b). Although the aforementioned studies linked parental coaching with better peer adjustment, the strength of effects is modest, with no effects exhibited for some indices of adolescent peer adjustment (Poulin et al., 2012).

Conversely, several studies show a negative association between parental social coaching and peer adjustment (similar to Aim 3a). Specifically, McDowell et al. (2003) found that parents' more elaborate, feasible advice during a triadic discussion among mother, father, and child about peer stressors was concurrently and prospectively linked with third graders' more negative peer and teacher ratings of peer adjustment (e.g., avoidant behaviors, peer disliking). Using a similar protocol, higher-quality maternal and paternal social advice was linked with lower concurrent and prospective teacher- and peer-rated peer liking, from fourth to fifth grade (McDowell & Parke, 2009). Furthermore, Mikami and colleagues (2010a) linked more frequent parental corrective feedback about their child's behavior during a playgroup session with unfamiliar peers with lower teacher-rated peer liking and higher rejection. In light of the mixed associations between coaching and peer adjustment, the present study advances the existing literature by

linking specific dimensions of coaching with adolescents' concurrent and prospective peer acceptance. Importantly, longitudinal analyses of the present study controlled for adolescent-driven effects (Study 2) and thus may clarify if parental social coaching contributes to peer liking.

Coaching predicting internalizing problems (Aim 3c). Whereas there is some, albeit modest, evidence for associations between parental social coaching and youths' social outcomes (i.e., skills, adjustment), there is scarce research on coaching as a predictor of young adolescents' psychological adjustment. During this developmental stage, internalizing problems (e.g., anxiety, depression) increase, affecting 10-20% of adolescents (Brendgen, Wanner, Morin, & Vitaro, 2005; Letcher, Smart, Sanson, & Toumbourou, 2009), and may be aggravated by negative peer experiences (e.g., victimization, rejection; Reijntjes et al., 2010; Rudolph, Troop-Gordon, Hessel, & Schmidt, 2011; van Oort, Greaves-Lord, Ormel, Verhulst, & Huizink, 2011), as well as feelings of incompetence or negative self-evaluation (see Bandura, Pastorelli, Barbaranelli, & Caprara, 1999).

High-quality parental social coaching may promote positive psychological adjustment, lessening anxiety or depressive symptoms, among young adolescents. One possibility is that an association between parental social coaching and internalizing problems exists, but other parenting variables (e.g., positive involvement, warmth) related to parental social coaching account for the association (Laird et al., 1994; McDowell & Parke, 2009; Mikami et al., 2010a). Another possibility is that parental social coaching contributes to positive peer adjustment (Mikami et al., 2010b; Poulin et al., 2012), which in turn reduces anxiety or depressive symptoms (Bagwell et al., 1998; Parker & Asher, 1987). As tentative evidence for the psychological benefits of parental coaching, Hane and Barrios (2011) demonstrated that fewer

maternal threat expansions in response to ambiguous hypothetical social scenarios was associated with 8- to 10-year olds' lower parent-reported anxiety and internalizing problems.

Nevertheless, it is also possible that parental social coaching undermines psychological adjustment, aggravating internalizing problems. In the academic domain, for example, higher parental helping, monitoring, and decision-making was increasingly perceived by children as indicative of academic incompetence as they progressed from middle to late childhood (Pomerantz & Eaton, 2000). Similarly, in the peer domain, elaborate and frequent parental behavioral advice about how to interact in social situations may unintentionally communicate to adolescents that they are incapable of navigating social challenges independently, thus fostering feelings of anxiety or depression. Indeed, McDowell et al. (2003) found a concurrent association linking mothers' frequent and specific advice during a triadic discussion among mother, father, and child about peer stressors with third graders' higher self-reported depression and loneliness, and a prospective association linking fathers' advice-giving quality with increases in children's loneliness from third to fourth grade. With limited empirical support for either positive or negative psychological effects of parental social coaching, the present study is the first known study to link *dimensions of coaching* with concurrent and prospective internalizing problems among young adolescents. Thus, the present study will shed light on possible social and psychological tradeoffs of parental social coaching, as already proposed in the academic domain (Pomerantz et al., 2014).

Types of effects (Aim 3d). As an exploratory aim, associations linking cognitive and behavioral dimensions of parental social coaching with cognitive and behavioral dimensions of adolescent social skills (from Aim 3a) were examined to discern whether the pattern of associations was more consistent with (1) differential versus similar associations and (2) matched

versus unmatched associations, as described in further detail below. Identifying these patterns of associations may help pinpoint how parental social coaching is most effective (or ineffective) at promoting adolescents' social skills.

Differential (or similar) and unmatched (or matched) types of associations are related to the notion of parenting specificity, or whether and how specific parenting behaviors are associated with distinct child outcomes (O'Connor, 2002). *Differential* and *similar* effects focus on the relative strength of the associations linking a parenting behavior with two distinct child outcomes (Caron et al., 2006). A parenting behavior would have a *differential* effect if it was more strongly related to one child outcome than another (e.g., if parental behavioral advice was more strongly linked with adolescent social-behavioral skills than social-cognitive skills). Conversely, if these effects did not significantly differ, the parenting behavior would have a similar effect (e.g., if the link between parental behavioral advice and adolescent social-behavioral skills was not significantly different from the link between behavioral advice and social-cognitive skills; Caron et al., 2006).

Any differential effects that emerge can next be categorized into *matched* or *unmatched* effects, representing the link across behavioral and cognitive dimensions of coaching and skills. *Matched* effects would be present if same-dimension (i.e., cognitive or behavioral) associations between coaching and skills are stronger than cross-dimension associations. For example, a matched effect would be indicated if parental behavioral advice was more strongly linked with adolescent social-behavioral skills than with adolescent social cognitions. Evidence for matched, or same-dimension, associations is limited and mixed. A matched association was found in the Mize and Pettit (1997) study, in which maternal prosocial behavioral advice was linked with less preschooler aggressive behavior. In addition, van Manen, Prins, and Emmelkamp (2004) showed

that a behavioral skills intervention decreased aggressive adolescent boys' aggressive behavior at post-test and one-year follow-up, and similarly a social-cognitive skills intervention increased boys' social-cognitive skills. Hane and Barrios (2011) also found a matched association, though not in the anticipated direction, as maternal threat minimizations were associated with more frequent children's threat interpretations during a discussion about ambiguous social scenarios. Given the existing evidence, it remains unclear whether matched effects between coaching and skills occur reliably.

In contrast, *unmatched* effects indicate that cross-dimension associations between coaching and skills are stronger than same-dimension associations. For example, if parental cognitive framing was more strongly linked with adolescent social-behavioral skills than with social-cognitive skills, this would indicate an unmatched effect. More consistent, albeit modest, evidence exists for unmatched effects, compared to matched effects. Intervention literature provides some support for the cross-dimension link between parental behavioral coaching and children's social-cognitive skills. Children (ages 6-12) with behavioral social skills deficits who, with their parents, received a behavioral social skills intervention (e.g. establishing common ground with peers, entering a group of new peers, negotiating conflict; Children's Friendship Training; Frankel, 2005; Frankel & Myatt, 2003), reported less hostile attributions in hypothetical group entry scenarios after the intervention, compared to a delayed-treatment control group of similar children (Keil, Paley, Frankel, & O'Connor, 2010). Nevertheless, Keil et al. (2010) did not assess behavioral skills outcomes, which precludes the conclusion that parental behavioral coaching is *more strongly* linked with social-cognitive than social-behavioral skills.

The other cross-dimension effect (parental cognitive framing with adolescent social-behavioral skills) is also demonstrated in intervention literature (although not with parents), such

that aggressive young adolescent boys who received a social-cognitive intervention displayed *greater decreases* in aggressive, disruptive behavior at post-test and one-year follow-up, compared with boys who receive behavioral social skills training or no treatment (van Manen et al., 2004). However, van Manen et al.'s (2004) intervention study provides mixed evidence for matched and unmatched effects, since the same social-cognitive intervention also served to increase social-cognitive skills. As additional support for an association between parental cognitive framing and child behavioral skills, Mize and Pettit (1997) demonstrated that maternal positive cognitive framing about hypothetical social situations was associated with preschoolers' lower aggression and higher social skills (measured generally, but incorporating mostly behaviors); however they did not assess cognitive outcomes. Thus, very few studies have directly compared matched and unmatched associations linking behavioral and cognitive dimensions of parental social coaching and adolescent social skills, and the existing evidence for matched versus unmatched effects is somewhat inconsistent (particularly since few studies have measured social-behavioral *and* social-cognitive skills outcomes). The present study considered matched and unmatched associations, and thereby may clarify which forms of coaching are most effective for specific skills development.

Coaching x Adolescent Sex (Aim 3e). The final exploratory sub-aim for Aim 3 was to examine adolescent sex as a moderator of associations linking parental social coaching with adolescent outcomes (i.e., social skills, peer acceptance, and internalizing problems). Sex differences in the effects of coaching have rarely been examined among young adolescents. In fact, most parental social coaching studies with children of various ages (preschool through adolescence) did not test coaching x sex interactions (Hane & Barrios, 2011; McDowell & Parke, 2009; McDowell et al., 2003; Mikami et al., 2010a; Poulin et al., 2012; Werner et al., 2014), or

analyzed for sex differences but did not find any (Finnie & Russell, 1988; Russell & Finnie, 1990). Nevertheless, the effects of coaching may differ by sex, particularly during early adolescence, when boys and girls emphasize disparate social goals and are differentially attuned to and stressed by their peers (Rose & Rudolph, 2006). Thus, behavioral advice and cognitive framing dimensions of parental social coaching may be more or less effective for each gender.

The known studies that have found significant coaching x sex interactions all sampled preschoolers or elementary age children (Mikami et al., 2010b; Mize & Pettit, 1997; Pettit et al., 1998) and similarly found coaching to be a stronger predictor of girls' social competence than boys' social competence. Specifically, in one of Mize and Pettit's (1997) studies, parents' prosocial behavioral advice was correlated with higher teacher-reported peer acceptance and social skills, and lower aggression among girls but not boys; however, in the other study, associations linking advice and framing with peer acceptance and social skills did not differ by sex. With a similar measure of parental behavioral advice (i.e., prosocial suggestions), Pettit et al. (1998) found mothers' advice predicted higher teacher-rated social skillfulness only for preschool girls, not boys. Finally, using a social coaching intervention with parents of elementary children, Mikami et al. (2010b) found a modest pattern of sex differences, such that the intervention was linked with lower levels of teacher-reported rejected peer status among girls but not boys; however, they found no sex differences in the effects of the coaching intervention on other measures of social competence (i.e., parent- and teacher-reported social skills, teacher-rated peer acceptance). With scarce studies of the moderating influence of sex on associations between parental coaching and *adolescent* social and psychological outcomes, we considered Aim 3e to be exploratory and did not present hypotheses. Nevertheless, examining coaching x

sex may help clarify whether the effects of coaching are consistent or disparate for boys and girls, thereby informing intervention efforts at this critical developmental stage.

Interactive Effects of Parental Coaching/Involvement x Adolescent Social Skills (Aim 4)

As a fourth aim, the present study examined interactions between parental social coaching (and general parent positive involvement) and adolescent social skills as concurrent and prospective predictors of peer acceptance and internalizing problems. Most prior studies of parental social coaching have implicitly assumed that coaching is similarly effective for a wide range of children and adolescents, since they have not examined child or adolescent characteristics as moderators. Perhaps coaching benefits all young adolescents similarly (i.e., main effects model), regardless of their social skills strengths or deficits. However, young adolescents may be particularly reluctant to accept parental involvement in the peer domain (Darling et al., 2008; Smetana, 2000; Smetana et al., 2005) and thus not universally receptive, even to high-quality parental social coaching (Gregson et al., revise-resubmit). Thus, in contrast with a main effects model, the impact of parental coaching may particularly hinge on adolescents' needs in the peer domain (i.e., their social-behavioral and social-cognitive skills strengths and weaknesses).

The present study examined six interactions between parental social coaching (or parent positive involvement) and adolescent social skills (i.e., parent behavioral advice x adolescent social-behavioral skills, parent cognitive framing x adolescent social-behavioral skills, parent positive involvement x adolescent social-behavioral skills, parent behavioral advice x adolescent social-cognitive skills, parent cognitive framing x adolescent social-cognitive skills, and parent positive involvement x adolescent social-cognitive skills) as predictors of concurrent and prospective levels of adolescent peer acceptance and internalizing problems. Interactions

between dimensions of parenting and dimensions of adolescent social skills may provide support for capitalization, remediation, or psychological protection models.

Capitalization model. The capitalization model suggests that parental social coaching more strongly predicts higher peer acceptance for adolescents with *higher* social skills (e.g., if parent behavioral advice more strongly predicted peer acceptance among adolescents with high social-behavioral or social-cognitive skills, compared to low social-behavioral or social-cognitive skills). As suggested by the "vantage sensitivity" theoretical framework, some children may be more responsive to supportive environmental conditions (Pluess & Belsky, 2013). Specifically, positive parental coaching (one form of a supportive environment) may be most beneficial for prosocial, confident, non-anxious young adolescents (i.e., youths with high social skills), who are able to engage during conversations with parents, understand the value of prosocial behavioral advice and benign cognitive framing, and utilize their existing skills to apply advice. In contrast, social skills deficits may inhibit adolescents from attending to parents' coaching, recognizing the benefits of high-quality advice, or putting the strategies into practice. In a worst-case scenario, parental coaching may even backfire for some adolescents with low skills; for instance, Cartwright-Hatton, Hodges, and Porter (2003) suggested that parental behavioral advice given to a child with low self-efficacy might reinforce the notion that the youth is socially impaired.

Although few studies have examined interactions between positive parenting practices and adolescent characteristics, particularly in the peer domain, one recent finding with preschool children supports a capitalization hypothesis. Cipriano and Stifter (2010) demonstrated that warmly-controlling mother behavior among two year-olds predicted better parent-reported effortful control two years later, among toddlers who display positive emotionality and high

social-approaching behavior. Whereas this study samples toddlers rather than young adolescents, it demonstrates that more socially advantaged children may be in better position to benefit from positive parenting approaches.

Remediation model. To support a remediation model, the pattern of coaching x skills interactions would demonstrate that parental coaching more strongly predicts higher peer acceptance for adolescents with lower skills (e.g., if parental cognitive framing more strongly predicted peer acceptance among adolescents with *low* social-behavioral or social-cognitive skills, compared to high social-behavioral or social-cognitive skills). Indeed, this focus on targeting children's deficits is prevalent throughout intervention literature, and is consistent with social learning theory (SLT), which suggests that children learn when parents teach, model, or reinforce behaviors, cognitions, and regulatory processes (Bandura, 1977b). In the peer domain, the social skills training (SST) model, which is based on SLT principles, contends that tailoring interventions to target children's particular skills deficits will improve their social behavior and in turn promote peer adjustment (Elliott & Gresham, 1993; Ladd & Mize, 1983). Indeed, effective social skills training programs screen children for both peer problems and skills deficits that are compatible with the skills targets of the respective program (Bierman & Powers, 2009).

Thus, parents may be most effective if their coaching efforts are aimed at adolescents' skills weaknesses. For instance, prosocial behavioral advice may equip socially awkward or self-critical adolescents (i.e., those with low social-behavioral or social-cognitive skills) with practical strategies to handle peer situations, perhaps compensating for their skills limitations. One example of a similar deficit-focused, parent effect is found in an interaction between parental social coaching and child aggressive behavior, whereby relationally aggressive preschoolers were protected against normative increases in relational aggression, only when their

mother provides elaborative, emotion-focused social coaching in response to hypothetical peer stress cartoons (Werner et al., 2014).

Psychological protection model. Finally, the psychological protection model suggests that general positive parenting buffers adolescents with social skills weaknesses against internalizing distress. Specifically, the pattern of interactions would show that parent positive involvement more strongly predicts lower internalizing problems among adolescents with *lower* social-behavioral or social-cognitive skills, compared to youths with higher social-behavioral or social-cognitive skills (or that poorer social skills predict more internalizing problems among adolescents with lower parent positive involvement but not among adolescents with higher parent positive involvement). Parent positive involvement may promote children's self-worth, protecting them against feelings of low self-esteem or depression associated with social skills deficits or peer problems. Indeed, general positive parenting (i.e., warmth, attunement, involvement) robustly predicts psychological adjustment, including higher self-esteem, as well as lower anxiety and depression (Khaleque, 2013; McKee et al., 2008). In the peer domain, mothers' warmth and support during a triadic discussion between mother, father, and child about difficult peer issues predicted lower concurrent and prospective child loneliness from third to fourth grade (McDowell et al., 2003). Researchers have theorized that a lack of attuned, involved parenting may cause adolescents to perceive their environment as threatening or hostile and themselves as less competent (Breinholst, Esbjorn, Reinholdt-Dunne, & Stallard, 2012). This may initiate a learned withdrawal response to avoid the dysregulation or negative affect resulting from insensitive parenting; over time, this withdrawal response may become the child's primary coping strategy, in turn exacerbating depression and anxiety (McKee et al., 2008). In contrast, warm, engaged parenting strategies may prompt positive emotions and improve the child's sense

of control and competence (Pomerantz & Eaton, 2000), thereby lowering anxiety (Breinholst et al., 2012).

The negative association between parent positive involvement and internalizing problems may be particularly strong among youths with social skills deficits (i.e., positive involvement x social skills). Indeed, adolescents who are less competent with peers may already face the psychological distress of peer difficulties (e.g., exclusion, teasing, rejection, Parker et al., 2006), and may thus rely even more exclusively on their parents for positive interactions which stimulate feelings of self-worth, as opposed to highly-skilled adolescents who may have multiple social resources (e.g., friendships, peer group) to build confidence and lower anxiety or depression. In related literature, positive parenting (e.g., warmth, involvement, emotional support, consistency) attenuates the effect of peer victimization on adolescents' concurrent and prospective internalizing problems (Stadler et al., 2010; Yeung & Leadbeater, 2010; Yeung Thompson & Leadbeater, 2012). Although the present study is the first known study to assess parent positive involvement x adolescent social skills, the pattern of effects may be similar to the studies linking positive parenting x peer victimization with internalizing problems, since adolescents with poor social skills often experience peer difficulties (e.g., rejection, victimization).

Present Study

The present study examined whether parental social coaching functions as it is presumably intended—to support young adolescent peer and psychological adjustment, as well as the types of adolescents for whom coaching works most effectively. We examined unique associations linking parental behavioral advice and cognitive framing with concurrent and prospective indices of adolescent adjustment, including social-cognitive and social-behavioral

skills, peer acceptance, and internalizing problems. Furthermore, we analyzed interactions between parental social coaching and adolescent social skills as predictors of concurrent and prospective levels of adolescent peer acceptance and internalizing problems. Although a few studies have examined parental social coaching in early adolescence, the present study advances the existing literature by: **(1) differentiating specific dimensions** of parental social coaching and adolescent social skills, as well as peer and psychological adjustment, **(2) testing interactions between parental social coaching and adolescent social skills** as predictors of peer and psychological adjustment, **(3) examining concurrent and prospective associations** to control for adolescent-driven effects, and **(4) employing multiple measures** of parental social coaching, adolescent social skills, and peer and psychological adjustment (i.e., observed-behavioral, as well as adolescent-, parent-, and teacher-reports).

First, given the inconsistent findings linking parental social coaching with adolescent social outcomes (i.e., social skills and peer acceptance), a more focused investigation of cognitive and behavioral dimensions of parental coaching and adolescent skills may yield more reliable information about the functions of parental social coaching. This is consistent with parenting researchers' recommendation to dissect parenting behaviors and child outcomes, so that more complex and precise associations can be modeled (McKee et al., 2008; O'Connor, 2002). Therefore we differentiated two dimensions of parental coaching, behavioral advice and cognitive framing, as well as one additional dimension of general parenting, positive involvement (Studies 1 and 2). As noted previously, behavioral advice instructs adolescents about how to *act* in challenging peer situations, whereas cognitive framing offers ways to *think* about peer challenges. Additionally, we identified two dimensions of adolescent social skills: social behaviors and social cognitions (Studies 1 and 2). Finally, we included measures of both

peer and psychological adjustment (Study 2), to distinguish if and how parental social coaching affects domains of adjustment differently.

Second, the present study is a novel examination of adolescent social skills as moderators of associations between parental social coaching and adolescent outcomes (Study 2). Interactions between parenting and child characteristics (e.g., temperament) have received increased focus over the last couple decades (Bates & Pettit, 2014; El-Sheikh & Erath, 2011). However, most studies have focused on negative parenting behaviors x younger child characteristics, with less attention to positive parenting and young adolescents. In light of this, we assessed the moderating effect of young adolescent social skills on associations linking parental social coaching and parent positive involvement (both forms of positive parenting) with concurrent and prospective indices of peer and psychological adjustment. This interactive model will illuminate if parental social coaching and general positive involvement confers different benefits (or costs) to young adolescents with stronger or weaker social skills.

Third, the present study makes a methodological contribution to the existing literature by utilizing longitudinal data (Study 2). We assessed young adolescent outcomes (i.e., social skills, peer acceptance, and internalizing problems) at two time points, approximately one year apart. This longitudinal design allows stronger directional inferences about the extent to which parental social coaching influences adolescent social development rather than an alternative interpretation in which adolescent peer problems drive parental social coaching. Thus, results of the present study may help resolve inconsistent positive and negative effects of parental social coaching found in prior studies.

Finally, multiple measures of parental social coaching and adolescent social skills were used in the present study to capitalize on strengths of different assessment approaches and to test

for corroborating evidence across measures. Each dimension of parental coaching and adolescent social skills was measured at two levels of context: *context-specific* (i.e., observations of adolescents during a peer evaluation task and observations of parents during a parent-adolescent discussion about negative peer evaluation; Study 1) and *context-general* (i.e., adolescent, parent, and teacher reports about adolescents and parents that presumably span a wide range of situations; Study 2). Context-specific, lab-based assessments of coaching and skills *within a particular peer stress situation* provide a more objective picture of parent and adolescent functioning in real-time, under perceived stress. However, lab observations are limited by the contrived situation as well as the timing of coaching (e.g., giving advice *in the midst* of a peer stress situation, as opposed to a more naturalistic conversation at dinner about the adolescent's day). Therefore, we also used context-general assessments, which have complementary strengths (as well as weaknesses). Context-general reports about parental coaching and adolescents' social skills capture wide-ranging trends of coaching and social skills across peer scenarios. Nevertheless, self-reports of coaching and skills are subject to inflation or self-deprecation. Thus, utilizing both context-specific and context-general assessments allows us to more comprehensively assess the effects of parental social coaching and test for corroborating evidence *within* and *across* levels of context.

