

Predicting Early Adolescents' Adjustment: Interaction between Friends' Behaviors and Friends' Demographic Characteristics

by

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Abstract

The present study examined independent cross-sectional associations between friends' behaviors (prosocial and deviant) and demographic characteristics (age, sex, school) and early adolescents' adjustment (internalizing and externalizing problems), as well as interactions between friends' behaviors and friends' demographic characteristics ($N = 123$). Early adolescents and teachers provided reports about friends' behaviors, and early adolescents reported on friends' demographic characteristics. Early adolescents, parents, and teachers provided reports about early adolescents' internalizing and externalizing problems. As hypothesized, friends' prosocial and deviant behaviors were uniquely associated with early adolescents' internalizing and externalizing problems, controlling for number of friends and demographic characteristics of target early adolescents and friends. Main effects of friends' behaviors were qualified by interactions with friends' demographic characteristics in some cases. In particular, replicated moderation analyses revealed stronger associations linking friends' lower prosocial and higher deviant behaviors with early adolescents' externalizing problems among early adolescents with lower proportions of older friends, compared to early adolescents with higher proportions of older friends. In addition, some support emerged for stronger associations between friends' behaviors and early adolescents' adjustment among early adolescents with relatively high proportions of other-sex friends (compared to lower proportions of other-sex friends) and relatively low proportions of same-school friends (compared to higher proportions of same-school friends). Thus, behavioral and adjustment similarities between early adolescents and their friends may depend on demographic features of the friendship group.

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Introduction

The end of childhood and the beginning of adolescence is a time of change and adjustment. An increasing amount of time is spent away from the home and family and more time and activities are spent with friends and peers (Larson, 2001). Additionally, the transition into middle school and early adolescence immediately precedes the increase in rates of behavioral and emotional disorders that begins around age 12 (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003). Many of the challenges facing adolescents during this time may be related to stress in their peer relationships (Parker, Rubin, Erath, Wojslawowicz, & Buskirk, 2006). The motivation to gain acceptance and avoid peer rejection, and the corresponding pressure to conform to the behavioral norms of the peer group, may increase early adolescents' risk for internalizing and externalizing problems if their friends engage in deviant behaviors, but decrease risk if their friends engage in positive, prosocial behaviors. Early adolescents may be particularly susceptible to the influence of friends who are perceived as popular (Cohen & Prinstein, 2006; Laursen, Hafen, Kerr, & Stattin, 2012).

Adolescents' and their friends' behaviors directly influence one another in a variety of ways. In particular, a large body of research provides evidence that friends' deviant behaviors influence adolescents' own externalizing problems. For example, Goodnight, Bates, Newman, Dodge, and Pettit (2006) found that friends' deviant behavior at age 14 predicted adolescents' deviant behavior (e.g., lying, stealing, drug use) at age 16, controlling for earlier levels of adolescents' deviant behavior. The socialization of externalizing behaviors may be explained, in part, by Social Learning Theory, which suggests that adolescents adopt behaviors based on the perceived and actual reinforcement conferred to their friends for similar behaviors. However, friends may also influence one another in less direct ways, by affecting the positive or negative

activities and experiences of their friends. Indeed, friends' externalizing behaviors also predict adolescents' depressive symptoms (Brendgen, Vitaro, & Bukowski, 2000; Mrug, Hoza, & Bukowski, 2004).

Fortunately, adolescents also may be influenced by their friends' prosocial behaviors. For example, Prinstein, Boergers, and Spirito (2001) found in a cross-sectional study that friends' prosocial behaviors were negatively associated with adolescents' own cigarette smoking and violent behaviors, as well as suicidal ideation. Additionally, research has shown that friends' prosocial behaviors predict early adolescents' own prosocial behaviors (Wentzel, Barry, & Caldwell, 2004) and are concurrently related to early adolescents' academic competence (Tu, Erath, & Flanagan, 2012). Despite a relatively well-developed literature on the socialization of deviant behaviors among friends, however, very few studies have examined whether friends' deviant and prosocial behaviors are independently associated with early adolescents' externalizing and internalizing problems. The proposed study will replicate and extend existing studies by examining independent associations linking friends' deviant and prosocial behaviors with early adolescents' internalizing and externalizing problems.