Study Aims and Hypotheses. The preliminary aims of the present study were to examine interrelations between facets of parental social coaching (Aim 1) and between facets of adolescent social skills (Aim 2), to clarify the degree of overlap between cognitive and behavioral dimensions of parental coaching and adolescent social skills. Aim 1 was to test the interrelation between behavioral and cognitive dimensions of parental social coaching, measured with context-specific (Study 1) and context-general indices (Study 2). In accordance with a

domain-specific model of parenting (Costanzo & Woody, 1985; Grusec & Davidov, 2010), we expected modest associations between behavioral advice and cognitive framing dimensions of coaching. Similarly, for Aim 2, we assessed the interrelation between social-behavioral and social-cognitive dimensions of adolescent social skills, measured with context-specific (Study 1) and context-general assessments (Study 2), and we anticipated modest to moderate associations, in concert with prior literature.

The third aim was to examine unique concurrent and prospective associations linking parental behavioral advice and cognitive framing with adolescent social-behavioral and social-cognitive skills (Aim 3a; Studies 1 and 2), peer acceptance (Aim 3b; Study 2), and internalizing problems (Aim 3c; Study 2). We hypothesized that dimensions of parental social coaching would be positively, though modestly, associated with adolescent social skills (Aim 3a) and peer acceptance (Aim 3b) in cross-sectional (Studies 1 and 2) and longitudinal analyses (Study 2). Given the possibility that adolescents with social problems elicit social coaching from parents, we anticipated stronger evidence for positive effects of parental social coaching in longitudinal analyses. In addition, although there is scarce prior research on parental social coaching as a predictor of adolescent psychological functioning, an informative model of parenting in the academic domain (see Pomerantz & Eaton, 2000; Pomerantz et al., 2014) provided support for our hypothesis that parents' behavioral advice would be modestly associated with *higher* levels of concurrent and prospective internalizing problems (Aim 3c).

As an exploratory sub-aim for Aim 3, and in order to better specify associations between parental social coaching and adolescent social skills, we considered *types* of associations linking coaching with social skills (Aim 3d; Studies 1 and 2): differential versus similar, and matched versus unmatched. With relatively scarce and inconsistent evidence to guide hypotheses, we

considered this sub-aim to be exploratory, and discussed patterns of findings accordingly. The final exploratory sub-aim for Aim 3 was to test adolescent sex as a moderator of associations linking dimensions of parental social coaching with adolescent social skills, peer acceptance, and internalizing problems (Aim 3e; Studies 1 and 2), in order to clarify whether the effects of coaching differ for boys and girls. With scarce studies of interactive effects of coaching and sex during adolescence, we considered Aim 3e to be exploratory and discussed findings accordingly.

The fourth aim addressed whether adolescents with stronger or weaker social skills benefit most from parental social coaching and parent positive involvement. We examined interactions between parental social coaching (and general parent positive involvement) and adolescent social skills as predictors of concurrent and prospective levels of adolescent peer acceptance and internalizing problems. Six interactions were analyzed as predictors of peer and psychological adjustment: (1) parent behavioral advice x adolescent social-behavioral skills, (2) parent cognitive framing x adolescent social-behavioral skills, (3) parent positive involvement x adolescent social-behavioral skills, (4) parent behavioral advice x adolescent social-cognitive skills, (5) parent cognitive framing x adolescent social-cognitive skills, and (6) parent positive involvement x adolescent social-cognitive skills.

We analyzed patterns of interaction effects to determine whether they were consistent with any of three possible models: capitalization, remediation, or psychological protection. With both a conceptual basis and some preliminary empirical evidence, we hypothesized support for both remediation and psychological protection models. Specifically, we expected that parental coaching x skills interactions would show that coaching was more strongly linked with higher concurrent and prospective peer acceptance among adolescents with lower social-behavioral or social-cognitive skills, compared to adolescents with higher social-behavioral or social-cognitive

skills (i.e., remediation hypothesis). Furthermore, we anticipated that parent positive involvement x skills interactions would demonstrate that positive involvement more strongly predicted lower internalizing problems among adolescents with lower social-behavioral or social-cognitive skills, compared to adolescents with higher social-behavioral or social-cognitive skills (i.e., psychological protection hypothesis). See Table 1 for an overview of all study aims and hypotheses.

The aims of the present study were addressed with two separate studies, to test hypotheses across samples and measures, and to take advantage of strengths of each study. Study 1 included context-specific assessments of behavioral and cognitive dimensions of parental social coaching and adolescent social skills, and tested Aims 1, 2, 3a, 3d, and 3e. Context-specific indices of coaching were obtained from lab-based observations of the quality of parental behavioral advice and cognitive framing during a parent-adolescent discussion about negative peer evaluation. To assess context-specific social-behavioral skills, adolescents' conversation skills were observed during a lab-based peer-evaluative conversation task. Finally, as an assessment of context-specific social-cognitive skills, adolescents responded to self-efficacy and social response planning questions during the lab-based peer evaluation activity.

Study 2 included a larger sample and a longitudinal design, along with context-general assessments of parental social coaching and adolescent social skills, and addressed all four aims of the present study. For context-general measures of coaching, at T1, parents provided open-ended reports of behavioral advice and cognitive framing in response to hypothetical peer stress vignettes. Parents also reported about parent positive involvement. As a measure of context-general social-behavioral skills, parents and teachers reported about prosocial behavior at T1 and T2. To assess context-general social-cognitive skills, adolescents reported about social appraisals

and social self-efficacy based on hypothetical, ambiguous peer vignettes at T1 and T2. In addition, parents and teachers reported about adolescents' peer acceptance and internalizing problems at T1 and T2. For each study, whenever warranted, we aggregated measures to obtain robust constructs, representing various perspectives and situations (see Kochanska & Kim, 2012).

III. METHOD

Study 1

Participants

Participants included 80 young adolescents (*M*age = 11.83, *SD* = 1.29), along with one parent per adolescent (79% biological mothers, 51% married). The sample of adolescents consisted of 55% boys and 55% African Americans, 43% Caucasians, and 2% of other races/ethnicities, which is representative of the demographics of communities from which participants were recruited. The mean family income was between $20,001 and $35,000, with 24% reporting an income of less than $20,000, and 22% reporting an income of more than $75,000.

Procedures

For participant recruitment, flyers were posted in community locations and sent home with elementary school students (5th and 6th graders) at public schools in the southeastern United States. When parents responded to the school flyers, they received a detailed description of the study and scheduled a research visit. During the visit, parental consent and adolescent assent to participate were obtained, and both parents and adolescents were compensated monetarily. Young adolescents and parents completed questionnaires, and adolescents participated in lab activities, while their physiological activity was recorded.

The lab protocol included a *peer evaluative conversation* period (shortened hereafter to "conversation task;" Erath & Tu, 2014) and a *parental coaching* period (Gregson et al., revise-resubmit). Following acclimation and baseline periods (for physiological data collection), a trained research assistant (RA; same-sex) asked the young adolescent to lead a three-minute conversation with the RA as if they were meeting for the first time. The adolescent was

instructed that they could tell about themselves, ask questions about the RA, or talk about anything they wanted. They were also told that three same-age, same-sex peer judges (actually fictitious) would view their conversation via one-way Skype (an internet-based video-chat program). The RA explained that the peer judges would compare their performance in the conversation to two other participants (whose conversations the peer judges had also supposedly watched), and the peer judges would choose the best performers. The conversation task refers to the three-minute conversation activity.

After post-conversation interview questions, the adolescents were told that if they were not chosen by the peer judges as a best performer, they would be given an opportunity to try to change the peer judges' minds by speaking directly to them through Skype. Following two additional minutes to reflect on their response should they not be chosen, adolescents were asked to have a three-minute conversation with their parent about what they should do if they were not selected by the peer judges as the top performer (*parental coaching* period). Prior to the parental coaching period, parents were instructed to prepare their child in case he or she was not chosen as one of the best performers. Parents were told that they could approach the conversation with their child in any way they wished, and example conversation topics were given, including reasons why the child was not chosen (if not chosen), whether he or she should speak directly to the peer judges to change their minds, and, if so, what he or she should talk about. Following the parental coaching period and several post-coaching interview questions, the RA ended the task and carefully debriefed adolescents (using a process debriefing procedure; Hubbard, 2005; Underwood, 2005), leading them to their own conclusion that the peer judges were not real. The rationale for deception and purpose of the study were discussed.

Measures: Predictor Variables

Control variables. Young adolescent sex, age, race/ethnicity, annual household income, and family structure were reported by the parent at T1.

Parent social coaching. Two dimensions of parental social coaching were measured via context-specific assessments during lab activities: behavioral advice and cognitive framing. Parents' suggestions during the parental coaching period were coded separately for behavioral advice and cognitive framing, based on observational coding systems developed by Hane and Barrios (2011), McDowell and Parke (2009), Mize and Pettit (1997), and Poulin et al. (2012). The authors coded 10% (n = 8) of participants as a group, and the remaining 90% were coded by two independent RAs, who were trained in the observational coding system and were required to reach acceptable inter-rater reliability during training (ICC > .70). All participant videos were double-coded, with discrepant scores resolved by consensus.

Parent behavioral advice. From videotapes of the parental coaching period, two aspects of parents' behavioral advice, prosocial advice and defensive advice, were coded separately on a 5-point scale. Prosocial advice (1 = *Absence of any prosocial advice* to 5 = *Multiple, elaborate prosocial or friendly suggestions*) referred to parents giving friendly, engaging, prosocial behavioral suggestions about how to interact with the peer judges to try to change their minds about choosing them as a best performer (e.g., "Tell them about what sports you play;" "Ask them what they did this summer for fun;" "Find out if you like any of the same TV shows or music"). Defensive advice (1 = *Absence of any defensive advice* to 5 = *Multiple, elaborate defensive or awkward suggestions*) referred to parents giving defensive, avoidant, or socially awkward behavioral suggestions about how to interact with the peer judges (e.g., "Tell the peer judges that it's their loss they didn't pick you;" "Ask why they didn't pick you;" "Ask what the

other kids did that was better than you"). Inter-rater reliability was high for prosocial advice (ICC = .93) and defensive advice (ICC = .89). On average, parents displayed low levels of prosocial advice (M = 1.53, SD = 1.12) and defensive advice (M = 1.43, SD = .83). We created a composite variable representing context-specific behavioral advice by first reverse scoring defensive advice and then averaging it with prosocial advice.

Parent cognitive framing. In addition, from videotapes of the parental coaching period, two aspects of parents' cognitive framing, benign interpretations and threatening interpretations, were coded separately on a 5-point scale. Benign interpretations (1 = *Absence of any benign interpretations* to 5 = *Multiple, elaborate benign interpretations, often accompanied by positive affect*) referred to parents framing the lab activities (conversation task and peer judge response plan) in nonthreatening or positive terms, affirming the adolescent's competence in the situation, or reinforcing the adolescent's perception of control over the situation (e.g., "Just think of them like they are your friends at school;" "All in all, it's really not a big deal what those kids think of you;" "Remember when you were new at school and were so friendly and met all those new kids?"). Threatening interpretations (1 = *Absence of any threatening interpretations* to 5 = *Multiple, elaborate threatening interpretations, often accompanied by negative affect*) referred to the parent framing lab activities in an intimidating or negative manner, suggesting that the adolescent should be concerned, pressuring the adolescent to reconnect, emphasizing negative emotions that the adolescent denied, or undermining the adolescent's confidence (e.g., "Are you sure you're not scared?" "Do you think the other kids did better than you?" "You don't want to leave things on a bad note—you really should talk to them again."). Inter-rater reliability was high for benign (ICC = .83) and threatening interpretations (ICC = .75). On average, parents gave moderate levels of benign interpretations (M = 3.01, SD = 1.23) and lower levels of

threatening interpretations (M = 2.30, SD = 1.36). We created a composite variable representing context-specific cognitive framing by first reverse scoring threatening interpretations and then averaging it with benign interpretations.

Measures: Outcome Variables

Adolescent social skills. Two dimensions of young adolescent social skills were measured via context-specific assessments during lab activities: social-behavioral skills and social-cognitive skills.

Adolescent social-behavioral skills. From videotapes of lab activities, adolescents were rated on their conversation skills during the conversation task, using observational ratings developed by Erath et al. (2007). Seven items were rated: facial expression, voice animation, confidence/comfort, positive mood, sensitive verbal responding, self-other balance, and global conversation skills (e.g., follow-up questions, validating remarks). Each item was rated on a 5-point scale (1 = *not at all* to 5 = *very much*) by two independent RAs, who were trained on practice videotapes until they achieved adequate inter-rater reliability (ICC > .70). Forty percent of conversations (n = 51) were double-coded, and discrepant ratings were resolved by consensus. Inter-rater reliability across all items was high (ICC = .86 - .91). We created a composite variable representing context-specific social-behavioral skills by averaging all seven items, and internal consistency was high (α = .90).

Adolescent social-cognitive skills. Two context-specific indices of social-cognitive skills were measured during lab activities, to represent various steps of the SIP model (Crick & Dodge, 1994). To assess social response plan (Step 4), after the lab-based conversation task, adolescents were asked about how they planned to interact with the peer judges, in order to try to change the judges' minds about choosing them as a best performer. An RA asked adolescents, "If you were

to speak directly to the peer judges, tell me about your strategy—what would you do or say?" Adolescents' open-ended replies were coded by two independent RAs, who were trained on practice videotapes and required to reach acceptable inter-rater reliability during training (ICC > .70). The quality of adolescents' social response plans was coded on a 4-point scale (1 = *No plan* to 4 = *Specific, elaborate prosocial plan*; Erath, Bub, & Tu, 2014). All responses were double-coded, and discrepancies were resolved by consensus. Low scores represent the absence of a plan (e.g., "I don't know"). Moderate scores represent plans focused on the peer judges' evaluation or the participant's performance (e.g., questions about why the peer judges chose the other participants, explanation for poor performance) or a vague, simple prosocial plan (e.g., close-ended questions, vague conversation strategies like "get to know them"). High scores represent a thoughtful, prosocial plan for talking with the peer judges, involving open-ended questions or topics or more elaborate conversation strategies (e.g., talk about summer plans, identify common interests). Inter-rater reliability was high (ICC = .95).

In addition, to assess context-specific social self-efficacy (Step 5 in the SIP model), adolescents rated their self-efficacy with six items during the lab activities (3 questions before and 3 questions after the conversation task). Adolescents responded to questions about their performance in the conversation task (e.g., "How well do you think you'll do [did] in the conversation activity?" "How much do you think the peer judges will like you?") on a 5-point scale (1 = *not at all* to 5 = *very much*), and internal consistency was high (α = .81).

On average, adolescents reported modestly- to moderately-developed social response plans (M = 2.26, SD = .83), and moderately high social self-efficacy (M = 3.55, SD = .65) during lab activities. Like some other studies of multiple components of social-information processing (e.g., Dodge, Pettit, Bates, & Valente, 1995), correlations between lab-based social response plan

and social self-efficacy were not found (r = .02, p = .90). Nevertheless, since component relatedness is not essential to represent a meaningful score, these two aspects of social-cognitive skills were composited, by standardizing and averaging the two measures. Including multiple components yielded a more complete measure of social-cognitive skills.

Study 2

Participants

At T1, participants included 123 fifth and sixth graders (*M*age = 11.58, *SD* = .64), along with one parent (82% biological mothers, 67% married) and teacher (81% of teacher reports obtained at T1; n = 100) per young adolescent. The sample of adolescents consisted of 50% boys and 59% Caucasians, 35% African Americans, and 6% of other races/ethnicities, which is representative of the demographics of communities from which participants were recruited. The average family income was between $35,001 and $50,000, with 21% reporting an income of less than $20,000 and 24% reporting an income of more than $75,000.

At T2, approximately ten months later, participants included 99 adolescents (*M*age = 12.30, *SD* = .76), along with one parent (83% biological mothers) and teacher (88% of teacher reports obtained at T2; n = 87) per adolescent. The adolescent sample consisted of 47% boys and 59% Caucasians, 34% African Americans, and 7% of other races/ethnicities. The average family income was between $35,001 and $50,000, with 17% reporting an income of less than $20,000 and 29% reporting an income greater than $75,000.

Individual t-tests were conducted to test differences between (1) participants with and without T2 data, (2) participants with and without teacher reports at T1, and (3) participants with and without teacher reports at T2. Analyses revealed no significant differences between participants with and without T2 data on parenting, adolescent social skills, peer acceptance, or

internalizing problems. Additionally, participants with and without T1 teacher reports did not differ on social skills or internalizing problems, and participants with and without T2 teacher reports did not differ on social skills, peer acceptance, or internalizing problems. Compared to participants without T2 data, participants with T2 data were more likely to have married parents ($\chi^2 = 8.61$, $p < .01$). Since adolescents whose parents were married received higher-quality parent-reported behavioral advice (see Table 3), the sample of youths with T1 and T2 data may have received better behavioral advice, perhaps increasing the chance of finding beneficial longitudinal effects of advice. Compared to participants without teacher reports at T1, participants with teacher reports at T1 were more likely to be Caucasian ($\chi^2 = 9.21$, $p < .01$), from higher income households ($t = -2.64$, $p < .01$), and have married parents ($\chi^2 = 5.90$, $p < .05$). Additionally, compared to participants without teacher reports at T1, participants with teacher reports at T1 received higher-quality parent-reported behavioral advice ($t = -2.88$, $p < .01$) and had higher T2 peer acceptance ratings ($t = -2.51$, $p < .05$). Finally, compared to participants without teacher reports at T2, participants with teacher reports at T2 were more likely to have married parents

($\chi^2 = 5.25$, $p < .05$). Participants with T2 teacher reports also received higher-quality parent-reported behavioral advice ($t = -2.58$, $p < .05$) and lower-quality parent-reported cognitive framing ($t = 2.54$, $p < .05$), compared to participants without T2 teacher reports.

Procedures

Two waves of data were collected, approximately ten months apart. At T1, recruitment and consent procedures were the same as for Study 1. In addition, parent permission to contact participants' (elementary school) teachers was obtained via mail prior to the lab visit, and teachers were contacted in the spring to participate. Teacher consent was obtained, and teachers

completed questionnaires about participants' social skills and peer adjustment; teachers were compensated monetarily. During the lab visit in the following summer, parental consent and adolescent assent to participate were obtained, and both parents and adolescents were compensated monetarily. Young adolescents and parents completed questionnaires, and adolescents participated in lab activities, while their physiological activity was recorded. For the purpose of Study 2, only questionnaire data was utilized; thus, a description of the lab protocol is not included here.

At T2, during the spring of adolescents' first year in middle school, parents and young adolescents were re-contacted for follow-up data collection. Young adolescents' (middle school) teachers were also contacted to participate and compensated monetarily, using the same procedures as T1. Young adolescents and parents visited the research lab in the spring and completed questionnaires; both were compensated monetarily. All study procedures were approved by the University Institutional Review Board.

Measures: Predictor Variables

Control variables. Young adolescent sex, age, race/ethnicity, annual household income, and family structure were reported by the parent at T1.

Parent social coaching. At T1, two dimensions of parental social coaching, behavioral advice and cognitive framing, were assessed via context-general measures. Parents gave open-ended responses to three hypothetical peer stress scenarios created for the present study: exclusion from a peer activity, anxiety about meeting peers at a new school, and trouble making friends at a new school (e.g., "Let's say that some kids at school planned a weekend activity for a few weeks from now, and your child has not been invited. What are one or two specific ways in which you would advise your child to deal with this situation?"). Drawing from social coaching

literature with younger children (Finnie & Russell, 1988; Mize & Pettit, 1997) and coping literature (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001), parents' behavioral advice and cognitive framing responses (to each of the three hypothetical scenarios) were coded separately on a continuous 3-point scale. Two RAs were trained in the coding system and were required to reach acceptable inter-rater reliability (ICC > .70) during training. All parent responses were double-coded, and discrepant scores were resolved by consensus.

Parent behavioral advice. Parents' open-ended responses to the three aforementioned hypothetical scenarios were coded for behavioral advice from low-quality (or absence of advice) to high-quality behavioral advice (1 = *absence of any behavioral advice or problematic strategies* to 3 = *specific, elaborate prosocial strategies*). Thus, low scores represent a parent giving no behavioral advice or hostile or avoidant strategies (e.g., "focus on your school work; you don't need friends at school" or "ask the kids why they don't like you"). Scores in the mid-range consist of non-negative, vague behavioral strategies (e.g., "do something else," "just be friendly," or "meet kids"), and high scores represent specific, elaborate prosocial strategies (e.g., "ask some other kids to come over and play X-box" or "join a school club to meet kids with the same interests"). Inter-rater reliability across scenarios for the total sample was high (ICC = .96 - .97). We created a composite variable representing context-general behavioral advice by averaging scores across the three scenarios. Correlations between behavioral advice across peer stress situations were low to moderate (r = .16 - .41, p < .10). We consider parents' behavioral advice across different peer stress scenarios to function more as causal indicators (i.e., situation-specific suggestions that accumulate across scenarios and influence the overarching construct of behavioral advice) than as effect indicators (which are influenced by the overarching construct of behavioral advice; see Bollen & Lennox, 1991). Causal indicators of the same concept can have

a range of correlations (Bollen & Lennox, 1991), and thus reliability of an index formed from causal indicators is not necessarily assessed accurately by internal consistency across situations (Streiner, 2003).

Parent cognitive framing. As a separate code from behavioral advice, parents' open-ended responses to the three hypothetical scenarios were also coded for cognitive framing from low-quality (or absence of framing) to high-quality cognitive framing (1 = *absence of any cognitive framing or negative/hostile interpretations* to 3 = *specific, elaborate benign interpretations*). Thus, low scores represent a parent giving no cognitive framing or negative, hostile interpretations (e.g., "those kids must not have been your real friends" or "they are just mean or jealous"). Scores in the mid-range consist of non-negative, vague cognitive framing (e.g., "it's ok to not be invited/feel anxious/have trouble making new friends" or "you will have other opportunities"), and high scores represent specific, elaborate benign-positive interpretations (e.g., "other kids probably feel nervous about meeting new friends in middle school—it's a new situation for everyone" or "you have lots of friends you can spend time with; you'll get invited to many other parties"). Inter-rater reliability across scenarios for the total sample was high (ICC = .88 - .96). We created a composite variable representing context-general cognitive framing by averaging scores across the three scenarios. Correlations between cognitive framing across peer stress situations were modest at most (r = .06 - .19, p = .04 - .55). As with behavioral advice, we consider parents' cognitive framing across different peer stress scenarios to function more as causal indicators, rather than effect indicators; thus, internal consistency across situations does not accurately reflect reliability.

Parent positive involvement. At T1, parents completed ten items about their positive involvement with their young adolescent from the involvement subscale of the Alabama

Parenting Questionnaire (APQ; e.g., "You have a friendly talk with your child;" Frick, 1991). Items were rated on a 5-point scale (1 = *Never* to 5 = *Always*) and internal consistency was high ($\alpha = .78$).

Measures: Outcome Variables

Adolescent social skills. Two dimensions of adolescent social skills, social-behavioral and social-cognitive, were measured via context-general assessments at T1 and T2.

Adolescent social-behavioral skills. Parents and teachers each completed five items about young adolescent's prosocial behavior from the Social Behavior Rating Scale (SBRS; e.g., "Friendly toward other children," "Good leader;" Schwartz, Farver, Chang, & Lee-Shin, 2002), rated on a 5-point scale (1 = *Almost never true of my [this] child* to 5 = *Almost always true of my [this] child*). Internal consistency was high for parents (T1: $\alpha = .74$; T2: $\alpha = .75$), and teachers (T1: $\alpha = .88$; T2: $\alpha = .86$). Parent and teacher reports of prosocial behavior were modestly to moderately correlated at T1 ($r = .35$, $p < .001$) and T2 ($r = .19$, $p < .10$). In order to represent parents' and teachers' complementary perspectives on children's social-behavioral skills (Bierman, 2004) and obtain robust, multi-informant measures (Kochanska & Kim, 2012), we created composite variables representing T1 and T2 context-general social-behavioral skills by averaging parent and teacher reports at T1 and T2, respectively.

Adolescent social-cognitive skills. Two context-general measures of social-cognitive skills were included at T1 and T2, again to represent two different steps of the SIP model (Crick & Dodge, 1994). As a measure of social appraisals (Step 2), adolescents reported about their interpretations of ambiguous peer situations based on two hypothetical vignettes: entering an unfamiliar group and inviting peers to a birthday party (e.g., "You have decided to join an after-school club. The first day you go to the club meeting, you walk into the room and see a group of

about eight students. You don't know any of them yet. They look up when you walk toward them"). The hypothetical vignettes were adapted from vignettes used in previous studies (Barrett et al., 1996; Muris, Merckelbach, & Damsma, 2000). Adolescents rated 8 items about the likelihood that peers would respond to them positively (e.g., "They would notice you and smile") or negatively (e.g., "They would make fun of you for asking them [to your party]"), using a 4-point scale (1 = *not at all* to 4 = *very likely*). This measure was reliable at T1 (α = .69) and T2 (α = .82). In addition, as a measure of social self-efficacy (Step 5), adolescents responded to the same two hypothetical, ambiguous peer vignettes, rating their performance expectations (e.g., "You would know what to do") on 4 items, measured on a 4-point scale (1 = *not at all* to 4 = *very likely*). Internal consistency was high for this measure at T1 (α = .74) and T2 (α = .81).

Adolescent reports of social appraisals and social self-efficacy were strongly associated at T1 (r = .61, p < .001) and T2 (r = .69, p < .001). We created composite variables representing T1 and T2 context-general social-cognitive skills by averaging the two measures at each time point, and internal consistency was high at T1 (α = .81) and T2 (α = .88).

Adolescent peer acceptance. Parents and teachers reported about young adolescents' peer acceptance at T1 and T2. They each completed 6 items from the Checklist of Peer Relations (CPR; Dodge, 1986) which assess how well-liked and accepted young adolescents are by their peers (e.g., "Other children like my child and seek him or her out") on a 5-point scale (1 = *almost never true* to 5 = *almost always true*). The subscale was reliable for parents (T1: α = .80; T2: α = .82), and for teachers (T1: α = .91; T2: α = .90). Parent and teacher reports of peer acceptance were associated at T1 (r = .44, p < .001) and T2 (r = .32, p < .01). Again, in order to reflect complementary perspectives of parents and teachers (Bierman, 2004) and obtain robust, multi-

informant measures (Kochanska & Kim, 2012), we created composite variables representing T1 and T2 peer acceptance by averaging parent and teacher reports at each time point.

Adolescent internalizing problems. Parents and teachers reported about young adolescents' internalizing problems (e.g., anxiety, depressive symptoms) at T1 and T2. Parents completed 32 items from the Child Behavior Checklist (CBCL) and teachers completed the same 32 items from the Teacher-Report Form (TRF; e.g., "Unhappy, sad, or depressed;" Achenbach, 1991). Items were rated on a 3-point scale (0 = *Not true* to 2 = *Very true or often true*), and the subscale was reliable for parents (T1: $\alpha = .84$; T2: $\alpha = .85$), and for teachers (T1: $\alpha = .84$; T2: $\alpha = .82$). Parent and teacher reports of internalizing problems were associated at T1 ($r = .32$, $p < .01$) and T2 ($r = .21$, $p < .05$). We created composite variables representing T1 and T2 internalizing problems by averaging parent and teacher reports at each time point.

The full set of parent, young adolescent, and teacher reports can be found in Appendix A.

IV. RESULTS

Study 1

Preliminary Analyses

Preliminary analyses examining descriptive statistics and correlations among all study variables were conducted (Table 2). Variables were checked for outliers, skewed distributions, and other non-standard conditions. All variables were within the commonly accepted range of skewness (absolute values $\leq$ 1.54); no transformations were necessary.

Correlations with demographic variables revealed that boys had higher household income and were more likely to have married parents than girls. Caucasians had higher household income, were more likely to have married parents, and were rated higher on social-behavioral skills in lab activities, compared to African Americans and other minorities. Additionally, adolescents with married parents were older, had higher household income, and received lower-quality cognitive framing, compared to adolescents without married parents. Finally, older adolescents displayed better social-behavioral skills than younger adolescents.

No association emerged between the parental coaching variables (i.e., behavioral advice and cognitive framing). Among the adolescent social skills variables, social-behavioral skills were associated with higher levels of social-cognitive skills. Lastly, correlations linking predictor variables with outcome variables revealed that parental behavioral advice was associated with higher adolescent social-behavioral skills and social-cognitive skills.

Plan of Main Analyses

Regression analyses were conducted in AMOS (Arbuckle, 2012) to take advantage of full information maximum likelihood (FIML) estimation to handle missing data. Analyses controlled for young adolescent sex, age, race/ethnicity, annual household income, and family structure when demographic variables were significantly associated with outcomes (at $p < .05$ level).

Predictor and control variables were mean-centered, and covariances were estimated among predictors and controls that were significantly correlated.

Aim 1. To test the interrelation between dimensions of context-specific parental social coaching, we examined the correlation between context-specific behavioral advice and context-specific cognitive framing.

Aim 2. To test the interrelation between dimensions of context-specific adolescent social skills, we examined the correlation between context-specific social-behavioral skills and context-specific social-cognitive skills.

Aim 3. To assess the unique associations linking dimensions of context-specific parental social coaching with context-specific adolescent social skills (Aim 3a), we fit two separate regression models, predicting social-behavioral skills and social-cognitive skills. Each model included two steps. In Step 1, demographic control variables (when correlated with the respective outcome) were entered. In Step 2, the two dimensions of parental coaching (behavioral advice and cognitive framing) were entered.

For the exploratory Aim 3d (i.e., types of associations), we conducted beta to Z transformations to compare associations linking dimensions of parental coaching with dimensions of adolescent skills (from Aim 3a). We categorized patterns of associations, determining whether they were consistent with (1) *differential* effects of coaching dimensions on skills dimensions (e.g., if parental cognitive framing more strongly predicted adolescent social-cognitive skills than social-behavioral skills) versus *similar* effects of coaching dimensions on skills dimensions (e.g., if parental cognitive framing was similarly linked with adolescent social-cognitive and social-behavioral skills), and (2) *matched* effects of a coaching dimension with a skills dimension (e.g., if parental cognitive framing was more strongly linked with adolescent

social-cognitive skills than social-behavioral skills) versus *unmatched* effects across coaching and skills dimensions (e.g., if parental behavioral advice was more strongly linked with adolescent social-cognitive skills than social-behavioral skills).

For the exploratory Aim 3e (i.e., parental coaching x adolescent sex), we fit two separate regression models, predicting social-behavioral skills and social-cognitive skills. Each model included the two aforementioned steps, as well as an additional third step in which the interactions between coaching dimensions and adolescent sex (i.e., parent behavioral advice x adolescent sex; parent cognitive framing x adolescent sex) were entered.

Aim 1: Dimensions of Parental Social Coaching

Consistent with our hypothesis that dimensions of coaching would be distinguishable, context-specific parent behavioral advice and cognitive framing were not significantly associated at the bivariate level ($r = .10$, $p = .37$; Table 2).

Aim 2: Dimensions of Adolescent Social Skills

Again as support for our expectation that dimensions of social skills would be related but not redundant, context-specific adolescent social-behavioral skills and social-cognitive skills were moderately associated at the bivariate level ($r = .31$, $p < .01$; Table 2).

Aim 3: Independent Effects of Parental Social Coaching

Aim 3a: Coaching predicting social skills. As anticipated, parent behavioral advice was associated with higher adolescent social-behavioral skills and with higher adolescent social-cognitive skills, in separate models (Table 4, Final Model columns). Contrary to expectations, parent cognitive framing was not associated with adolescent social-behavioral skills or social-cognitive skills, in separate models (Table 4, Final Model columns).

Aim 3d: Types of effects (*exploratory*). Associations linking coaching dimensions with social skills dimensions (Table 4) were compared by converting beta weights to Fisher's Z prime, in order to classify the effects as differential or similar. The associations between parent behavioral advice and adolescent social-behavioral and social-cognitive skills were not significantly different ($Z = -.52$, $df = 76$, $p = .60$). Likewise, associations between parent cognitive framing and adolescent social-behavioral and social-cognitive skills were not significantly different ($Z = -.18$, $df = 76$, $p = .85$). Since no differential effects emerged, we did not classify them into matched versus unmatched associations.

Aim 3e: Moderating effects of adolescent sex (*exploratory*). Adolescent sex did not moderate associations linking parent behavioral advice with adolescent social-behavioral skills or social-cognitive skills (Table 9). Additionally, sex did not moderate associations linking cognitive framing with social-behavioral skills or social-cognitive skills (Table 9).

Unstandardized and standardized regression coefficients are presented in Tables 4 and 9 in Appendix B.

Study 2

Preliminary Analyses

Preliminary analyses examining descriptive statistics and correlations among all study variables were conducted (Table 3). Variables were checked for outliers, skewed distributions, and other non-standard conditions. All variables were within the commonly accepted range of skewness (absolute values ≤ 1.23); no transformations were necessary.

On average, young adolescent outcomes were moderately stable across T1 and T2: social-behavioral skills ($r = .46$, $p < .001$), social-cognitive skills ($r = .27$, $p < .01$), peer acceptance ($r = .67$, $p < .001$), and internalizing problems ($r = .59$, $p < .001$; Table 3). Paired

samples t-tests were conducted and revealed that there were no significant differences between mean levels of T1 and T2 social-behavioral skills (t = -.63, p = .53), social-cognitive skills (t = .81, p = .42), and peer acceptance (t = .31, p = .76). However, T1 internalizing problems were marginally higher than T2 internalizing problems (M = .18, SD = .14 vs. M = .16, SD = .13; t = 1.78, p < .10).

Bivariate analyses were conducted to examine associations between all study variables (Table 3). Correlations with demographic variables revealed that girls were younger, had higher T1 and T2 social-behavioral skills and higher T1 and T2 peer acceptance than boys. Caucasians were older, had higher household income, were more likely to have married parents, had lower levels of parent positive involvement, and had higher-quality parent-reported behavioral advice, compared to African Americans and other minorities. Younger adolescents had higher levels of positive parent involvement, compared to older adolescents. Adolescents with married parents had higher household income, had higher-quality parent-reported behavioral advice, and had higher T2 peer acceptance, compared to adolescents without married parents. Finally, adolescents from higher income homes had higher-quality parent-reported behavioral advice, had higher T1 social-behavioral skills, reported higher T1 social-cognitive skills, and had higher levels of T1 and T2 peer acceptance than adolescents from lower income homes. Associations with the control variable, parent positive involvement, revealed that greater involvement was associated with higher T1 social-behavioral skills and higher T1 social-cognitive skills.

Associations among parental coaching variables revealed that higher-quality behavioral advice was linked with lower-quality cognitive framing. Among the adolescent social skills variables, T1 and T2 social-behavioral skills were both separately associated with higher T1 and

T2 social-cognitive skills. Among the adjustment outcome variables, T1 and T2 peer acceptance were both separately associated with lower T1 and T2 internalizing problems.

Among all outcome variables, T1 and T2 social-behavioral skills were both separately associated with higher T1 and T2 peer acceptance, as well as lower T1 and T2 internalizing problems. T1 and T2 social-cognitive skills were both separately linked with higher T1 and T2 peer acceptance, as well as lower T1 internalizing problems; T2 social-cognitive skills was additionally associated with lower T2 internalizing problems.

Lastly, correlations linking predictors and outcomes revealed that parent behavioral advice was linked with higher T2 peer acceptance. Additionally, parent cognitive framing was associated with higher T1 social-behavioral skills, higher T1 and T2 peer acceptance, and lower T1 internalizing problems.

Plan of Main Analyses

Similar to Study 1, regression analyses were conducted in AMOS (Arbuckle, 2012) to take advantage of full information maximum likelihood (FIML) estimation to handle missing data. Analyses controlled for young adolescent sex, age, race/ethnicity, annual household income, and family structure when demographic variables were associated with outcomes (at $p < .05$ level). All regression models also controlled for parent positive involvement, in order to isolate the unique effects of parental social coaching above and beyond general positive parenting. Predictor and control variables were mean-centered, and covariances were estimated among predictors and controls that were significantly correlated.

Aim 1. To test the interrelation between dimensions of context-general parental social coaching, we examined the correlation between context-general behavioral advice and context-general cognitive framing.

Aim 2. To test the interrelation between dimensions of context-general adolescent social skills, we examined the correlation between context-general social-behavioral skills and context-general social-cognitive skills.

Aim 3. To assess the unique associations linking dimensions of context-general parental social coaching with concurrent and prospective levels of context-general adolescent social skills (Aim 3a), adolescent peer acceptance (Aim 3b), and adolescent internalizing problems (Aim 3c), we fit a series of regression models, predicting (a) T1 levels of each outcome and (b) T2 levels of each outcome controlling for T1 levels of each outcome (making a total of 8 regression models). Each model included two steps. In Step 1, demographic control variables (when correlated with the respective outcome at $p < .05$ level) and parent positive involvement were entered. For the models predicting T2 levels of an adolescent outcome, the T1 outcome variable was also entered as a control, in order to examine change in the outcome. In Step 2, the two dimensions of context-general parental coaching (behavioral advice and cognitive framing) were entered.

For the exploratory Aim 3d (i.e., types of associations), we conducted beta to Z transformations to compare associations linking dimensions of parental coaching with dimensions of adolescent skills (from Aim 3a), in order to determine whether associations were consistent with (1) *differential* versus *similar* effects and (2) *matched* versus *unmatched* effects (similar to Study 1).

For the exploratory Aim 3e (i.e., parental coaching x adolescent sex), we fit a series of eight regression models, predicting concurrent and prospective social-behavioral skills, social-cognitive skills, peer acceptance, and internalizing problems. Each model included the two aforementioned steps (from Aims 3a-c), as well as an additional third step in which the interactions between context-general coaching dimensions and adolescent sex (i.e., parent

behavioral advice x adolescent sex; parent cognitive framing x adolescent sex) were entered. Follow-up analyses were conducted for significant interactions that emerged. Simple intercepts and slopes were computed according to standard procedures (Aiken & West, 1991). Slopes represent associations between the predictor variable (i.e., behavioral advice or cognitive framing) and outcome variable (i.e., social-behavioral skills, social-cognitive skills, peer acceptance, or internalizing problems) among male and female adolescents (i.e., the moderator variable).

Aim 4. To assess the interactive effects of dimensions of context-general parental social coaching (and parent positive involvement) and dimensions of context-general adolescent social skills, we again fit separate regression models for concurrent (i.e., T1) and prospective (i.e., change from T1 to T2) levels of each adjustment outcome (i.e., peer acceptance, internalizing problems), making four total regression models. Each model included several steps. In Step 1, demographic control variables were entered (when correlated with the respective outcome at $p < .05$ level). For the models predicting T2 levels of an adjustment outcome, the T1 outcome variable was also entered as a control, to examine change in the outcome. In Step 2, the two dimensions of context-general parental social coaching (behavioral advice and cognitive framing), parent positive involvement, and two context-general adolescent skills dimensions (social-behavioral and social-cognitive) were entered. For the models predicting peer acceptance, in Step 3, the interactions between coaching dimensions and skills dimensions (i.e., parent behavioral advice x adolescent social-behavioral skills, parent behavioral advice x adolescent social-cognitive skills, parent cognitive framing x adolescent social-behavioral skills, parent cognitive framing x adolescent social-cognitive skills) were entered. Alternatively, for the models predicting internalizing problems, in Step 3, the interactions between parent positive

involvement and skills dimensions (i.e., parent positive involvement x adolescent social-behavioral skills, parent positive involvement x adolescent social-cognitive skills) were entered.

Follow-up analyses were conducted for significant interactions that emerged. Simple intercepts and slopes were computed according to standard procedures (Aiken & West, 1991). Slopes represent associations between the predictor variable (i.e., behavioral advice, cognitive framing, or parent positive involvement) and outcome variable (i.e., peer acceptance or internalizing problems) at lower (-1 *SD*) and higher (+1 *SD*) levels of the moderator variable (i.e., social-behavioral skills or social-cognitive skills).

Unstandardized and standardized regression coefficients are presented in Tables 5 through 8 and 10 through 13. All tables and figures are presented in Appendix B.

Aim 1: Dimensions of Parental Social Coaching

Contrary to the hypothesis that coaching dimensions would be related but not redundant, context-general parent behavioral advice and cognitive framing were negatively associated at the bivariate level ($r = -.32$, $p < .001$; Table 3). However, this negative association may result from asking parents to provide "one or two specific ways in which you would advise your child to deal with this [hypothetical peer stress] situation." Due to the request for a limited number of coaching strategies, reporting one type of coaching may have reduced the likelihood of reporting the other type of coaching, yielding a negative rather than null association.

Aim 2: Dimensions of Adolescent Social Skills

Similar to Study 1, in support of the expectation that skills dimensions would be related but not redundant, context-general social-behavioral skills and social-cognitive skills were moderately positively associated at the bivariate level at T1 ($r = .29$, $p < .01$) and T2 ($r = .33$, $p < .01$; Table 3).

Aim 3: Independent Effects of Parental Social Coaching

Aim 3a: Coaching predicting social skills. As hypothesized, parent cognitive framing was associated with higher T1 adolescent social-behavioral skills (Table 5, Final Model column). Nevertheless, all other associations between coaching dimensions and skills dimensions were not significant (Tables 5 and 6).

Aim 3b: Coaching predicting peer acceptance. In contrast with Aim 3a, greater support for expected associations linking coaching dimensions with peer acceptance was found. Although parent behavioral advice was not associated with T1 peer acceptance, it predicted higher T2 peer acceptance (Table 7, Final Model column). Furthermore, parent cognitive framing was linked with higher T1 peer acceptance and marginally predicted higher T2 peer acceptance (Table 7, Final Model columns).

Aim 3c: Coaching predicting internalizing problems. Modest evidence also emerged for hypothesized associations between coaching and internalizing problems. Indeed, parent cognitive framing was associated with lower T1 internalizing problems (Table 8, Final Model column). Nevertheless, there were no other significant associations between coaching dimensions and internalizing problems (Table 8).

Aim 3d: Types of effects (*exploratory*). Associations linking coaching dimensions with concurrent and prospective social skills dimensions (Tables 5 and 6) were compared by converting beta weights to Fisher's Z prime, in order to classify the effects as differential or similar. Behavioral advice was similarly associated with T1 social-behavioral and social-cognitive skills ($Z = .54$, $df = 121$, $p = .59$) and similarly associated with T2 social-behavioral and social-cognitive skills ($Z = .07$, $df = 96$, $p = .95$). Cognitive framing was also similarly associated with T2 social-behavioral and social-cognitive skills ($Z = -1.10$, $df = 96$, $p = .27$). One

differential effect emerged: cognitive framing was more strongly related to T1 social-behavioral skills (Table 5) than social-cognitive skills at the non-significant trend level (Table 6; $Z = 1.65$, $df = 121$, $p < .10$). Furthermore, this also qualifies as an unmatched effect, in which a cross-dimension association (i.e., *cognitive* framing with social-*behavioral* skills) is stronger than a same-dimension association (i.e., *cognitive* framing with social-*cognitive* skills).

Aim 3e: Moderating effects of adolescent sex (*exploratory*).

Coaching x sex predicting social skills. Adolescent sex moderated the association between behavioral advice and T1 social-behavioral skills (Table 10). Simple slopes analyses revealed a positive association between behavioral advice and T1 social-behavioral skills among boys ($B = .22$, $SE = .11$, $\beta = .25$, $p < .05$), but no association among girls ($B = .01$, $SE = .11$, $\beta = .00$, $p = .96$; Figure 1). With a similar pattern of results, sex also moderated the association between cognitive framing and T1 social-behavioral skills (Table 10), such that there was a positive link between cognitive framing and T1 social-behavioral skills for boys ($B = .50$, $SE = .13$, $\beta = .32$, $p < .001$), but no association for girls ($B = .15$, $SE = .13$, $\beta = .10$, $p = .24$; Figure 2). Sex did not moderate the link between behavioral advice and T1 social-cognitive skills (Table 10). However, adolescent sex moderated the association between cognitive framing and T1 social-cognitive skills (Table 10), and simple slopes analyses revealed that cognitive framing was marginally negatively associated with T1 social-cognitive skills among boys ($B = -.20$, $SE = .10$, $\beta = -.18$, $p < .10$), but positively associated with social-cognitive skills among girls ($B = .20$, $SE = .10$, $\beta = .18$, $p < .05$; Figure 3). Sex did not moderate associations linking coaching dimensions with T2 social-behavioral skills or T2 social-cognitive skills (Table 11). Thus, three coaching by sex interactions (out of eight possible) emerged as significant predictors of adolescent social skills. Two of the significant interactions suggested that coaching was more

strongly associated with social-behavioral skills among boys than girls, whereas the third interaction showed that coaching was more strongly linked with social-cognitive skills among girls than boys.

Coaching x sex predicting peer acceptance. Sex did not moderate associations linking coaching dimensions with T1 peer acceptance (Table 10), nor the association between behavioral advice and T2 peer acceptance (Table 11). However, adolescent sex moderated the link between cognitive framing and T2 peer acceptance (Table 11), such that for boys cognitive framing predicted higher T2 peer acceptance (B = .52, SE = .10, β = .36, p < .001), but for girls cognitive framing did not predict T2 peer acceptance (B = -.05, SE = .10, β = -.04, p = .63; Figure 4). Thus, one coaching by sex interaction (out of four possible) emerged as a significant predictor of peer acceptance, indicating that the effects of coaching on peer acceptance were stronger for boys than for girls.

Coaching x sex predicting internalizing problems. Sex did not moderate any associations linking behavioral advice or cognitive framing with T1 (Table 10) or T2 (Table 11) internalizing problems.