In addition to the socialization of behaviors between friends, some research has examined demographic characteristics of friends that may influence adolescents' internalizing and externalizing problems. The sex of friends, the age of friends, and the location of friends (in-school vs. out-of-school) will be examined in the proposed study. In early adolescence, the proportion of other-sex friendships has been linked with positive (e.g., social competence) and negative (e.g., increased substance use) outcomes (Bukowski, Sippola, & Hoza, 1999; Malow-Iroff, 2006). Although relatively few studies exist, research on friendships with older (rather than same-age or younger) adolescents suggests negative effects more consistently, perhaps because

older adolescents are more likely to participate in deviant behaviors (Chen & Jacobson, 2012) and have emotional or behavioral disorders (Merikangas, He, Brody, Fisher, Bourdon, & Koretz, 2009) that expose their younger friends to age non-normative experiences. Likewise, existing studies suggest that out-of-school (rather than school-based) friendships may contribute to adolescents' externalizing problems (Greene & Banerjee, 2009) because these friendship interactions are less structured and occur away from parent and adult supervision (Pettit, Laird, Dodge, Bates, & Criss, 2001). The present study attempts to replicate and extend existing studies by testing independent associations linking friends' demographic characteristics (sex, age, school) with early adolescents' internalizing and externalizing problems.

Whereas the behaviors and demographics of friends have been linked with adolescents' internalizing and externalizing problems in separate studies, the effects of friends' behaviors on adolescents' adjustment problems are likely not uniform, and may depend on friends' demographic characteristics. Surprisingly, very little research to date has considered whether friends' demographics moderate the influence of friends' deviant behaviors on early adolescents' internalizing and externalizing problems, and no research has considered whether friends' demographics moderate the influence of friends' prosocial behaviors on early adolescents' internalizing and externalizing problems. In early adolescence, mixed-sex (compared to same-sex) and older (compared to younger or same-age) friendship groups may have elevated social status (Faust, 1960; Poulin & Pedersen, 2007), and thus more socializing influence. Indeed, Haynie, Steffensmeier, & Bell (2007) found that exposure to other-sex friends' moderated the relationship between friends' and adolescents' violent behaviors, such that females exposed to higher proportions of male friends increased in violent behaviors, with stronger effects when the male friends were violent, while males decreased in violent behavior when exposed to higher

proportions of female friends, regardless of their female friends' violent behaviors. Friendships that occur outside of school (rather than school-based friendships) also may have more socializing influence because friends' behaviors may be less limited or shaped by adult intervention when interactions among friends occur outside of school settings. Consistent with this idea, Svensson and Oberwittler (2010) found that adolescents who spent more time in an unstructured environment with delinquent friends reported more delinquent behavior than adolescents who spent more time in structured environments with delinquent friends. The proposed study will advance existing research by examining whether associations linking friends' deviant and prosocial behaviors with early adolescents' internalizing and externalizing problems are stronger among early adolescents with a greater proportion of other-sex friends, older friends, and friends outside of school.

In summary, an examination of the literature has raised several noteworthy research questions. Our first research question asks whether friends' externalizing behaviors will be positively associated with early adolescents' own internalizing and externalizing problems. Contrarily, will friends' prosocial behaviors be negatively related to early adolescents' internalizing and externalizing problems? Our second set of research questions considers whether friends' demographics will be associated with early adolescents' internalizing and externalizing problems. More specifically, will early adolescents with a higher proportion of other-sex friends, older friends, and out-of-school friends display more internalizing and externalizing problems compared to early adolescents with lower proportions of these types of friends? Our third set of research questions considers whether friends' demographics (sex, age, and location) moderate the association between friends' deviant and prosocial behaviors and early adolescents' own internalizing and externalizing problems. Specifically, will the strength of

the association between friends' deviant and prosocial behaviors and early adolescents' internalizing and externalizing problems be stronger when the friendships are comprised of more other-sex, older, and out-of-school friends?