Aim 4: Interactive Effects of Parental Coaching/Involvement x Adolescent Social Skills

Coaching x skills predicting peer acceptance. Four significant coaching x skills interactions (out of eight possible) emerged as predictors of T1 or T2 peer acceptance. Two interactions provided support for the hypothesized remediation model, which suggests that coaching predicts better peer acceptance for adolescents with lower skills levels. Social-behavioral skills moderated the association between cognitive framing and T1 peer acceptance (Table 12). Simple slopes analyses revealed that cognitive framing was linked with higher T1 peer acceptance at lower levels of social-behavioral skills (B = .30, SE = .08, β = .24, p < .001),

but not at higher levels of social-behavioral skills (B = .06, SE = .08, β = .05, p = .46; Figure 5). With a similar pattern, social-behavioral skills moderated the association between cognitive framing and T2 peer acceptance (Table 12), such that cognitive framing predicted higher T2 peer acceptance at lower levels of social-behavioral skills (B = .39, SE = .10, β = .30, p < .001), but not at higher levels of social-behavioral skills (B = .01, SE = .10, β = .01, p = .91; Figure 6). Thus, both interactions supporting a remediation model occurred with *social-behavioral* skills as the moderator.

Conversely, two coaching x *social-cognitive* skills interactions provided support for the capitalization model, which suggests that coaching predicts better peer acceptance for adolescents with higher social skills levels. Social-cognitive skills moderated the association between behavioral advice and T2 peer acceptance (Table 12), such that behavioral advice predicted higher T2 peer acceptance at higher levels of social-cognitive skills (B = .34, SE = .08, β = .34, p < .001) but was not associated with T2 peer acceptance at lower levels of social-cognitive skills (B = .05, SE = .08, β = .05, p = .56; Figure 7). Providing additional support for the capitalization model, social-cognitive skills moderated the association between cognitive framing and T2 peer acceptance (Table 12), with cognitive framing predicting higher T2 peer acceptance at higher levels of social-cognitive skills (B = .46, SE = .10, β = .34, p < .001) but not at lower levels of social-cognitive skills (B = -.08, SE = .10, β = -.06, p = .42; Figure 8).

Positive involvement x skills predicting internalizing problems. One interaction (out of four possible) emerged between parent positive involvement and adolescent social skills predicting concurrent or prospective internalizing problems. Social-behavioral skills moderated the association between parent positive involvement and T1 internalizing problems (Table 13). Simple slopes analyses revealed that positive involvement was associated with fewer

internalizing problems at lower levels of social-behavioral skills (B = -.05, SE = .02, β = -.17, p < .05), but marginally associated with more internalizing problems at higher levels of social-behavioral skills (B = .04, SE = .02, β = .14, p < .10; Figure 9). This interaction provides limited support for the psychological protection model, suggesting that parents' positive involvement buffers adolescents with social skills weaknesses against internalizing distress; however, the marginal association between positive involvement and higher internalizing problems at higher levels of social-behavioral skills was an unexpected finding.

V. DISCUSSION

Early adolescence is wrought with social challenges (e.g., peer evaluation, exclusion, victimization; Parker et al., 2006), which can often be accompanied by anxiety and depressive symptoms (Reijntjes et al., 1010; Rudolph et al., 2011; van Oort et al., 2011). Social functioning is then a critical area of adjustment in which many parents want to intervene (Ladd & Pettit, 2002; Mounts, 2008), yet their influence is unclear, according to existing research (McDowell et al., 2003; McDowell & Parke, 2009; Mikami et al., 2010a; Mikami et al., 2010b; Poulin et al., 2012). Furthermore, there is a scarcity of empirical studies examining the usefulness of specific advice parents can give to their children facing peer challenges (Lovegrove et al., 2013). Thus, the present study investigated the effectiveness of behavioral and cognitive dimensions of parental social coaching for promoting young adolescent social skills and peer acceptance and minimizing internalizing problems. Additionally, we analyzed interactions between parenting and adolescent social skills, to determine if adolescents with stronger or weaker social skills benefit most from parental social coaching and general positive parenting.

Two studies were conducted to employ multiple methods (i.e., observed-behavioral, questionnaire), informants (i.e., adolescents, parents, and teachers), and a longitudinal design across the transition to middle school (Study 2), allowing for rigorous tests of hypotheses across diverse samples, measures, contexts, and time. Analyses revealed support for the uniqueness of behavioral and cognitive dimensions of parental social coaching (Aim 1) and of adolescent social skills (Aim 2). Although merely modest evidence emerged for independent associations linking higher-quality parental social coaching with better adolescent social skills or fewer internalizing problems, both behavioral advice and cognitive framing dimensions of coaching predicted increases in peer acceptance across the transition to middle school (Aim 3). Furthermore, analyses revealed that the effects of coaching may differ for adolescents with social skills

strengths and weaknesses (i.e., coaching x skills; Aim 4). As predicted, support emerged for the remediation model, only for coaching x social-behavioral skills interactions, such that higher-quality coaching predicted better peer acceptance for adolescents with lower social-behavioral skills. In partial contrast with expectations, analyses also supported the capitalization model, only for coaching x social-cognitive skills interactions, such that higher-quality coaching predicted better peer acceptance for adolescents with higher social-cognitive skills. In addition, modest evidence emerged for the psychological protection model, suggesting that parent positive involvement was more strongly linked with fewer internalizing problems among adolescents with lower social-behavioral skills.

Aim 1: Behavioral and Cognitive Dimensions of Coaching

The present study is the first known study to differentiate behavioral and cognitive dimensions of parental social coaching among young adolescents. Furthermore, we used both context-specific (i.e., lab-based observations of parents during a parent-adolescent discussion about negative peer evaluation; Study 1) and context-general (i.e., parent reports about social coaching in three normative, hypothetical peer stress scenarios; Study 2) assessments to test the robustness of associations across multiple measures and situations. As hypothesized, context-specific measures of behavioral advice and cognitive framing were not significantly associated at the bivariate level (Study 1; Table 2). Furthermore, context-general indices of behavioral advice and cognitive framing were negatively correlated in Study 2 (Table 3). This unexpected negative association may result from the nature of the assessment questions in Study 2, which asked parents to provide "one or two specific ways in which you would advise your child to deal with this [hypothetical peer stress] situation." Due to the request for a limited number of coaching strategies, parents who reported one type of coaching may have been less likely to report the

other type of coaching. Overall, the present study suggests that the quality of behavioral advice and cognitive framing are distinguishable dimensions of parental social coaching during early adolescence.

Behavioral advice, referring to concrete suggestions for interacting with peers or obtaining social approval (Mize & Pettit, 1997), may equip adolescents with a realistic plan for effective peer exchanges. A second category of parental social coaching, cognitive framing, involves offering an interpretive lens through which to perceive self, peers, and social situations, potentially allaying fears about stressful peer encounters and thereby fostering competent social behavior. In line with a domain-specific model of parenting (Costanzo & Woody, 1985; Grusec & Davidov, 2010), parents may provide different levels of behavioral advice and cognitive framing, based on adolescents' strengths or deficits in each skills dimension or on parents' own concerns or interests (Mounts, 2008). For example, an adolescent who displays friendly, prosocial behavior, yet frequently worries about social interactions may prompt a parent to give positive, confidence-building interpretations about peers (i.e., cognitive framing) but not behavioral advice. The two dimensions are conceptually distinguishable, and the present study also provides empirical evidence for their uniqueness at multiple levels of context and measurement: i.e., observed during one particular peer stressor (context-specific measures; Study 1) and parent-reported in response to several hypothetical peer stressors (context-general measures; Study 2).

No known studies with young adolescents have assessed behavioral and cognitive aspects of coaching. The other study to distinguish these two dimensions found a moderately strong association between prosocial advice and benign cognitive framing (Mize & Pettit, 1997); however, this was among preschoolers. The present study suggests that the content of coaching

may shift from preschool to adolescence, with parents of younger children perhaps providing more uniformly positive or negative advice and framing. Young children may primarily understand simple, concrete behavioral and interpretive suggestions. Conversely, the greater complexity of peer situations and more advanced cognitive capacities among young adolescents (see Parker et al., 2006 for a review) may lead parents to provide more depth and range in either behavioral advice or cognitive framing, leaving room for greater discrepancies between advice and framing at older compared to younger ages. Future longitudinal studies should examine the evolution of parental social coaching from early childhood through late adolescence, as well as test parent (e.g., past social experiences, stress levels, values), child (e.g., negative peer experiences, social competence, levels of disclosure to parents), and contextual factors (e.g., racial discrimination, school and neighborhood connectedness) that may affect shifts in the content of coaching over time.

Additionally, the present study tentatively suggests that parental social coaching is distinct from general positive parenting. Indeed, behavioral advice and cognitive framing were not correlated with parent positive involvement in Study 2 (Table 3). This is consistent with Gregson et al. (revise-resubmit) who found no bivariate association between parent-reported social coaching and adolescent-reported positive parent emotional climate (although there was a modest positive association between observed coaching and parent emotional climate). Mize and Pettit (1997) similarly reported merely weak associations between parental social coaching and parent warmth among parents of preschoolers. Thus, warm, involved parents may not necessarily offer competent social advice. This disconnect may be partially due to marked differences in the scope of each aspect of parenting. General positive parenting applies to the full range of interaction situations and activities, encompassing routine family situations, disciplinary

encounters, and academic, moral, or social discussions. In contrast, parental social coaching is narrowly focused on peer-related challenges. Furthermore, with heightened fears of their children experiencing bullying and peer rejection during early adolescence (Zeedyk et al., 2003), parents who may otherwise be positively involved (e.g., interested, engaged) could be anxiously driven to suggest aggressive or avoidant behavior or negative, threatening social appraisals (i.e., lower quality behavioral advice and cognitive framing; Costanzo & Woody, 1985). This division between general parenting behaviors and parental social coaching necessitates a focused examination of the content of coaching, as well as its antecedents and effects.

Although the present study supports the hypothesis that behavioral and cognitive dimensions of coaching are separable, the specificity of their unique effects remains unclear. For example, context-specific behavioral advice, compared to cognitive framing, appeared to have stronger associations with adolescent social skills (Study 1; Table 4), but in Study 2, context-general cognitive framing was related to social skills, but behavioral advice was not (Table 5). Furthermore, both behavioral advice and cognitive framing predicted higher T2 peer acceptance, each controlling for the other dimension (Table 5). Thus, the pattern of effects was inconsistent, which may indicate that advice and framing function similarly to both promote positive peer adjustment (i.e., social skills and peer acceptance). Nevertheless, it is also possible that the two coaching dimensions serve separate purposes for adolescent social development. As possible tentative support for this, coaching x skills interactions primarily emerged for cognitive framing (i.e., 3 out of 4 significant interactions were with framing rather than advice; Study 2; Table 12), suggesting that the effects of cognitive framing may particularly hinge on adolescents' social skills strengths and weaknesses, whereas the effects of behavioral advice may be somewhat more uniform across skills levels.

This focused examination of particular aspects of parental social coaching during early adolescence (as called for by parenting researchers; McKee et al., 2008; O'Connor, 2002) advances our understanding of parenting in the peer domain. Identifying the content of parent-adolescent discussions about peers is a first step toward clarifying how parent socialization efforts can be most effective. Interventions may be aimed at instructing parents about prosocial behavioral advice and benign cognitive framing, since (as the present study suggests) both may promote positive peer development.

Aim 2: Behavioral and Cognitive Dimensions of Adolescent Social Skills

The present study aimed to make a related distinction between behavioral and cognitive dimensions of adolescent social skills, in order to better dissect the complex effects of coaching on adolescent peer and psychological adjustment. Again, context-specific (i.e., lab-based observations and reports during a peer evaluative conversation task; Study 1) and context-general assessments (i.e., self, parent, and teacher reports; Study 2) were used to rigorously test the relatedness of social-behavioral and social-cognitive skills across contexts and samples. As hypothesized, and in support of the premise that skills dimensions are related but not redundant, context-specific indices of social-behavioral skills and social-cognitive skills were moderately positively associated in Study 1 (Table 2) and context-general measures were moderately positively associated at both time points in Study 2 (Table 3).

Social-behavioral skills involve youths' conduct with peers (e.g., prosocial behavior, conversation skills; Bierman, 2004; Bierman et al., 2010; Parker et al., 2006), which is a robust predictor of peer liking (Aikins & Litwack, 2011; Newcomb et al., 1993; Rubin et al., 2006). On the other hand, social-cognitive skills include effective social information-processing (e.g., accurate interpretation of social cues, peer response planning; Crick & Dodge, 1994) and are also

linked with peer adjustment (for a review, see Ryan et al., 2012). Although social cognitions may underlie and support effective social behavior, the two dimensions may also be somewhat distinct features of adolescent peer competence. For example, an adolescent may generate a prosocial behavioral response plan (i.e., social-cognitive skills), yet lack the behavioral skills to execute the plan and elicit positive peer responses. Some empirical support for this distinction exists, with a small mean effect size in a meta-analysis of links between hostile attributions and aggressive behavior (Orobio de Castro et al., 2002). Also, Erath et al. (2007) found only a modest positive correlation linking adolescents' social performance expectations and observed conversation skills, and McMahon et al. (2013) reported no association between prosocial behavior and self-efficacy.

In addition to moderate correlations between social-behavioral and social-cognitive skills in the present study, consistent patterns of coaching x skills interaction effects (Aim 4) reinforce the notion of distinct skills dimensions. Two parent coaching x *social-behavioral* skills interactions provided support for a remediation model, such that youths with lower social-behavioral skills benefited most from parental social coaching (Figures 5 and 6). In contrast, parent coaching x *social-cognitive* skills interactions demonstrated that coaching promoted peer acceptance for adolescents with higher social-cognitive skills, in line with a capitalization model (Figures 7 and 8). These patterns suggest that social-behavioral and social-cognitive skills may be unique targets for intervention, as discussed below.

The present study indicates that adolescent social behavior and social cognitions are related but separable dimensions of social skills. Indeed, self-efficacy, positive social appraisals, and social response planning are linked with higher prosocial behavior and better conversation abilities, but cognitive and behavioral dimensions may also represent somewhat independent

facets of adolescent social functioning that can be targeted separately by parental social coaching. As such, parents may benefit from instruction about the separate skills and identification of their child's strengths and weaknesses in each skills dimension.

Aim 3: Independent Effects of Parental Social Coaching

Coaching predicting social skills (Aim 3a). We hypothesized that parents' behavioral advice and cognitive framing would be directly linked with adolescents' better concurrent social-behavioral and social-cognitive skills, but would more strongly predict increases in social skills. We expected that concurrent associations would be weakened by adolescent effects on parental coaching (e.g., weaker adolescent social skills prompting higher-quality coaching), whereas prospective associations would limit adolescent-driven effects by controlling for prior levels of social skills. As anticipated, parent behavioral advice was linked separately with higher social-behavioral and social-cognitive skills, using context-specific measures of coaching and skills in Study 1 (Table 4). Additionally in Study 2, cognitive framing was associated with higher concurrent social-behavioral skills, using context-general indices of coaching and skills (Table 5). Thus, in three out of eight possible cases, a dimension of coaching was linked with higher levels of concurrent skills. However, contrary to expectations, coaching did not predict change in social skills from T1 to T2 in any regression models in Study 2 (Tables 5 and 6).

This is the first known study to take an intensive examination of concurrent and longitudinal links between behavioral and cognitive dimensions of parental social coaching and adolescent social skills. Tentative evidence emerged for concurrent associations, but coaching did not predict prospective increases in skills. This is consistent with a handful of other studies linking coaching with concurrent levels of preschoolers' better general social skills (Mize & Pettit, 1997), preschoolers' more prosocial behavior (Pettit et al., 1998), and elementary

children's better general social skills (Mikami et al., 2010b). In contrast with the only other known study that found coaching predicted increases in adolescents' prosocial behavior from seventh to eighth grade (Poulin et al., 2012), the present study did not substantiate such a longitudinal link. However, social-behavioral and social-cognitive skills are both multi-faceted dimensions, and the present study only measured a few features of each and did not include any negative measures of behavior or cognition. It is plausible that coaching may predict increases in other positive forms of social behavior (e.g., social approaching behaviors, conversation skills) or social cognitions (e.g., evaluation of past performance, response planning) not measured in Study 2. Additionally, coaching may reduce negative social behaviors (e.g., aggression, avoidance) or social cognitions (e.g., hostile attributions). Furthermore, coaching about peer challenges may especially predict adolescent responses to peer challenges or coping strategies, as a dimension of social competence, rather than more general levels of prosocial behavior and positive social cognitions as assessed in Study 2. As tentative evidence of these more specific effects of coaching about peer challenges, behavioral advice *about negative peer evaluation* was linked with adolescents' better conversation skills and social self-efficacy and response planning *in a peer evaluation situation* (Table 4). Thus, stronger associations emerged linking coaching with context-specific skills (2 out of 4 possible instances; Study 1) than with context-general skills (1 out of 8 possible instances; Study 2). Future studies should examine coaching as a predictor of various features of general positive and negative social-behavior and social-cognition, as well as coping strategies and responses to particular peer challenges.

The lack of longitudinal associations between parent coaching and adolescent skills might also help to clarify the somewhat confusing link between higher-quality coaching and *lower* concurrent and prospective prosocial behavior among elementary children found by

McDowell and Parke (2009). In their longitudinal analyses, McDowell and Parke (2009) did not control for prior levels of prosocial behavior. In contrast, the present study controlled for T1 levels of social skills and found no association between coaching and T2 skills. Thus, as speculated by McDowell and Parke (2009), this negative link between coaching and skills may represent an adolescent-driven effect, such that adolescent social problems, which remain relatively stable across middle to late childhood (Ladd, 2006), may prompt more frequent and elaborate parental social coaching. With the existing evidence, we may tentatively conclude that although high-quality parental social coaching does not appear to predict increases in social skills using the measures in the present study, it also does not unintentionally backfire and stunt the natural development of social skills (e.g., Mounts, 2008).

In the present study there may have been minimal change in social-behavioral and social-cognitive skills, leaving relatively little room for parental influence. Both skills dimensions were moderately stable across the transition to middle school (Table 3), consistent with a number of studies across childhood and adolescence demonstrating stability in socially competent behaviors and cognitions (e.g., Obradovic, van Dulmen, Yates, Carlson, & Egeland, 2006; Wentzel, 2014; for reviews see Ladd, 1999; Parker et al., 2006). Social skills are shaped by stable temperamental and genetic factors (e.g., Plomin, 1994; Rothbart & Bates, 2006; Sanson, Hemphill, & Smart, 2004), as well as early environmental features (e.g., parenting at younger ages, early peer experiences) and thus may be somewhat established and steady during early adolescence, narrowing the opportunity for parents to intervene.

As further explanation for the lack of findings linking coaching with growth in skills, the present study represents a fairly conservative assessment of the influence of parental social coaching, since analyses controlled for general positive parenting (i.e., parent positive

involvement; Study 2). Parent positive involvement was associated with higher concurrent social-behavioral and social-cognitive skills at the bivariate level (Table 3); thus, positive parenting also appears to be a notable factor related to adolescents' social skills. Perhaps other aspects of general parenting (e.g., parenting style) may moderate the association between coaching and adolescents' prospective social skills. As one example of the moderating effect of parenting style (i.e., emotional climate), Gregson et al. (revise-resubmit) found that in a positive emotional climate (i.e., high warmth, low hostility), compared to a negative emotional climate, parental social coaching more strongly predicted adolescent receptivity to coaching. Indeed, the positive emotions generated by interacting with a warm, involved parent may allow an adolescent to flexibly explore a range of cognitive and behavioral skills approaches in coaching conversations, whereas negative emotions restrict this range (broaden-and-build theory; Fredrickson, 2001). In addition to emotional climate, a second aspect of parenting style, degree of autonomy support, may also affect the link between coaching and social skills development. In related research, parents' autonomy-supportive style of prohibiting adolescent friendships was related to fewer deviant peer relationships (Soenens, Vansteenkiste, & Niemiec, 2009) and less defiance of parental rules about peers (Vansteenkiste, Soenens, Van Petegem, & Duriez, 2014), whereas a controlling style of prohibition predicted more deviant peer relationships (Soenens et al., 2009) and greater defiance (Vansteenkiste et al., 2014). Similarly, coaching that is given in the context of an autonomy-supportive parenting style, compared to a controlling parenting style, may be more effective for social skills development. As tentative evidence of negative effects of a controlling coaching style, Poulin et al. (2012) found that parents' intrusive style during a parent-adolescent discussion about peer stressors was associated with lower concurrent and prospective prosocial behaviors.

Thus, a combination of both positive parenting style (e.g., warm emotional climate, autonomy-support) and higher-quality parental social coaching (i.e., coaching x style) may be optimal to promote adolescent engagement with coaching and improved social skills. Adolescent characteristics may also moderate links between coaching and social skills. For instance, youths who resist parental involvement may disengage during coaching conversations and not receive the intended benefits (i.e., coaching x adolescent receptivity). Another possibility is that coaching could be more influential among adolescents who already experience social anxiety or peer victimization (i.e., coaching x adolescent peer experiences). Given the complexity of parenting in the peer domain and adolescent social development, future studies should consider a variety of other pathways linking coaching and skills, including (1) parental social coaching x parenting style (e.g., emotional climate, autonomy support), and (2) coaching x adolescent characteristics (e.g., receptivity to coaching, negative peer experiences).

Coaching predicting peer acceptance (Aim 3b). It was anticipated that behavioral and cognitive dimensions of coaching would be uniquely associated with better concurrent peer acceptance, but would more strongly predict prospective peer acceptance, again because concurrent analyses were unable to rule out adolescent effects and thus may be dampened by adolescent peer problems driving greater coaching efforts (similar to Aim 3a). Consistent with hypotheses, benign cognitive framing was linked with higher concurrent peer acceptance, and both benign cognitive framing and prosocial behavioral advice predicted higher T2 peer acceptance controlling for T1 acceptance (Study 2; Table 7). Prior studies linking parental social coaching with peer acceptance (or other indices of peer adjustment) have yielded contradictory positive and negative associations. A few studies found coaching associated with better concurrent peer adjustment among preschoolers (Finnie & Russell, 1988; Mize & Pettit, 1997;

Pettit et al., 1998; Russell & Finnie, 1990), elementary children (Mikami et al., 2010b), and adolescents (Poulin et al., 2012). Poulin et al. (2012) also tested links between positive coaching and multiple indices of prospective peer adjustment, controlling for T1 peer adjustment, but no significant effects emerged. Conversely, other studies among children in middle childhood have shown a reverse effect, whereby coaching predicted *lower* concurrent (Mikami et al., 2010a) and prospective peer adjustment (McDowell et al., 2003; McDowell & Parke, 2009). However, McDowell and colleagues' longitudinal studies did not control for T1 peer adjustment, and thus were unable to separate adolescent- from parent-driven effects. Thus, this is the first known study among young adolescents to find that parental social coaching predicted higher peer acceptance over one year, controlling for previous levels of acceptance. This noteworthy finding, with a conservative longitudinal design, helps confirm McDowell and colleagues' speculation that their studies' negative links may represent adolescent negative peer experiences driving greater parental coaching efforts.

The current longitudinal findings are especially remarkable, considering the moderate stability of peer acceptance across one year (Table 3). Kingery and Erdley (2007) also found peer-rated acceptance and number of friends and adolescent-reported friendship quality to remain moderately stable among young adolescents (*r*s ranged from .33 to .59, *p*s < .01; also see Ladd, 1999; Parker et al., 2006 for reviews). Peer reputations and liking are often resistant to change during adolescence, even when non-parental interventions effectively improve youths' social skills (Bierman, 2004; La Greca & Santogrossi, 1980; Mrug, Hoza, & Gerdes, 2001). This immovability in peer status may be partly due to peers attributing disliked adolescents' positive social behavior to circumstances (e.g., "He only acted friendly because the teacher was watching") and negative/awkward social behavior to the youth's traits (e.g., "She didn't talk to

me because she's stuck up;" Dodge, 1980; Hymel, 1986). Although persistent peer reputations limit parents' ability to influence their children's social adjustment, some malleability in peer acceptance remains, especially across the transition to middle school (as assessed in Study 2). With multiple elementary schools feeding into one middle school, along with school classes becoming departmentalized (by subject and ability), peer group composition shifts (Barber & Olson, 2004) and disruptions to adolescents' existing friendships often occur (e.g., Eccles et al., 1993; 1996), creating opportunities for change in peer acceptance. Indeed this period might be a particularly influential window for parental intervention, as indicated by the present study.

Furthermore, these social benefits are notable since parental social coaching was restricted to peer challenge situations (i.e., peer exclusion, anxiety about meeting new peers, trouble making friends; Study 2), and yet predicted peer acceptance, a broad outcome, which is based on a wide variety of peer interactions. Although peer stress experiences constitute the minority of adolescents' social interactions, youths' responses to peer stress may be a notable factor contributing to positive or negative social adjustment (Erath & Tu, 2014). For example, problem-solving responses to hypothetical social stressors (Zimmer-Gembeck, Lees, & Skinner, 2011) and problem-directed coping strategies during a conversation challenge task (Erath et al., 2007) were linked with higher peer acceptance. In contrast, aggression in response to peer exclusion was associated with lower peer liking (Sandstrom, 2004). Thus, young adolescents' engaged, constructive responses to peer challenges may generate positive peer perceptions, whereas negative responses may repel peers, suggesting that social stress responses may be an important target for parental intervention.

As can be expected, due to the moderate stability of peer acceptance and to multiple other factors influencing peer liking (e.g., negative social behaviors, shifts in peer group composition,

etc.), parental coaching (behavioral advice and cognitive framing) explained a relatively small 1.9% of variance in T2 peer acceptance (Table 7). The present study used a conservative design, controlling for T1 peer acceptance and general positive parenting (i.e., parent positive involvement), in order to more accurately depict the unique influence of parental social coaching. As reviewed in the prior section (Aim 3a), the effects of coaching may also depend on other aspects of parenting (e.g., style) or adolescent characteristics (e.g., receptivity, social experiences).

The mechanism linking coaching and peer acceptance remains to be clarified. As one possibility, coaching may lead to improved social behavior, which in turn stimulates peer liking. However, there is little evidence in the present study suggesting that coaching changes general social skills over time (see also section above, Aim 3a). In Study 2, we only assessed parent- and teacher-reported prosocial behavior (i.e., social-behavioral skills) and adolescent-reported social self-efficacy and appraisals (i.e., social-cognitive skills); thus, it may be that coaching does affect other forms of adolescent social skills (e.g., conversation abilities, approach behavior, social response planning), which in turn improve peer acceptance. In addition, coaching may serve to reduce negative social behaviors (e.g., avoidance, aggression), thereby decreasing peer *disliking*. As an alternative mediator linking coaching with peer acceptance, parental coaching may help adolescents to apply their existing social skills in new ways (e.g., initiating conversation with a different set of peers) or to different peer challenges (e.g., meeting new peers, exclusion). Such improvements in adolescent social functioning may not be reflected in parent or teacher reports of general prosocial behavior (i.e., social-behavioral skills; Study 2), even if these improvements help youths deal with peer challenges in ways that elicit greater peer acceptance. Perhaps peer ratings of adolescent social-behavior and self-reports of coping responses may help illuminate if

coaching functions to improve adolescents' responses to peer stress, and thereby promote peer liking.

As a first attempt to help explain inconsistent effects of coaching from previous studies and uncover the importance of parent-adolescent conversations about peers during early adolescence, the present study substantiates the positive influence of coaching. Although adolescents may be reticent to disclose to parents about their peer relationships (Smetana et al., 2009) and resistant to parental authority over peer issues (Darling et al., 2008; Smetana, 2000; Smetana et al., 2005), parents' advice about how to act with peers and interpretive suggestions about how to think about peer situations may yet support peer group acceptance. These important findings, strengthened by the multi-informant study design, underscore the role of parents for positive social development during early adolescence.

Coaching predicting internalizing problems (Aim 3c). Although the existing empirical evidence for associations between parental social coaching and adolescent psychological adjustment is scarce, we cautiously hypothesized that parents' behavioral advice would be linked with higher concurrent and prospective internalizing problems, based on a similar model of parenting in the academic domain (Pomerantz & Eaton, 2000; Pomerantz et al., 2014). Contrary to expectations, behavioral advice did not predict T1 or T2 internalizing problems (Study 2; Table 8). However, cognitive framing was associated with fewer concurrent internalizing problems (Table 8). Since this negative link between cognitive framing and internalizing behaviors only occurred in concurrent analyses, the direction of effects remains to be determined. As one possibility, parents' benign, positive messages about youths' social competence and peer experiences (i.e., cognitive framing) may lessen adolescent anxiety and depressive symptoms (which could relate to more negative interpretations of the self and peers;

Bandura et al., 1999). Alternatively, when an adolescent displays fewer internalizing behaviors, a parent may perceive her as more socially competent and feel less anxious about her interactions with peers, enabling them to emphasize her social capabilities and offer optimistic interpretations of peers (i.e., cognitive framing). This second possibility is somewhat more likely, since cognitive framing did not predict decreases in T2 internalizing problems in the present study (Table 8). However, future studies should examine this link between cognitive framing and psychological adjustment, teasing out the direction of effects and any potential mediators (e.g., adolescent social-cognitive skills, coping responses).

The hypothesized association between parent behavioral advice and higher internalizing problems was not substantiated in the current study. Such an unintended negative effect of parenting was found in the academic domain, with higher parental guidance (i.e., helping, monitoring, decision-making) associated with children's perceptions of academic incompetence (Pomerantz & Eaton, 2000). Similarly, we expected that elaborate and frequent behavioral advice about how to interact with peers may undermine adolescents' social self-efficacy, thereby cultivating anxiety or self-doubt. The potentially negative effects of parents' coaching (or guidance) on children's psychological experiences may not translate across domains of child development, from academic to social. Nevertheless, tentative evidence exists for negative psychological consequences of parenting in the peer domain, with mothers' frequent and elaborate social advice linked with higher concurrent depression and loneliness, and fathers' advice predicting increases in loneliness among a sample of third graders (McDowell et al., 2003). In the present study, internalizing problems were measured only with parent and teacher reports (rather than adolescent). Thus, future longitudinal studies may benefit from including both self and parent reports of internalizing problems (van de Looij-Jansen, Jansen, de Wilde,

Donker, & Verhulst, 2011), as well as additional assessments of parent behavioral advice (e.g., observed-behavioral, adolescent-report), to clarify whether there are indeed any psychological risks (or benefits) of parental social coaching.

Consistent with other research demonstrating the stability of internalizing problems among young adolescents (Reitz, Dekovic, & Meijer, 2005), T1 and T2 levels of internalizing problems were highly correlated in the present study (Table 3). With minimal change in depression and anxiety symptoms, as well as multiple other social, familial, and contextual factors affecting adolescents' internal state (e.g., Buehler & Gerard, 2013; Reijntjes et al., 2010; Rudolph et al., 2011; van Oort et al., 2011), parental social coaching may not exert a profound influence, especially in the course of one year. Furthermore, since social coaching is limited in scope, confined to discussions about peers and difficult social encounters, its direct effect on psychological adjustment, a broad area of adolescent development, may be negligible. Perhaps instead, the association between coaching and psychological adjustment may be accounted for by other related parenting variables (e.g., warmth; Laird et al., 1994; McDowell & Parke, 2009; Mikami et al., 2010a). Another possibility is that peer acceptance mediates the relation between coaching and psychological adjustment (see Bagwell et al., 1998; Parker & Asher, 1987 for links between social and psychological adjustment). Indeed, the present study found that coaching significantly promoted peer acceptance (Table 7), and peer acceptance and internalizing problems were negatively associated at the bivariate level (Table 3), which support the potential existence of a mediation model. These cascade effects may be better modeled over several years, with multiple methods and reporters of coaching and peer and psychological adjustment.

Aim 4: Interactive Effects of Coaching/Involvement x Skills

For the final aim, we examined parental social coaching dimensions x adolescent social skills dimensions as predictors of adolescent peer acceptance, and parent positive involvement x adolescent social skills dimensions as predictors of adolescent internalizing problems (Study 2). Indeed, four (out of eight possible) coaching x skills interactions were associated with peer acceptance (Table 12), supporting our expectation that the social effects of coaching may depend on adolescent skills strengths or weaknesses. Additionally, one (out of four possible) parent involvement x skills interactions predicted internalizing problems (Table 13), tentatively suggesting that the psychological effects of general positive parenting may also vary by adolescent skills levels.

Remediation model. We expected that coaching by skills interactions would provide support for a remediation model, which suggests that coaching is more strongly linked with better peer acceptance among adolescents with lower social skills, compared to youths with higher social skills. As anticipated, two significant coaching x skills interactions emerged in support of the remediation model. Cognitive framing was associated with higher concurrent peer acceptance among adolescents with lower social-behavioral skills, but not among adolescents with higher social-behavioral skills (Figure 5). Similarly, cognitive framing predicted higher T2 peer acceptance among adolescents with lower social-behavioral skills, but not among adolescents with higher social-behavioral skills (Figure 6). These interaction effects are consistent with the social skills training model, based on social learning theory (Bandura, 1977b), and suggest that targeting children's behavioral and cognitive skills deficits leads to improved social interactions and related increases in peer liking (Elliott & Gresham, 1993; Ladd & Mize, 1983). One other study of parental social coaching demonstrated a similar deficit-

focused, parent effect, such that mothers' positive social coaching protected relationally aggressive preschoolers from normative increases in relational aggression (Werner et al., 2014).

It is noteworthy that the present study found remediation effects only for the cognitive framing x social-behavioral skills interaction, predicting both concurrent and prospective peer acceptance. Indeed, youths with low social-behavioral skills may otherwise tend to think and behave defensively (e.g., withdraw, aggress) in stressful peer situations due to existing peer problems (related to their behavioral deficits). Thus parents' benign, positive interpretations of self and peers (i.e., high-quality cognitive framing) may provide these adolescents with an optimistic, confidence-building framework, lessening their predisposition toward defensive reactions. With reduced fears about stressful peer encounters and bolstered social self-confidence, these youths may begin to behave more competently in challenging peer situations, resulting in increases in peer acceptance. Future longitudinal studies should test whether cognitive framing leads to improvements in social-behavioral skills and coping strategies, especially among low-skilled adolescents, and thereby increases peer acceptance.

Capitalization model. In partial contrast with expectations, two coaching x skills interactions provided support for the capitalization model, which suggests that coaching is more strongly linked with peer acceptance among youths with higher social skills, compared to lower social skills. Behavioral advice predicted higher T2 peer acceptance among adolescents with higher levels of social-cognitive skills, but not among youths with lower social-cognitive skills (Figure 7). Additionally, cognitive framing predicted higher T2 peer acceptance among adolescents with higher social-cognitive skills, but not lower social-cognitive skills (Figure 8). These findings are consistent with a "vantage sensitivity" theoretical framework, which theorizes

that some children may be more responsive to supportive environmental conditions (Pluess & Belsky, 2013).

In contrast with remediation effects that occurred for coaching x *social-behavioral* skills interactions, capitalization effects only emerged with *social-cognitive* skills as the moderator. Youths who report higher social self-efficacy and positive social appraisals (i.e., higher social-cognitive skills) may be positioned to benefit from coaching in three unique ways: engagement in coaching conversations, recognition of the message's credibility, and efficaciousness to utilize the advice. Indeed, youths who appraise social situations more positively may experience lower anxiety about peer challenges, allowing them to be more receptive in coaching conversations, whereas more negative social appraisals and accompanying fears may preclude attentive engagement. Additionally, adolescents with higher social-cognitive skills may more easily recognize the credibility of positive coaching messages (e.g., prosocial suggestions, benign interpretations), since they are consistent with their own existing perspective, and thus be inclined to utilize the advice. Thirdly, higher social self-efficacy may equip this subset of adolescents to put behavioral suggestions into practice. Thus, high-quality coaching may cultivate more positive peer behaviors and boost peer liking, particularly among these receptive, socially efficacious adolescents. In contrast, youths with less positive social-cognitions may find positive and benign coaching suggestions less credible, since they conflict with their existing perspective. Again, longitudinal studies should assess parental social coaching as a predictor of growth in social-behavioral skills or coping responses to peer challenges and thereby improved peer adjustment, especially among young adolescents with more positive social cognitions.

Psychological protection model. In addition to coaching x social skills interaction effects, we also hypothesized that parent positive involvement x social skills interactions would

support a psychological protection model, such that involvement would be more strongly linked with fewer internalizing problems among adolescents with social-behavioral or social-cognitive skills weaknesses. One such interaction emerged in partial support of a psychological protection model. Parent positive involvement was linked with lower concurrent levels of internalizing problems among adolescents with lower social-behavioral skills (i.e., psychological protection effect), but involvement was associated with more internalizing problems among youths with higher social-behavioral skills (i.e., unexpected effect; Figure 9). This tentative psychological protection effect suggests that general positive parenting, which robustly predicts better psychological outcomes (Khaleque, 2013; McKee et al., 2008), may be especially beneficial among youths with social-behavioral skills weaknesses, who may experience anxiety or depressive symptoms related to negative peer exchanges (Parker et al., 2006). These less socially competent adolescents may rely more exclusively on positive interactions with their parents to stimulate feelings of self-worth. Nevertheless, since this parenting x skills interaction only emerged as a predictor of concurrent internalizing problems, causality remains unclear. Alternatively, when adolescents exhibit fewer anxiety and depressive symptoms (i.e., lower internalizing problems), parents may more easily engage in positive affect and activities with them, especially when their child has behavioral skills deficits and perhaps fewer positive peer interactions.

The other part of this positive involvement x social-behavioral skills interaction effect (i.e., positive involvement predicting greater internalizing problems among adolescents with higher social-behavioral skills; Figure 9) was unexpected and difficult to interpret. Overall, a parent positive involvement x adolescent social skills interaction only emerged as a significant predictor of internalizing problems in one out of four possible cases, and it should be interpreted

with caution, pending replication. In the present study, parent positive involvement was not associated with internalizing problems in any regression models (Table 13), which is inconsistent with the large body of research linking positive parenting with adolescent psychological adjustment (Khaleque, 2013; McKee et al., 2008). Thus, the current assessment of parent positive involvement may be a relatively weak indicator of positive parenting, due to our use of parent (rather than adolescent) reports and the absence of other aspects of positive parenting (e.g., warmth, autonomy-support). Future studies should obtain other assessments of positive parenting and test parenting x social skills interactions to determine whether positive parenting does indeed buffer youths with skills weaknesses from developing internalizing symptoms.

Exploratory Aim 3d: Types of Effects

An exploratory aim of the present study was to categorize associations linking behavioral and cognitive coaching dimensions with behavioral and cognitive social skills dimensions as (1) differential versus similar (Caron et al., 2006), and (2) matched versus unmatched. No hypotheses were made, due to scarce and inconsistent existing evidence. Behavioral advice and cognitive framing both were similarly associated with social-behavioral and social-cognitive skills, using context-specific indices of coaching and skills (Table 4). Likewise, with context-general indices of coaching and skills, behavioral advice was similarly (but not significantly) associated with T1 or T2 social-behavioral and social-cognitive skills (Tables 5 and 6). However, one differential effect emerged: benign cognitive framing was significantly related to better concurrent social-behavioral skills, but not related to concurrent social-cognitive skills. This also qualifies as an unmatched effect, i.e., *cognitive* framing with social-*behavioral* skills. Although no other known studies have linked behavioral and cognitive coaching dimensions with behavioral and cognitive skills dimensions, there is some tentative support for this cross-

dimension link between cognitive framing and social-behavioral skills. Indeed, van Manen et al. (2004) demonstrated that a social-cognitive intervention produced greater decreases in adolescent boys' aggressive behavior than no treatment, and Mize and Pettit (1997) found associations between cognitive framing and preschoolers' lower aggression.

Stronger cross-dimension associations may suggest that concentrating interventions on adolescent social skills deficits may be insufficient. Instead, focusing on a complementary skill may increase the efficacy of parental social coaching, perhaps because this builds on existing strengths or perhaps because this merely redirects attention away from the adolescent's insecurities. This may be similar to a strengths-based approach found in social work, counseling, and educational psychology literature, which assumes that an individual's "greatest opportunity for development lies in leveraging natural talents rather than merely remediating his or her weaknesses" (Passarelli, Hall, & Anderson, 2010, p. 122). In the present study, parents' benign, positive interpretations about peer challenges, while not explicitly aimed at behavioral deficits, were linked with more prosocial behavior. Since this association occurred in a concurrent analysis, the direction of effects is unclear. It is also plausible that when adolescents already interact with peers in an engaging, friendly manner, their parents perceive social challenges as less concerning and are able to provide more positive interpretations. Overall, this differential, unmatched effect between cognitive framing and social-behavioral skills should be interpreted with caution, since it only emerged in one out of three possible cases (of cognitive framing linked with skills outcomes).

Exploratory Aim 3e: Coaching x Sex

As a final exploratory aim, we tested adolescent sex as a moderator of associations between parent coaching and adolescent outcomes (i.e., social skills, peer acceptance, and internalizing problems). Scarce studies have examined sex differences in the effects of coaching among young adolescents; thus, we did not set forth hypotheses. Although coaching x sex interactions did not emerge for context-specific indices of coaching and social skills (Study 1), the associations between context-general coaching and adolescent outcomes did differ for boys and girls in four cases (Study 2). Three interactions suggest that coaching may be more strongly associated with social behavior and acceptance among boys than girls. Behavioral advice was linked with better concurrent social-behavioral skills among boys, but not among girls (Figure 1). Similarly, cognitive framing was associated with better concurrent social-behavioral skills among boys, but not among girls (Figure 2). Finally, cognitive framing predicted higher T2 peer acceptance among boys, but not among girls (Figure 4). In contrast, modest evidence suggests that cognitive framing may be more strongly related to social-cognitive skills among girls, than boys, with cognitive framing linked with girls' higher concurrent social-cognitive skills, but marginally linked with boys' lower concurrent social-cognitive skills (Figure 3).

The current findings largely stand in contrast with other coaching-related sex differences among younger children (preschoolers and elementary-age), showing greater effects among girls than boys. In three instances, higher-quality coaching more strongly predicted preschool girls' higher peer acceptance and social skills and lower aggression (Mize & Pettit, 1997), preschool girls' higher social skillfulness (Pettit et al., 1998), and elementary girls' lower rejected peer status (Mikami et al.,. 2010b), compared with boys. Although parental social coaching may be more influential among preschool and elementary girls, the present study tentatively suggests

that a shift occurs by early adolescence, such that adolescent boys may benefit more from parental intervention. Perhaps younger girls may be more shaped by coaching, since parents of preschoolers tend to focus on interpersonal issues with girls, but task performance with boys (Huston, 1983; Mize & Pettit, 1997). However, as children enter the teen years, coaching may be more effective with boys due to sex differences in social behavior and social cognitions. Indeed, peer-related sex differences become pronounced during early adolescence (Rose & Rudolph, 2006), with girls displaying more prosocial behavior and spending more time in social conversation (i.e., social-behavioral skills), as well as receiving more favorable peer ratings than boys (Vernberg et al., 1993; Vernberg, Greenhoot, & Biggs, 2006; for reviews, see Parker et al., 2006; Rose & Rudolph, 2006). Indeed, concurring evidence in the present study shows that girls were rated higher in prosocial behavior and peer acceptance, compared with boys (Table 3; although girls and boys did not differ on conversation skills; Table 2). Thus, boys may have more room for improvement in social behavior and peer acceptance, and may stand to benefit more from behavioral advice and cognitive framing suggestions, as indicated by three interactions in the present study (Figures 1, 2, and 4). Furthermore, girls, who are especially attuned to the peer environment (Rose & Rudolph, 2006), may perceive coaching as somewhat less necessary and thus disengage during conversations with their parents about peers, consistent with Darling et al. (2008) who found girls were more dismissive of parents' authority in the peer domain.

In contrast, the present study also found a stronger link between cognitive framing and social-cognitive skills among girls than boys (Figure 3). Although adolescent girls exhibit more prosocial, friendly behavior than boys, they also place greater emphasis on maintaining relationship intimacy and resolving peer problems, which may lead them to worry more about

social approval, evaluation, or rejection (Rose & Rudolph, 2006). Indeed, girls report greater social anxiety and concerns about peer evaluation in early adolescence (LaGreca & Lopez, 1998; Rudolph & Conley, 2005; Storch, Brassard, & Masia-Warner, 2003). Thus, parents' positive, confidence-building interpretations about the self and peers (i.e., cognitive framing) may help adolescent girls improve their view of themselves and potentially stressful peer interactions (i.e. higher social-cognitive skills). Since this interaction only occurred in a concurrent regression model, the alternative direction of effects is possible, such that when girls perceive themselves and peers more positively (i.e., higher social-cognitive skills), parents are less worried about peer stressors and able to provide more high-quality cognitive framing.

Overall, exploratory sex differences in the present study should be interpreted with caution due to their exploratory nature, scarce prior research among young adolescents, and lack of replication across context-specific (Study 1) and context-general (Study 2) measures of coaching and skills. Furthermore, significant coaching x sex interactions were only found in 3 out of 8 cases predicting social skills, 1 out of 4 cases predicting peer acceptance, and 0 out of 4 cases predicting internalizing problems. Finally, the sex difference in the link between coaching and peer acceptance (Figure 4) should be considered in light of the main results of the present study, which indicated that effects of coaching on peer acceptance may depend on adolescent social skills (Aim 4). However, the sample size of the present study precluded reliable tests of three-way interactions among parental coaching, adolescent social skills, and adolescent sex.