The first section of the literature review discusses theoretical and developmental models pertinent to the socialization of deviant and prosocial behaviors. Next, we review literature pertaining to the link between friends' deviant behavior and adolescents' externalizing problems. Afterward, we discuss research that has found associations between friends' deviant behavior and adolescents' internalizing problems. Following this, we discuss other predictors of adolescents' internalizing behaviors that are not explained by their friends' deviant behaviors. The next section considers relevant research linking friends' prosocial behaviors with adolescents' prosocial and deviant behavioral outcomes. After the sections on the potential influence of friends' behaviors, we review the literature on the main effects of friends' demographics on adolescents' internalizing and externalizing problems, including subsections covering the sex of friends, age of friends, and location (in-school or out-of-school) of friends. Thereafter, we review relevant literature that has examined interactions between friends' behaviors and friends' demographics as predictors of adolescents' adjustment. The present study section outlines our research questions and hypotheses, followed by a description of our method.

Theoretical Models

Selection and socialization are complementary explanations for similarities between friends and peers (see Kandel, 1978). Selection refers to the idea that individuals self-select friends who are already similar to them in terms of accepted attitudes and behaviors. Children and adolescents do indeed tend to choose one another as friends based on preexisting similarities

and common attributes (Reitz, Dekovic, Meijer, & Engels, 2006). For example, friends are more similar in terms of depressive symptoms, deviancy, and substance use than non-friends (Brendgen et al., 2000; Giletta, Scholte, Burk, Engels, Larsen, Prinstein, & Ciairano, 2011; Prinstein et al., 2001). Beyond choosing friends who are similar to themselves, friendship dyads tend to become more similar over time, a process that cannot be explained by selection effects alone. Socialization refers to the increasing similarity between friends over time. For example, adolescents become more deviant over time when they associate with deviant friends (Goodnight et al., 2006). For adolescents who already have trouble with deviant behaviors, finding prosocial friends becomes increasingly difficult due to rejection by non-deviant peers; as such, deviant adolescents are sometimes left with only other deviant adolescents as potential friends (Vitaro, Tremblay, & Bukowski, 2001).

Social Learning Theory provides an explanation for socialization. According to social learning theory, individuals model an attitude or behavior of another individual due to perceptions of the intrinsic and extrinsic reward given to the original behavior or attitude (Bandura, 1973; Brown, Bakken, Ameringer, & Mahon, 2008). Adolescents learn to model the behaviors and attitudes of their peers and friends based on the perceived and actual rewards or punishments associated with the behaviors and attitudes. For example, reinforcement of deviant behavior can occur when peers demonstrate increased interest (e.g., follow-up, laugh) when adolescents talk about rule-breaking behaviors. Dishion, Spracklen, Andrews, and Patterson (1996) found that not only were deviant adolescents more than twice as likely to talk about deviant behavior, but it was the only type of talk between deviant dyads that was reinforced with laughing. Subsequently, the authors found that this type of “deviancy training” predicted increased deviant behavior over the next two years (see also Snyder & Stoolmiller, 2002).

Although the socialization of prosocial behavior is understudied compared to deviant behavior, similar social learning mechanisms may operate. A small body of literature suggests that friends' prosocial behaviors also have an influence on adolescents' own behaviors. For example, studies have shown that friends' higher academic achievement is positively associated with adolescents' own grades (Altermatt & Pomerantz, 2005; Mounts & Steinberg, 1995), and that friends' prosocial behaviors predict increases in adolescents' own prosocial behaviors (Wentzel et al., 2004) as well as decreases in adolescents' own violent behaviors (Prinstein et al., 2001). Aside from social learning as a mechanism of socialization, affiliating with prosocial friends may reflect adolescents' (pre-existing) low levels of internalizing or externalizing problems, or prosocial friends may enhance adolescents' mood and diminish behavior problems less directly, by providing more opportunities for positive social and activity involvement.