Other longitudinal studies may be able to model shifts in the effects of coaching for boys and girls from early childhood to adolescence. Additionally, future studies should examine sex differences in adolescents' receptivity to coaching (see Darling et al., 2008), since this might alter parents' influence. Finally, other researchers should test three-way interactions between

coaching, peer stress levels, and adolescent sex, since boys and girls may differ in amount of interpersonal stress during adolescence (Hankin, Mermelstein, & Roesch, 2007; Rudolph & Hammen, 1999; see Abaied & Rudolph, 2010 for a similar parenting x peer stress x adolescent sex interaction).

Measurement of Parental Social Coaching

The present study makes a novel contribution to parental social coaching literature by using two unique indices of coaching, assessed at different levels of context: context-specific and context-general. Parental coaching was observed during a parent-adolescent discussion about a particular social stressor, negative peer evaluation (context-specific; Study 1); additionally, parents reported about how they would coach their child in three hypothetical, normative peer stress scenarios (context-general; Study 2). Lab-based observations provide a more objective picture of real-time parent coaching in response to an actual perceived peer stressor. However, the contrived situation (e.g., lab setting, video equipment) and artificial timing of coaching (e.g., giving advice *in the midst* of a peer stress situation, as opposed to a more naturalistic conversation in the car after school) limit the generalizability of context-specific measures. Thus, lab-based measures of coaching in response to particular peer challenges may primarily relate to adolescent functioning in those challenges (as indicated in the present Study 1). To capitalize on strengths and compensate for weaknesses of each measure, we additionally used context-general reports about parental coaching, which encompass a wide range of advice and framing across normative, developmentally-salient peer challenges. However, parent reports of coaching may be inflated, reflecting ideal or imagined behavior, or could more accurately represent parental social knowledge, which may be only modestly related to parents' behavior (Mize, Pettit, & Brown, 1995).

Indeed, the two coaching assessments may complement each other, giving a fuller picture of parent-adolescent conversations about peer stress. However, with all of their differences, observed and parent-reported coaching may be weakly related or unrelated indices of coaching behavior (see Gregson et al., revise-resubmit). These assessment differences may help explain somewhat inconsistent effects of observed versus parent-reported social coaching found in prior studies (e.g., Finnie & Russell, 1988; Russell & Finnie, 1990), as well as the lack of replication across Studies 1 and 2 of unique links between coaching and social skills (Tables 4, 5, and 6) and interactions between coaching and adolescent sex predicting social skills (Tables 9 and 10). Indeed, caution is warranted when using a single measure of coaching. Future researchers should utilize a variety of reporters (e.g., adolescent, mother, father) and methods (e.g., observational, questionnaire, daily diary), as well as examine various facets of coaching (e.g., quantity, quality, length and setting of discussion, initiator).

In addition to the multi-method assessments of coaching in the present study, we also distinguished two unique dimensions of parental coaching: behavioral advice and cognitive framing. This is in line with parenting researchers' recommendation to dissect parenting behaviors so that more complex and specific links with child outcomes can be examined (McKee et al., 2008; O'Connor, 2002). As noted previously, behavioral advice instructs adolescents about how to *act* in challenging peer situations, whereas cognitive framing offers ways to *think* about peer challenges. The present findings suggest that behavioral advice and cognitive framing are distinct dimensions, and parents' suggestions in one category may not relate to their advice in the other. Although one other study has assessed these two dimensions among parents of preschoolers (Mize & Pettit, 1997), this is the first known study to separate advice and framing among young adolescents. Future studies should attempt to further distinguish positive and

negative features of behavioral advice (e.g., general suggestions about being kind or friendly, how to approach new peers, conversation tips, aggressive or avoidant advice) and cognitive framing (e.g., positive appraisals of ambiguous social situations, affirmations of the child's social competence, hostile attributions). Finally, other researchers may want to measure an additional third dimension of parental social coaching, affective attunement, which could represent parents' engagement with their child during coaching conversations, sensitivity to their emotions, empathy for their experience, and affirmation of their needs and desires.

Developmental Setting of Coaching

As reviewed, early adolescence marks a transitional period of development, with increasing social concerns (Westenberg et al., 2007), social-structural changes (Eccles et al., 1993; 1996; Larson & Richards, 1991), individual developments in abstract reasoning (Parker et al., 2006), and not least of all, heightened resistance to parental involvement in peer relationships (Darling et al., 2008; Smetana, 2000; Smetana et al., 2005). All of these factors complicate parent-adolescent coaching conversations, especially about stressful peer situations. Studies of parental social coaching have primarily focused on preschool and elementary-age children (Finnie & Russell, 1988; Hane & Barrios, 2011; McDowell et al., 2003; McDowell & Parke, 2009; Mikami et al., 2010a; 2010b; Mize & Pettit, 1997; Russell & Finnie, 1990; Werner et al., 2014), with much fewer among adolescents (Gregson et al., revise-resubmit; Poulin et al., 2012). Indeed, with peaking reliance on peers (Parker et al., 2006) and plummeting dependence on parents during the teen years (Darling et al., 2008; Smetana, 2000; Smetana et al., 2005), parents' ability to intervene in their children's peer experiences may narrow significantly. Younger adolescents may indeed be more amenable to parents' behavioral and cognitive suggestions about peer interactions (see Hostinar, Johnson, & Gunnar, 2015 for a similar

finding), whereas older adolescents may tend to seek counsel from peers rather than parents. Consistent with this speculation, Gregson et al. (revise-resubmit) found that younger adolescents were more receptive to higher-quality observed coaching (e.g., engaged with parents in coaching conversations, inclined to seek counsel, open to parents' behavioral suggestions), compared with older adolescents.

The present study indicates that, on average, high-quality parental social coaching leads to young adolescents' greater peer acceptance over one year. Although we did not assess coaching x age interactions (in order to limit the complexity of analyses), future studies should consider this important developmental issue. Older youths may be increasingly dismissive of or resistant to parents' input, especially if they have fewer positive interactions with parents during this stage (as tentatively suggested by a negative association between age and parent positive involvement in the current study; Table 3). Although declining affiliation with parents may reflect a normative developmental trend, a subset of older adolescents who experience frequent negative peer interactions, yet disregard positive parental social coaching, may be especially at risk for peer maladjustment. Thus, future multi-wave longitudinal studies should consider two-way (e.g., coaching x age), as well as three-way interactions (e.g., coaching x social skills x age; coaching x receptivity x age; coaching x parenting style x age) in the prediction of adolescents' social adjustment.

Practical Implications

Several applied implications may be drawn from the present study. Whereas it is well-established that general positive parental support and involvement is beneficial for youths facing peer stressors (e.g., Benson et al., 2006), it is unclear exactly what advice parents should offer (Lovegrove et al., 2013). Parent training has become a key component of bullying intervention programs in the last several years (see Olweus, 1997) and is associated with decreases in

victimization (see meta-analysis of anti-bullying school programs by Ttofi & Farrington, 2009). However, empirical studies testing the effectiveness of specific parental suggestions in response to their adolescents' peer challenges are nearly nonexistent (Lovegrove et al., 2013). The present study is the first known longitudinal assessment among young adolescents to identify behavioral advice and cognitive framing as distinct features of parental social coaching about peer challenges, and furthermore, to show that both advice and framing predicted adolescents' higher prospective peer acceptance, controlling for earlier acceptance. Thus, interventions may be aimed at educating parents about prosocial behavioral suggestions (e.g., "join a school club to meet kids with the same interests") and benign cognitive framing (e.g., "other kids probably feel nervous about meeting new friends in middle school—it's a new situation for everyone") in response to social stressors, since these both may promote better peer relationships. Parents may also benefit from education about negative forms of advice and framing.

High-quality advice and framing may not come naturally, even for a parent who is otherwise warm and involved. Heightened anxiety about their child's social stressors may prompt even generally positive parents to give defensive or avoidant behavioral advice (e.g., "if they excluded you, then don't invite them to your party next time" or "don't focus on peers, instead concentrate on school") or negative or threatening framing (e.g., "those kids are just mean or jealous"). This disconnect between general positive parenting and high-quality parental social coaching was evidenced by zero correlations linking parent positive involvement with behavioral advice and cognitive framing in the present study (Table 3), similar to other studies finding weak associations between parenting style and practice (Gregson et al., revise-resubmit; Gottman, Katz, & Hooven, 1996; Mize & Pettit, 1997). Along with giving detailed examples of positive and negative forms of advice and framing, interventions may need to address parents'

own worries (or disinterest) related to their adolescents' social challenges that might hinder them from providing high-quality social coaching.

In a similar vein, the present study also suggests that social behavior and social cognitions are related, but separable dimensions of adolescent social functioning. This implies that (1) modifying one dimension may affect the other, and (2) there may be multiple avenues for intervention (delivered via parent, counselor, school, etc.), targeting one skills dimension or a distinct combination of skills. In fact, one such intervention for socially phobic clients focuses solely on social cognitions (e.g., beliefs about social competence), without a behavioral component, and has produced clinically significant improvements in social phobia (Wells & Papageorgiou, 2001). Understanding social skills strengths and weaknesses in behavioral and cognitive dimensions may help inform more tailored programs to promote social competence (e.g., SST programs; parent interventions).

Finally, interventions targeting parents of adolescents should underline differences between social-behavioral and social-cognitive aspects of adaptive social functioning. The present study tentatively suggests that coaching is more effective among adolescents with social-behavioral skills deficits (i.e., remediation model) or social-cognitive skills strengths (i.e., capitalization model). Thus, joint parent-adolescent interventions may be indicated, initially assessing the adolescent's skills strengths and weaknesses, followed by assisting parents to provide coaching that best matches their child's skills needs. Of course, results of the present study must be replicated before such recommendations should be implemented.

Limitations

Results of the present study should be considered in light of several limitations. Although longitudinal analyses in Study 2 controlled for prior levels of adolescent functioning (i.e., social skills, peer acceptance, internalizing behaviors) and thus ruled out adolescent-driven effects, the

cross-sectional design of Study 1 precludes any causal conclusions. While it is possible that behavioral advice supports behavioral and cognitive social skills development (Table 4), the reverse direction is also plausible, such that adolescent skills strengths may facilitate parents' provision of high-quality behavioral advice, because it is consistent with their child's existing behavior and perspective. Indeed, prior research has established the bidirectional nature of parent socialization, such that adolescents' and parents' communication and behaviors reciprocally influence one another (Beveridge & Berg, 2007; Kuczynski & Parkin, 2007). Future longitudinal studies using a cross-lagged model approach may help illuminate reciprocal effects of parental social coaching and adolescent social skills.

Whereas several analyses provided corroborating evidence for the hypothesis that parental social coaching augments peer acceptance (Table 7), the mechanism linking coaching and peer acceptance has yet to be uncovered. As reviewed, adolescent social skills may mediate associations between coaching and peer acceptance. However, the present study did not substantiate this premise, with no evidence that coaching predicted increases in general social-behavioral or social-cognitive skills over one year (Tables 5 & 6). Future research could make both theoretical and applied contributions by examining mediators (e.g., positive and negative aspects of adolescent social skills, social anxiety) and moderators (e.g., parenting style, adolescent receptivity, adolescent peer stress levels) of associations linking parental social coaching with adolescent peer adjustment. Additionally, in line with the goodness-of-fit model (Lerner & Lerner, 1994; Thomas & Chess, 1977), evidence emerged suggesting that the effects of coaching on peer acceptance may differ based on adolescent social skills levels (Aim 4). Other adolescent characteristics may also yield valuable insights about adolescents' traits that may

match particularly well or poorly with certain types of parental social coaching (e.g., parenting x child temperament; see Bates & Pettit, 2014; Bates, Pettit, Dodge, & Ridge, 1998).

The present study did not confirm our expectation that parent behavioral advice can undermine psychological adjustment (Aim 3c), which is consistent with a similar model of parenting in the academic domain (Pomerantz & Eaton, 2000; Pomerantz et al., 2014). Additionally, we found merely modest support for the hypothesized psychological protection model (i.e., general positive parenting buffers adolescents with social skills weaknesses from internalizing symptoms). As reviewed, psychologically damaging effects of parental coaching may not translate across domains of child development, from academic to social. Nevertheless, it is possible that the measures of the current study precluded our uncovering of such direct and interactive effects, if they exist. Specifically, internalizing behaviors were reported by parents and teachers; future studies may benefit from also including adolescent reports. Furthermore, parent positive involvement was reported by parents, rather than adolescents, whose subjective experiences may better reflect the nature of the parent-adolescent relationship. Parent positive involvement may not be entirely representative of general positive parenting, since in the present study it was not associated with internalizing problems in regression models (Table 13), which contradicts a well-established body of literature showing links between positive parenting and adolescent psychological adjustment (Khaleque, 2013; McKee et al., 2008). Future studies may help clarify the psychological effects of parental social coaching and of general parenting x social skills by using additional assessments of coaching (e.g., observed-behavioral, daily diary, adolescent reports), general parenting (e.g., warmth, psychological control, hostility), and psychological adjustment (e.g., adolescent reports, anxiety and depressive symptoms more specifically).

Though the present study offered novel assessments of both context-specific (Study 1) and context-general (Study 2) coaching and skills among young adolescents, the two types of measures were obtained in separate studies and thus we did not test associations across levels of context. Important applied contributions will be made by future studies using both context-specific and context-general measures of coaching and skills within the same study, in order to determine the consistency of coaching and skills across contexts, as well as test generalizability of results. Additionally, other studies should obtain lab-based observations and reports of coaching and skills in response to other peer challenges (e.g., rejection, victimization), to widen the range of coaching suggestions and reveal what forms of coaching are most effective for which adolescents under more severe peer stress.

A few measurement limitations are worth mentioning as well. First, in Study 2 parent-reported coaching responses to hypothetical peer stress scenarios were conceptualized as causal indicators, rather than effect indicators (see Bollen & Lennox, 1991), of behavioral advice and cognitive framing. Thus, the effects of coaching documented in the present study may be limited to the peer challenge situations assessed in Study 2: peer exclusion, anxiety meeting new peers, and trouble making friends. Although these are developmentally-salient and relatively common peer stress situations, future studies would contribute to the assessment of coaching by eliciting parents' behavioral advice and cognitive framing in response to other peer challenges (e.g., teasing, friend conflict, etc.). Second, assessments of social-cognitive skills were not entirely parallel across the studies; Study 1 utilized a composite of social response planning and social self-efficacy, whereas Study 2 averaged social appraisals and social self-efficacy. Notably, in Study 1 prosocial behavioral advice was linked with better social-cognitive skills (Table 4), suggesting that parents' more detailed suggestions about how to interact with peers was related

to adolescents' more prosocial, elaborate social response plans (along with higher social self-efficacy). This association between coaching and social-cognitive skills did not emerge in Study 2, which did not include social response planning in the social-cognitive skills composite. These inconsistencies across studies highlight the need for further study of connections between dimensions of parental social coaching and dimensions of social-cognitive (and social-behavioral) skills.

Finally, although significant effects of coaching emerged, the relatively small sample sizes for Study 1 ($N = 80$) and Study 2 ($N = 123$) may have limited the power to detect associations. Replication with other larger samples is needed. Additionally, samples for both Studies 1 and 2 were diverse (i.e., race, annual household income, family structure), reflecting the geographic and community setting from which participants were recruited. It is possible that coaching effects may differ among boys and girls, as tentatively suggested in the present study, or that parents' influence may decrease as adolescents age (as reviewed in a prior section, Developmental Setting of Coaching). In addition to adolescent sex and age, examining adolescent race and socioeconomic status differences in coaching or its effects may yield valuable information about the consistency of parental social coaching across different population subgroups. In the present study, Caucasian adolescents received higher-quality parent-reported behavioral advice (Study 2) and displayed better observed social-behavioral skills (Study 1) compared with ethnic minority adolescents. Additionally, higher income adolescents received more positive parent-reported behavioral advice and had higher parent- and teacher-rated social-behavioral skills and peer acceptance (Study 2). Although the content of coaching (and levels of social skills and peer acceptance) may differ by race and income level, coaching may predict adolescent social adjustment (i.e., social skills, peer acceptance) similarly

across races, like other dimensions of parenting that are similarly important across racial groups (Mesman, van IJzendoorn, & Bakermans-Kranenburg, 2012). In tentative support of this, Gregson et al. (revise-resubmit) found that race did not moderate links between observed or parent-reported social coaching and adolescent receptivity to coaching. Indeed, secondary analyses in the present study (which are not presented here) did not reveal reliable race differences in the effects of coaching. Nevertheless, future studies should analyze these coaching x demographic (e.g., sex, age, race, socioeconomic status) interactions with similar diverse samples as well as other population subgroups (e.g., other ethnic minorities, more fathers, younger children or older adolescents).

Conclusion

Despite limitations noted above, the present study highlights the importance of parental social coaching for young adolescents' social skills and peer acceptance. Although a few prior studies have examined parental social coaching in early adolescence, the present study advances the existing literature by: (1) differentiating behavioral and cognitive dimensions of parental social coaching and adolescent social skills, (2) testing coaching x adolescent social skills interactions as predictors of peer adjustment, (3) using a longitudinal design to rule out adolescent-driven effects on coaching behavior, and (4) employing observed-behavioral as well as questionnaire-based (i.e., adolescent-, parent-, and teacher-report) measures of parental social coaching, adolescent social skills, and peer and psychological adjustment. This is the first known study to demonstrate that parental social coaching about peer challenges contributed to improvements in adolescent peer acceptance across one year. Additionally, results suggest that the effects of coaching may differ for adolescents with varying social skills levels. Specifically,

coaching more strongly predicted peer acceptance among adolescents with social-behavioral skills deficits or social-cognitive skills strengths.

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Appendix A

Parent Reports

Demographic Information (Study 1 & 2)

Child Sex:

Child Date of Birth and Age:

Child Ethnic group (Circle one):

a. African American
b. Asian
c. Caucasian
d. Native American
e. Spanish Descent
f. Other (please specify): _____

Annual Household Income (Circle one):

a. Less than 10,000
b. 10,001-20,000
c. 20,001-35,000
d. 35,001-50,000
e. 50,001-75,000
f. More than 75,000

Family Structure:

Your current relationship/marital status with child's other parent/guardian is (Circle one):

a. Single/Never Married b. Married c. Divorced
d. Separated e. Widowed f. Significant Other/Partner

Context-General Parent Social Coaching (Study 2)

1. Let's say that some kids at school planned a weekend activity for a few weeks from now, and your child has not been invited.
What are 1 or 2 specific ways in which you would advise your child to deal with this situation?

_____

_____

_____

2. Let's say that your child is about to begin attending a new school, and he/she feels anxious or nervous about meeting and talking with new kids at school.
What are 1 or 2 specific ways in which you would advise your child to deal with this situation?

_____
_____
_____

3. Let's say that your child recently began attending a new school, and he/she is having trouble making new friends.
What are 1 or 2 specific ways in which you would advise your child to deal with this situation?

_____
_____
_____

Parent Positive Involvement (Study 2)

Please answer the following questions about how often you do the following.

	Never	Almost Never	Sometimes	Often	Always
1. You have a friendly talk with your child.	1	2	3	4	5
2. You volunteer to help with special activities that your child is involved in (e.g., sports, Boy/Girl scouts, church youth groups).	1	2	3	4	5
3. You play games or do other fun things with your child.	1	2	3	4	5
4. You ask your child about his/her day in school.	1	2	3	4	5
5. You help your child with his/her homework.	1	2	3	4	5
6. You ask your child what his/her plans are for the coming day.	1	2	3	4	5
7. You drive your child to a special activity.	1	2	3	4	5
8. You talk to your child about his/her friends.	1	2	3	4	5
9. Your child helps plan family activities.	1	2	3	4	5
10. You attend PTA meetings, parent/teacher conferences, or other meetings at your child's school.	1	2	3	4	5

Context-General Adolescent Social-Behavioral Skills (Study 2)

For the following items, please circle the number that best describes your child.

		Almost never true of my child		Sometimes true of my child		Almost always true of my child
1	Helpful to peers.	1	2	3	4	5
2	Good leader.	1	2	3	4	5
3	Initiates social contact with peers.	1	2	3	4	5
4	Friendly toward other children.	1	2	3	4	5
5	Shares with peers.	1	2	3	4	5

Adolescent Peer Acceptance (Study 2)

For the following statements, please circle the number that best applies to your child.

	Never true	Rarely true	Sometimes true	Usually true	Almost always true
1. My child gets along well with peers of the same sex.	1	2	3	4	5
2. My child gets along well with peers of the opposite sex.	1	2	3	4	5
3. My child is accepted by peers.	1	2	3	4	5
4. Other children like my child and seek him or her out.	1	2	3	4	5
5. Other children actively dislike my child and reject him or her.	1	2	3	4	5
6. My child isolates himself/herself from peers.	1	2	3	4	5

Adolescent Internalizing Problems (Study 2)

Below is a list of items that describe children and youths. For each item that describes your child **now or within the past 6 months**, please circle the appropriate number. Please answer all items as well as you can, even if some do not seem to apply to your child.

1. There is very little he/she enjoys	0	1	2
2. Cries a lot	0	1	2
3. Fears certain animals, situations, or places other than school	0	1	2
4. Fears going to school	0	1	2
5. Fears he/she might think or do something bad	0	1	2
6. Feels he/she has to be perfect	0	1	2
7. Feels or complains that no one loves him/her	0	1	2
8. Feels worthless or inferior	0	1	2
9. Would rather be alone than with others	0	1	2
10. Nervous, highstrung, or tense	0	1	2
11. Nightmares	0	1	2
12. Constipated, doesn't move bowels	0	1	2
13. Too fearful or anxious	0	1	2
14. Feels dizzy or lightheaded	0	1	2
15. Feels too guilty	0	1	2
16. Overtired without good reason	0	1	2
17. Physical problems without known medical cause:			
a. Aches or pains (not stomach or headaches)	0	1	2
b. Headaches	0	1	2
c. Nausea, feels sick	0	1	2
d. Problems with eyes (not if corrected by glasses)	0	1	2
e. Rashes or other skin problems	0	1	2
f. Stomachaches	0	1	2
g. Vomiting, throwing up	0	1	2
18. Refuses to talk	0	1	2
19. Secretive, keeps things to self	0	1	2
20. Self-conscious or easily embarrassed	0	1	2
21. Too shy or timid	0	1	2
22. Talks about killing self	0	1	2
23. Underactive, slow moving, or lacks energy	0	1	2
24. Unhappy, sad, or depressed	0	1	2
25. Withdrawn, doesn't get involved with others	0	1	2
26. Worries	0	1	2

Young Adolescent Reports

Context-Specific Adolescent Social-Cognitive Skills: Lab-Based Social Self-Efficacy (Study 1)

Before the conversation task:

1. How well do you think you'll do in the conversation activity?
   Not at all A little Somewhat Pretty much Very much

2. How much do you think the peer judges will like you?
   Not at all A little Somewhat Pretty much Very much

3. How likely is it that the peer judges will choose you as one of the best performers in the conversation activity?
   Not at all A little Somewhat Pretty much Very much

After the conversation task:

1. How well do you think you did in the conversation activity?
   Not at all A little Somewhat Pretty much Very much

2. How much do you think the peer judges will like you?
   Not at all A little Somewhat Pretty much Very much

3. How likely is it that the peer judges will choose you as one of the best performers in the conversation activity?
   Not at all A little Somewhat Pretty much Very much

Context-General Adolescent Social-Cognitive Skills: Social Appraisals (Study 2)

Read each situation carefully. For each question about each situation, circle the answer that best describes what you think.

You have decided to join an after-school club. The first day you go to the club meeting, you walk into the room and see a group of about eight students. You don't know any of them yet. They look up when you walk toward them.				
1. How likely do you think it is that the following things will happen?				
a. They would turn away and ignore you.	***Not at all***	***A little***	***Somewhat***	***Very Likely***
b. They would notice you and smile.	***Not at all***	***A little***	***Somewhat***	***Very Likely***
c. One of the kids would tell you to go away.	***Not at all***	***A little***	***Somewhat***	***Very Likely***
d. They would invite you to join them.	***Not at all***	***A little***	***Somewhat***	***Very Likely***

Next week is your birthday and you want to have a birthday party. You made a list of everybody you want to invite. You planned to ask them during lunch at school. Lunch starts and you walk toward some kids from your class that you want to invite.				
2. How likely do you think it is that the following things will happen?				
a. They would say they won't come to your party.	***Not at all***	***A little***	***Somewhat***	***Very Likely***
b. They would be happy about the invitation to your party.	***Not at all***	***A little***	***Somewhat***	***Very Likely***
c. They would make fun of you for asking them.	***Not at all***	***A little***	***Somewhat***	***Very Likely***
d. They would say 'thanks' and plan to go to your party.	***Not at all***	***A little***	***Somewhat***	***Very Likely***

Context-General Adolescent Social-Cognitive Skills: Social Self-Efficacy (Study 2)

Read each situation carefully. For each question about each situation, circle the answer that best describes what you think.

You have decided to join an after-school club. The first day you go to the club meeting, you walk into the room and see a group of about eight students. You don't know any of them yet. They look up when you walk toward them.				
1. What would you think if you were in this situation?				
a. You would know what to do.	***Not at all***	***A little***	***Somewhat***	***Very much***
b. You would be able to get along with them.	***Not at all***	***A little***	***Somewhat***	***Very much***

Next week is your birthday and you want to have a birthday party. You made a list of everybody you want to invite. You planned to ask them during lunch at school. Lunch starts and you walk toward some kids from your class that you want to invite.				
2. How would you feel if you were in this situation?				
a. You would know what to do.	***Not at all***	***A little***	***Somewhat***	***Very much***
b. You would be able to get them interested in your party.	***Not at all***	***A little***	***Somewhat***	***Very much***

Teacher Reports

Context-General Adolescent Social-Behavioral Skills (Study 2)

For each of the following statements, please circle the number that best describes this child.

		Almost never true of the child		Sometimes true of the child		Almost always true of the child
1	Helpful to peers.	1	2	3	4	5
2	Good leader.	1	2	3	4	5
3	Initiates social contact with peers.	1	2	3	4	5
4	Friendly toward other children.	1	2	3	4	5
5	Shares with peers.	1	2	3	4	5

Adolescent Peer Acceptance (Study 2)

For each of the following statements, please circle the number that best applies to this child.

	Never true	Rarely true	Sometimes true	Usually true	Almost always true
1. This child gets along well with peers of the same sex.	1	2	3	4	5
2. This child gets along well with peers of the opposite sex.	1	2	3	4	5
3. This child isolates himself/herself from the peer group.	1	2	3	4	5
4. This child is accepted by the peer group.	1	2	3	4	5
5. Other children like this child and seek him or her out.	1	2	3	4	5
6. Other children actively dislike this child and reject him or her.	1	2	3	4	5

Adolescent Internalizing Problems (Study 2)

Below is a list of items that describe children and youths. For each item that describes this child **now or within the past 6 months**, please circle the appropriate number. Please answer all items as well as you can, even if some do not seem to apply to this child.

1. There is very little he/she enjoys	0	1	2
2. Cries a lot	0	1	2
3. Fears certain animals, situations, or places other than school	0	1	2
4. Fears going to school	0	1	2
5. Fears he/she might think or do something bad	0	1	2
6. Feels he/she has to be perfect	0	1	2
7. Feels or complains that no one loves him/her	0	1	2
8. Feels worthless or inferior	0	1	2
9. Would rather be alone than with others	0	1	2
10. Nervous, highstrung, or tense	0	1	2
11. Nightmares	0	1	2
12. Constipated, doesn't move bowels	0	1	2
13. Too fearful or anxious	0	1	2
14. Feels dizzy or lightheaded	0	1	2
15. Feels too guilty	0	1	2
16. Overtired without good reason	0	1	2
17. Physical problems without known medical cause:			
a. Aches or pains (not stomach or headaches)	0	1	2
b. Headaches	0	1	2
c. Nausea, feels sick	0	1	2
d. Problems with eyes (not if corrected by glasses)	0	1	2
e. Rashes or other skin problems	0	1	2
f. Stomachaches	0	1	2
g. Vomiting, throwing up	0	1	2
18. Refuses to talk	0	1	2
19. Secretive, keeps things to self	0	1	2
20. Self-conscious or easily embarrassed	0	1	2
21. Too shy or timid	0	1	2
22. Talks about killing self	0	1	2
23. Underactive, slow moving, or lacks energy	0	1	2
24. Unhappy, sad, or depressed	0	1	2
25. Withdrawn, doesn't get involved with others	0	1	2
26. Worries	0	1	2

Appendix B

Table 1. *Primary aims and sub-aims, with associated hypotheses*

Study	Aim	Description	Hypothesis
1 & 2	Aim 1 *(preliminary)*	Distinguish dimensions of parental social coaching: behavioral advice, cognitive framing	Modest associations across dimensions
1 & 2	Aim 2 *(preliminary)*	Distinguish dimensions of adolescent skill: social-behavioral, social-cognitive	Modest associations across dimensions
	Aim 3	Independent, unique effects of parental coaching dimensions	
1 & 2	Aim 3a	Dimensions of coaching predicting concurrent and prospective levels of adolescent social skill	Coaching dimensions uniquely associated with higher concurrent skill, but more strongly predict prospective skill
2	Aim 3b	Dimensions of coaching predicting concurrent and prospective levels of adolescent peer acceptance	Coaching dimensions uniquely associated with better concurrent peer acceptance, but more strongly predict prospective peer acceptance
2	Aim 3c	Dimensions of coaching predicting concurrent and prospective levels of adolescent internalizing problems	Parent behavioral advice associated with higher concurrent and prospective internalizing problems
1 & 2	Aim 3d *(exploratory)*	Examine types of associations in the main effects of coaching dimensions on skill dimensions: (1) differential vs. equal, (2) matched vs. unmatched	*No hypothesis*
1 & 2	Aim 3e *(exploratory)*	Interactive effects of coaching dimensions x adolescent sex predicting concurrent and prospective levels of adolescent social skill, peer acceptance, and internalizing problems	*No hypothesis*
2	Aim 4	Interactive effects of coaching dimensions (and positive involvement) x adolescent skill dimensions predicting concurrent and prospective peer acceptance and internalizing problems	Interaction effects support remediation and psychological protection models

Table 2

Study 1 correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9
1. YA Sex	-								
2. YA Race/ethnicity	.04	-							
3. YA Age	-.07	.03	-						
4. Household Income	-.24*	.55***	.13	-					
5. Family Structure	-.19~	.26*	.37**	.50***	-				
6. CS Parent BA	-.05	.18	.07	-.01	-.02	-			
7. CS Parent CF	.07	.18	.10	.14	-.08	.10	-		
8. CS SB Skills	.04	.25*	.34**	.16	.12	.27*	.02	-	
9. CS SC Skills	-.06	-.14	.09	-.12	-.29*	.28*	.03	.31**	-
N	80	80	63	78	77	77	77	79	80
Mean (*SD*) / %	45%	43%	11.83	3.83	53%	3.05	3.36	3.33	.00
			(1.29)	(1.69)		(.72)	(1.07)	(1.05)	(.76)

Note. YA = young adolescent. Sex was coded 0 = boy and 1 = girl. Race/ethnicity was coded 0 = African American or other minority and 1 = Caucasian. Family structure was coded 0 = single, divorced, or separated and 1 = married. CS = context-specific. BA = behavioral advice. CF = cognitive framing. SB = social-behavioral. SC = social-cognitive.
~p<.10. *p<.05. **p<.01. ***p<.001.

Table 3

Study 2 correlations and descriptive statistics

	1	2	3	4	5	6	7	8	9	10	11	12
1. YA Sex	-											
2. YA Race/ethnicity	-.06	-										
3. YA Age	-.22*	.36***	-									
4. House Income	.02	.51***	.17	-								
5. Family Structure	-.04	.32**	.07	.48***	-							
6. Par Pos Involve	.04	-.18~	-.24**	-.06	.02	-						
7. CG Parent BA	.03	.39***	.04	.42***	.27**	.01	-					
8. CG Parent CF	.00	-.07	-.00	.01	.10	.06	-.32***	-				
9. T1 CG SB Skills	.21*	-.05	-.02	.23*	.08	.21*	.11	.20*	-			
10. T2 CG SB Skills	.24*	-.05	.09	.14	-.01	.16	.10	.06	.46***	-		
11. T1 CG SC Skills	.08	.00	-.08	.16~	.03	.20*	.03	.02	.29**	.27**	-	
12. T2 CG SC Skills	.16	.03	.19	.18	-.02	.08	-.00	.14	.51***	.33**	.59***	-
13. T1 Peer Accept	.19*	.01	.01	.24**	.14	.11	.06	.25**	.74***	.46***	.49***	.59***
14. T2 Peer Accept	.20*	.05	.08	.23*	.18~	.12	.20*	.21*	.61***	.60***	.30**	.43***
15. T1 Internalizing	-.01	.04	-.01	-.10	-.04	-.13	-.06	-.17~	-.42***	-.41***	-.33***	-.19~
16. T2 Internalizing	.03	-.05	-.08	-.06	-.06	-.03	-.05	.01	-.27**	-.33**	-.15	-.17~
N	123	123	122	119	113	123	122	122	123	99	121	97
Mean (*SD*) / %	50%	59%	11.58 (.64)	4.13 (1.55)	67%	4.04 (.46)	1.92 (.57)	1.74 (.44)	3.99 (.63)	4.06 (.56)	3.29 (.47)	3.25 (.57)

Table 3 continued

	13	14	15	16
13. T1 Peer Accept	-			
14. T2 Peer Accept	.67***	-		
15. T1 Internalizing	-.50***	-.43***	-	
16. T2 Internalizing	-.32**	-.42***	.59***	-
N	123	99	123	99
Mean (*SD*) / %	4.19	4.18	.18	.16
	(.56)	(.56)	(.14)	(.13)

Note. YA = young adolescent. Sex was coded 0 = boy and 1 = girl. Race/ethnicity was coded 0 = African American or other minority and 1 = Caucasian. Family structure was coded 0 = single, divorced, or separated and 1 = married. Par pos involve = parent positive involvement. CG = context-general. BA = behavioral advice. CF = cognitive framing. SB = social-behavioral. SC = social-cognitive. Accept = acceptance.
~p<.10. *p<.05. **p<.01. ***p<.001.

Table 4

Study 1 – Aim 3a: Predicting young adolescent social-behavioral skills and social-cognitive skills from two dimensions of parent social coaching (behavioral advice and cognitive framing)

	CS Social-Behavioral Skills				CS Social-Cognitive Skills			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: Controls								
YA Race/ethnicity	.51. (.22)	.24*	.44 (.21)	.21*				
YA Age	.29 (.09)	.36**	.28 (.09)	.35**				
Family Structure					-.44 (.17)	-.29**	-.43 (.16)	-.29**
R^2	18.5%				8.4%			
Step 2: Main Effects								
CS Parent BA			.32 (.15)	.22*			.31 (.11)	.30**
CS Parent CF			-.06 (.10)	-.06			-.02 (.07)	-.03
ΔR^2 / Total R^2			3.4% / 21.9%				8.9% / 17.3%	

Note. CS = context-specific. YA = young adolescent. Race/ethnicity was coded 0 = African American or other minority and 1 = Caucasian. Family structure was coded 0 = single, divorced, or separated and 1 = married. BA = behavioral advice. CF = cognitive framing.
*p<.05. **p<.01.

Table 5

Study 2 – Aim 3a: Predicting T1 and T2 young adolescent social-behavioral skills from two dimensions of parent social coaching (behavioral advice and cognitive framing)

	T1 CG Social-Behavioral Skills				T2 CG Social-Behavioral Skills			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 Social-Behavioral Skills					.40 (.08)	.46***	.35 (.08)	.41***
R^2					20.9%			
Step 1: Controls								
YA Sex	.25 (.11)	.20*	.25 (.10)	.20*	.18 (.10)	.16~	.18 (.10)	.16~
Household Income	.10 (.04)	.24**	.07 (.04)	.18~				
Parent Positive Involvement	.30 (.12)	.22**	.28 (.11)	.21*	.12 (.11)	.10	.13 (.11)	.11
ΔR^2	14.3%				3.5%			
Step 2: Main Effects								
CG Parent BA			.11 (.11)	.10			.05 (.09)	.05
CG Parent CF			.32 (.13)	.22*			-.04 (.12)	-.03
ΔR^2 / Total R^2			2.8% / 17.1%				0.0% / 24.4%	

Note. CG = context-general. YA = young adolescent. Sex was coded 0 = boy and 1 = girl.
BA = behavioral advice. CF = cognitive framing.
~p<.10. *p<.05. **p<.01. ***p<.001.

Table 6

Study 2 – Aim 3a: Predicting T1 and T2 young adolescent social-cognitive skills from two dimensions of parent social coaching (behavioral advice and cognitive framing)

	T1 CG Social-Cognitive Skills				T2 CG Social-Cognitive Skills			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 SC Skills					.73 (.10)	.60***	.73 (.10)	.60***
R^2					35.9%			
Step 1: Controls								
Parent Positive Involvement	.20 (.09)	.20*	.20 (.09)	.20*	-.00 (.10)	-.00	-.01 (.10)	-.01
ΔR^2	3.9%				0.0%			
Step 2: Main Effects								
CG Parent BA			.02 (.08)	.03			.04 (.09)	.04
CG Parent CF			.01 (.10)	.01			.17 (.11)	.13
ΔR^2 / Total R^2			0.0% / 3.9%				0.9% / 36.8%	

Note. CG = context-general. SC = social-cognitive. BA = behavioral advice. CF = cognitive framing.
*p<.05. ***p<.001.

Table 7

Study 2 – Aim 3b: Predicting T1 and T2 young adolescent peer acceptance from two dimensions of parent social coaching (behavioral advice and cognitive framing)

	T1 Peer Acceptance				T2 Peer Acceptance			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 Peer Acceptance					.68 (.08)	.67***	.61 (.08)	.61***
R^2					44.9%			
Step 1: Controls								
YA Sex	.20 (.10)	.18*	.20 (.09)	.18*	.10 (.08)	.09	.09 (.08)	.08
Household Income	.09 (.03)	.24**	.08 (.03)	.21*	.04 (.03)	.12	.01 (.03)	.04
Parent Positive Involvement	.14 (.10)	.11	.12 (.10)	.10	.14 (.09)	.11	.13 (.09)	.11
ΔR^2	10.5%				3.0%			
Step 2: Main Effects								
CG Parent BA			.05 (.10)	.05			.18 (.08)	.18*
CG Parent CF			.32 (.12)	.25**			.18 (.10)	.14~
ΔR^2 / Total R^2			4.9% / 15.4%				2.2% / 50.1%	

Note. YA = young adolescent. CG = context-general. BA = behavioral advice. CF = cognitive framing.
~p<.10. *p<.05. **p<.01. ***p<.001.

Table 8

Study 2 – Aim 3c: Predicting T1 and T2 young adolescent internalizing problems from two dimensions of parent social coaching (behavioral advice and cognitive framing)

	T1 Internalizing Problems				T2 Internalizing Problems			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 Internalizing Problems					.56 (.08)	.59***	.57 (.08)	.60***
R^2					34.9%			
Step 1: Controls								
Parent Positive Involvement	-.04 (.03)	-.13	-.04 (.03)	-.12	.01 (.02)	.04	.01 (.02)	.03
ΔR^2	1.8%				0.5%			
Step 2: Main Effects								
CG Parent BA			-.03 (.02)	-.12			.00 (.02)	.01
CG Parent CF			-.06 (.03)	-.20*			.02 (.03)	.06
ΔR^2 / Total R^2			3.6% / 5.4%				0.7% / 36.1%	

Note. CG = context-general. BA = behavioral advice. CF = cognitive framing.
*p<.05. ***p<.001.

Table 9

Study 1 – Aim 3e: Predicting young adolescent social-behavioral skills and social-cognitive skills from two dimensions of parent social coaching (behavioral advice and cognitive framing) and the interactions of coaching dimensions x young adolescent sex

	CS Social-Behavioral Skills		CS Social-Cognitive Skills	
	B (SE)	β	B (SE)	β
Step 1: Controls				
YA Sex	.11 (.21)	.05	-.15 (.15)	-.10
YA Race/ethnicity	.44 (.21)	.21*		
YA Age	.28 (.09)	.35**		
Family Structure			-.49 (.16)	-.32**
R^2				
Step 2: Main Effects				
CS Parent BA	.32 (.15)	.23*	.37 (.11)	.34***
CS Parent CF	-.07 (.10)	-.08	.04 (.07)	.05
ΔR^2				
Step 3: Interaction Effects				
CS Parent BA x YA Sex	-.03 (.26)	-.01	-.15 (.19)	-.08
CS Parent CF x YA Sex	.02 (.15)	.02	-.09 (.11)	-.08
ΔR^2 / Total R^2	22.6%		24.2%	

Note. CS = context-specific. YA = young adolescent. Sex was coded 0 = boy and 1 = girl. Race/ethnicity was coded 0 = African American or other minority and 1 = Caucasian. Family structure was coded 0 = single, divorced, or separated and 1 = married. BA = behavioral advice. CF = cognitive framing.
*p<.05. **p<.01. ***p<.001.

Table 10

Study 2 – Aim 3e: Predicting T1 young adolescent social-behavioral skills, social-cognitive skills, peer acceptance, and internalizing problems from two dimensions of parent social coaching (behavioral advice and cognitive framing) and the interactions of coaching dimensions x young adolescent sex

	T1 CG SB Skills		T1 CG SC Skills		T1 Peer Acceptance		T1 Internalizing	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: Controls								
YA Sex	.25 (.10)	.18*	.07 (.08)	.07	.20 (.09)	.18*	.00 (.02)	.00
YA Race/ethnicity								
Household Income	.07 (.04)	.16~			.07 (.03)	.21*		
Parent Positive Involvement	.27 (.11)	.19*	.19 (.09)	.18*	.11 (.10)	.09	-.04 (.03)	-.12
R^2								
Step 2: Main Effects								
CG Parent BA	.25 (.11)	.22*	.02 (.08)	.03	.13 (.10)	.13	-.05 (.02)	-.18*
CG Parent CF	.50 (.13)	.32***	-.20 (.10)	-.18~	.34 (.11)	.27**	-.09 (.03)	-.29**
ΔR^2								
Step 3: Interaction Effects								
CG Parent BA x YA Sex	-.25 (.12)	-.16*	-.01 (.10)	-.00	-.15 (.11)	-.11	.03 (.03)	.09
CG Parent CF x YA Sex	-.35 (.17)	-.16*	.39 (.13)	.25**	-.04 (.15)	-.02	.06 (.04)	.13
ΔR^2 / Total R^2	28.0%		13.5%		18.3%		12.1%	

Note. CG = context-general. SB = social-behavioral. SC = social-cognitive. YA = young adolescent. Sex was coded 0 = boy and 1 = girl. Race/ethnicity was coded 0 = African American or other minority and 1 = Caucasian. BA = behavioral advice. CF = cognitive framing.

~p<.10. *p<.05. **p<.01. ***p<.001.

Table 11

Study 2 – Aim 3e: Predicting T2 young adolescent social-behavioral skills, social-cognitive skills, peer acceptance, and internalizing problems from two dimensions of parent social coaching (behavioral advice and cognitive framing) and the interactions of coaching dimensions x young adolescent sex

	T2 CG SB Skills		T2 CG SC Skills		T2 Peer Acceptance		T2 Internalizing	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 SB Skills	.36 (.08)	.40***						
T1 SC Skills			.72 (.10)	.59***				
T1 Peer Acceptance					.62 (.07)	.54***		
T1 Internalizing Problems							.57 (.08)	.60***
R^2								
Step 2: Controls								
YA Sex	.16 (.10)	.15~	.13 (.09)	.11	.07 (.08)	.05	.01 (.02)	.03
Household Income					.01 (.03)	.02		
Parent Positive Involvement	.13 (.11)	.11	-.00 (.10)	-.00	.12 (.08)	.09	.01 (.02)	.03
ΔR^2								
Step 3: Main Effects								
CG Parent BA	-.02 (.09)	-.02	.11 (.09)	.11	.26 (.08)	.23**	.01 (.02)	.04
CG Parent CF	.08 (.12)	.06	.20 (.11)	.15~	.52 (.10)	.36***	.03 (.03)	.11
ΔR^2								
Step 4: Interaction Effects								
CG Parent BA x YA Sex	.13 (.12)	.09	-.13 (.11)	-.10	-.12 (.09)	-.08	-.01 (.03)	-.03
CG Parent CF x YA Sex	-.20 (.16)	-.11	-.07 (.15)	-.04	-.57 (.12)	-.28***	-.03 (.03)	-.06
ΔR^2 / Total R^2	27.4%		39.0%		63.9%		37.2%	

Note. CG = context-general. SB = social-behavioral. SC = social-cognitive. YA = young adolescent. Sex was coded 0 = boy and 1 = girl. BA = behavioral advice. CF = cognitive framing.
~p<.10. **p<.01. ***p<.001.

Table 12

Study 2 – Aim 4: Predicting T1 and T2 young adolescent peer acceptance from two dimensions of parent social coaching (behavioral advice and cognitive framing), two dimensions of young adolescent social skill (social-behavioral and social-cognitive), and the interactions of coaching dimensions x skill dimensions

	T1 Peer Acceptance				T2 Peer Acceptance			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 Peer Acceptance					.68 (.08)	.67***	.43 (.11)	.43***
R^2					44.9%			
Step 2: Controls								
YA Sex	.20 (.10)	.18*	.03 (.06)	.03	.10 (.08)	.09	.02 (.08)	.02
Household Income	.09 (.03)	.24**	.01 (.02)	.03	.04 (.03)	.12	.00 (.03)	.01
Parent Positive Involvement	.14 (.10)	.11	-.09 (.07)	-.08	.14 (.09)	.11	.09 (.08)	.08
ΔR^2	10.5%				3.0%			
Step 3: Main Effects								
CG Parent BA	.01 (.06)	.01	.02 (.06)	.03	.17 (.08)	.18*	.20 (.08)	.21*
CG Parent CF	.16 (.08)	.13*	.18 (.08)	.15*	.17 (.10)	.13	.20 (.10)	.16*
CG SB Skill	.55 (.05)	.63***	.53 (.05)	.61***	.14 (.10)	.16	.14 (.09)	.16
CG SC Skill	.37 (.07)	.32***	.36 (.07)	.32***	.00 (.10)	.00	.05 (.09)	.05
ΔR^2	52.9%				1.7%			
Step 4: Interaction Effects								
CG Parent BA x SB Skill			-.09 (.08)	-.06			-.15 (.10)	-.10
CG Parent CF x SB Skill			-.19 (.10)	-.11~			-.29 (.12)	-.16*
CG Parent BA x SC Skill			.05 (.12)	.02			.31 (.15)	.14*
CG Parent CF x SC Skill			.08 (.16)	.03			.57 (.19)	.21**
ΔR^2 / Total R^2			0.1% / 63.5%				4.9% / 54.5%	

Note. YA = young adolescent. Sex was coded 0 = boy and 1 = girl. CG = context-general. BA = behavioral advice. CF = cognitive framing. SB = social-behavioral. SC = social-cognitive.
~p<.10. *p<.05. **p<.01. ***p<.001.

Table 13

Study 2 – Aim 4: Predicting T1 and T2 young adolescent internalizing problems from parent positive involvement, two dimensions of young adolescent social skill (social-behavioral and social-cognitive), and the interactions of positive involvement x skill dimensions

	T1 Internalizing Problems				T2 Internalizing Problems			
	Step of Entry		Final Model		Step of Entry		Final Model	
	B (SE)	β	B (SE)	β	B (SE)	β	B (SE)	β
Step 1: T1 Outcome								
T1 Internalizing Problems					.56 (.08)	.59***	.56 (.08)	.59***
R^2					34.9%			
Step 2: Main Effects								
Parent Positive Involvement	-.00 (.02)	-.01	-.01 (.02)	-.02	.01 (.02)	.04	.01 (.02)	.05
CG Parent BA	-.01 (.02)	-.05	-.02 (.02)	-.06	.01 (.02)	.02	.01 (.02)	.02
CG Parent CF	-.04 (.03)	-.12	-.04 (.03)	-.13	.02 (.03)	.07	.02 (.03)	.07
CG SB Skill	-.07 (.02)	-.33***	-.07 (.02)	-.34***	-.01 (.02)	-.06	-.01 (.02)	-.05
CG SC Skill	-.07 (.03)	-.22**	-.06 (.02)	-.22**	.00 (.02)	.01	.00 (.02)	.01
ΔR^2	23.1%				-0.2%			
Step 3: Interaction Effects								
Positive Involvement x SB Skill			.07 (.03)	.17*			-.01 (.03)	-.02
Positive Involvement x SC Skill			.02 (.05)	.03			-.03 (.05)	-.04
ΔR^2 / Total R^2			4.5% / 27.6%				1.0% / 35.7%	

Note. CG = context-general. BA = behavioral advice. CF = cognitive framing. SB = social-behavioral. SC = social-cognitive.
*p<.05. **p<.01. ***p<.001.

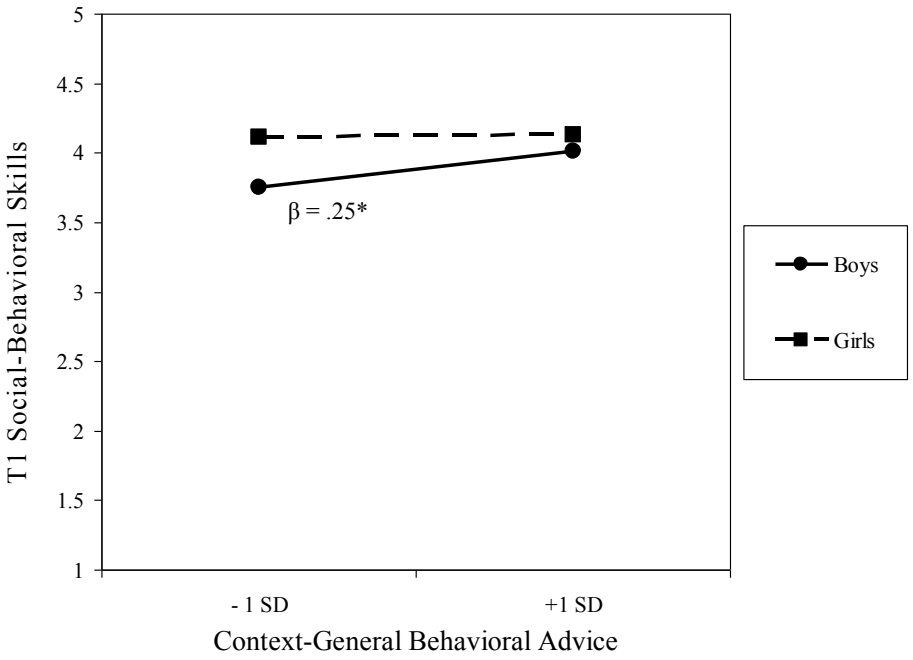

Figure 1. Context-general behavioral advice predicting T1 social-behavioral skills among boys and girls.

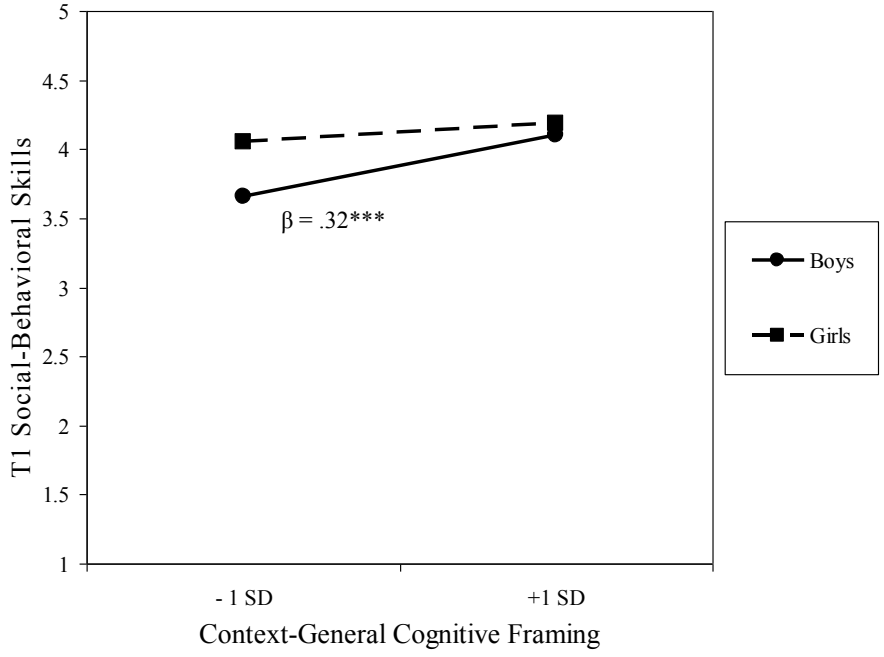

Figure 2. Context-general cognitive framing predicting T1 social-behavioral skills among boys and girls.

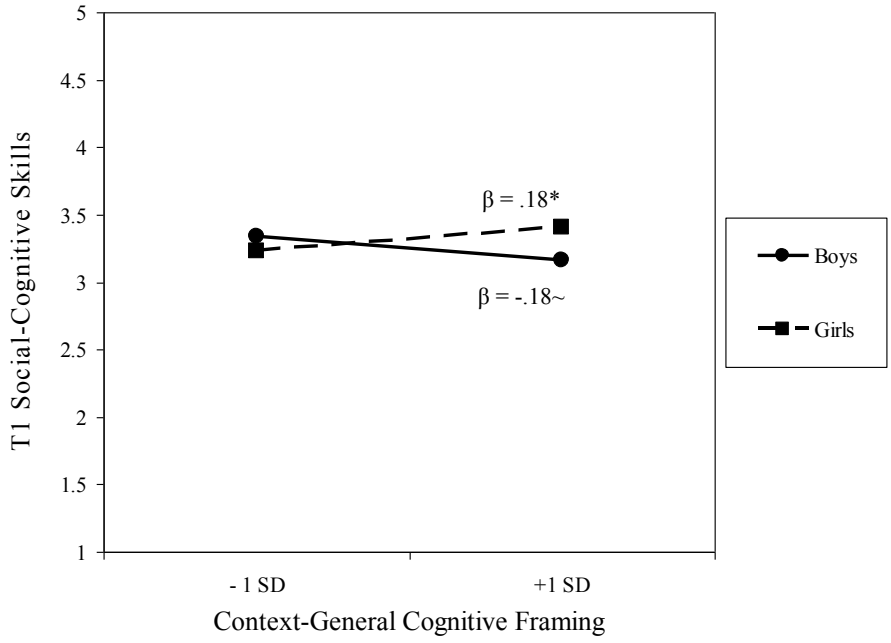

Figure 3. Context-general cognitive framing predicting T1 social-cognitive skills among boys and girls.

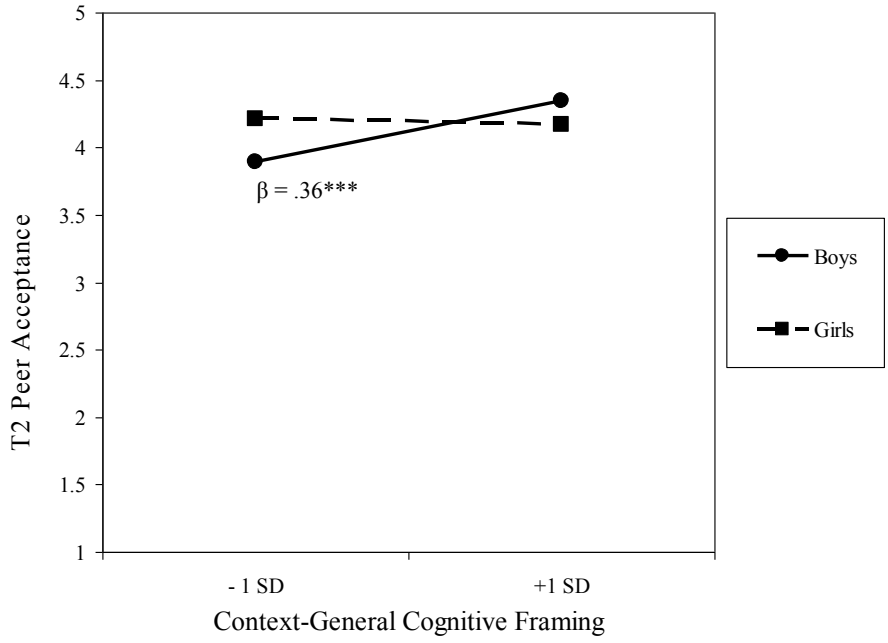

Figure 4. Context-general cognitive framing predicting T2 peer acceptance among boys and girls.

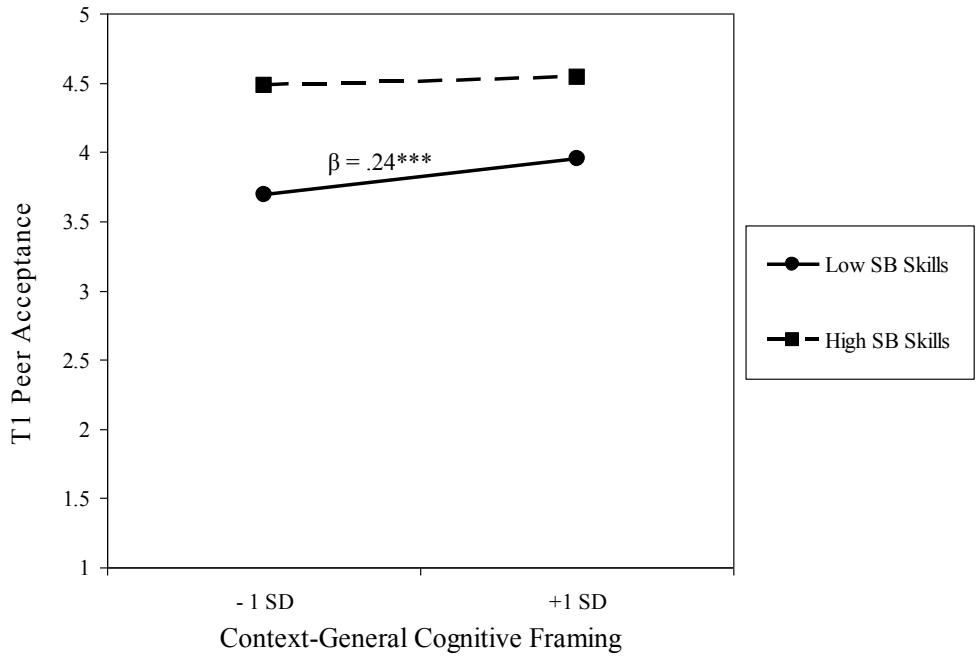

Figure 5. Context-general cognitive framing predicting T1 peer acceptance at low and high levels of young adolescent social-behavioral skills.

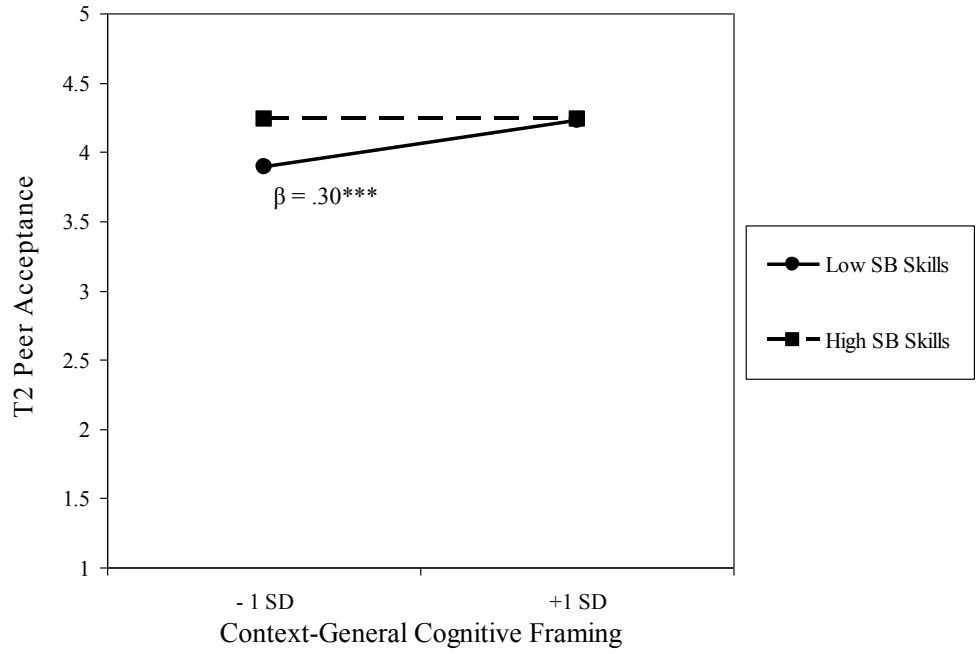

Figure 6. Context-general cognitive framing predicting T2 peer acceptance at low and high levels of young adolescent social-behavioral skills.

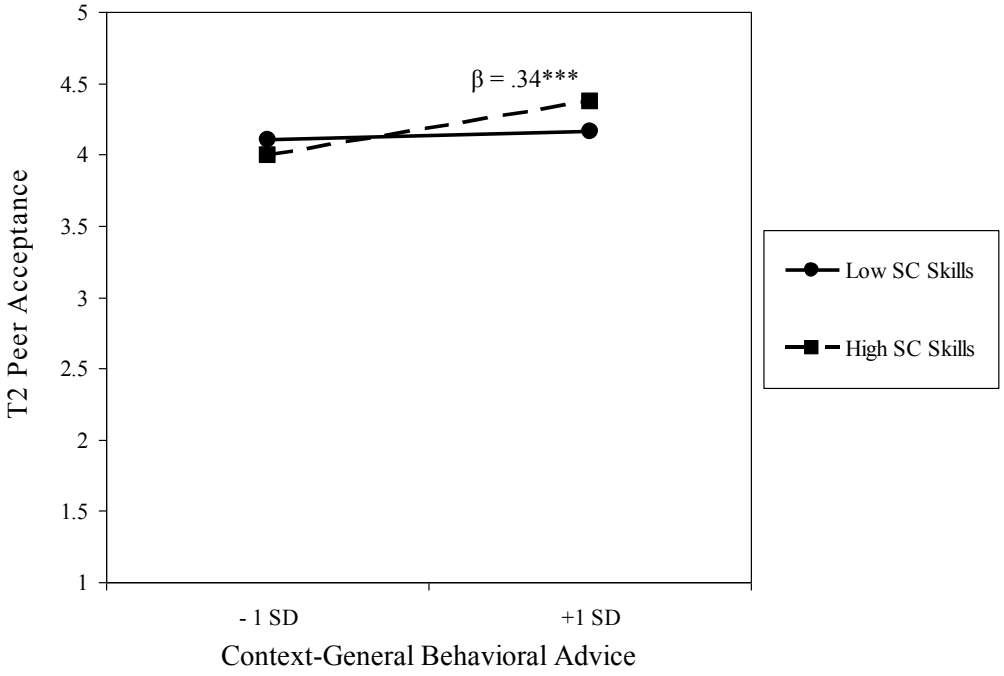

Figure 7. Context-general behavioral advice predicting T2 peer acceptance at low and high levels of young adolescent social-cognitive skills.

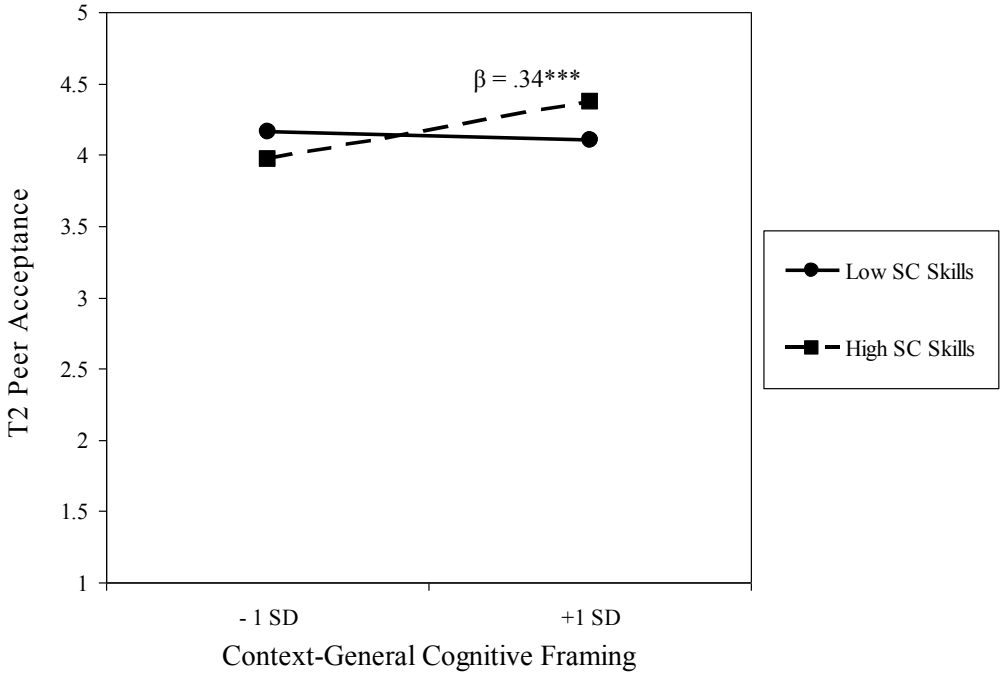

Figure 8. Context-general cognitive framing predicting T2 peer acceptance at low and high levels of young adolescent social-cognitive skills.

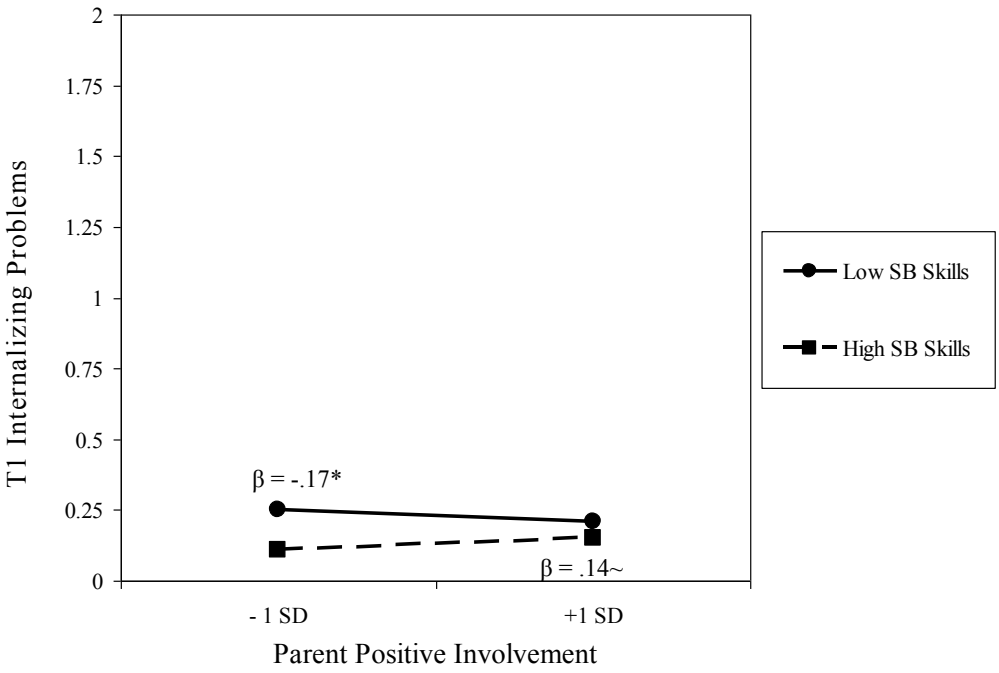

Figure 9. Parent positive involvement predicting T1 internalizing problems at low and high levels of young adolescent social-behavioral skills.