Whereas socialization by friends has been documented from childhood through adolescence, susceptibility (or receptivity) to socialization by friends may be especially salient in the early adolescent years. Due to normative biological (e.g., puberty), psychological (e.g., need for autonomy from parents) and structural (e.g., expectations and opportunities for peer interaction) changes, early adolescents spend an increasing proportion of their time with friends, potentially increasing their susceptibility to friends' influence (Parker et al., 2006). Furthermore, an increasing percentage of time with friends occurs during unstructured activities without adult supervision (Greene & Banerjee, 2009; Larson, 2001). The influence of friends may be exacerbated if many of the interactions between friends occur without adults, who can set limits or provide alternative perspectives. A substantial percentage of deviant behavior is likely to occur when adolescents are alone together without the supervision of adults (Greene & Banerjee, 2009).

Corresponding to the increased time they spend with peers, early adolescents are especially concerned with gaining acceptance into exclusive cliques and avoiding rejection, thus potentially increasing their susceptibility to behaviors and attitudes that may win their friends' approval. Early adolescents report that their most frequent and intense worries involve negative social evaluation and teasing (Silverman, La Greca, & Wasserstein, 1995), and these worries increase from childhood through middle adolescence (Westenberg, Drewes, Goedhart, Siebelink, & Treffers, 2004). Moreover, the majority of early adolescents experience at least occasional exclusion or victimization from their peers (Sandstrom, 2004), potentially drawing further attention to peer perceptions and exacerbating susceptibility to peer influence.

The status of friendship groups may play an important role in adolescents' receptivity to their friends' behaviors and attitudes in early adolescence. According to the Theory of Reasoned Action, if adolescents feel social pressure to participate in an activity, it may influence their intentions to engage in that activity (Kazdin, ed., 2000). Thus, deviancy training may be accentuated when the individual displaying or discussing the deviant behavior is of higher status among peers, because higher status peers serve as models of what is socially normal or acceptable (Laursen et al., 2012). Cohen and Prinstein (2006) argue that adolescents strive to emulate the behaviors and attitudes of their higher-status peers in order to better identify with the "cool" crowd (see also Prinstein & Wang, 2005). This idea has been supported in recent research. For example, Ellis and Zarbatany (2007) found that deviant peer groups increased their deviant behaviors over time if their group had higher social status, but not if their group had lower social status. Similarly, Nijhof, Scholte, Overbeek, and Engels (2010) found that friends' participation in violent behavior and vandalism predicted increases in adolescents' violent behavior and vandalism; the predictive association was stronger among adolescents with high-

status friends compared to adolescents with medium- or low-status friends. Similar findings have been reported with smoking and susceptibility to smoking (Valente, Unger, & Johnson, 2005) and aggressive behavior (Peters, Cillessen, Riksen-Walraven, & Haselager, 2010).

Two additional, status-relevant changes during early adolescence that may intensify the peer influence process are increased interaction with other-sex peers (Arndorfer & Stormshak, 2008; Malow-Iroff, 2006) and increased contact with older and more mature adolescents in middle or junior-high school. Having older friends may be related to adolescents' perceptions of popularity or status, because adolescents tend to associate social status with age (Faust, 1960) and physical maturity (Harton & Latané, 1997). For example, Harton and Latané (1997) found that adolescents who held more advanced or more mature attitudes were seen as more popular by their peers. Likewise, the number of opposite-sex friends in the peer network is associated with ones' status among peers (Poulin & Pedersen, 2007). Thus, consistent with Reasoned Action Theory, the influences of friendship groups may be more powerful when friendship groups are composed of older and other-sex peers.

An alternative perspective is that adolescents may be more likely to emulate the behaviors of those who are most similar to them in terms of social status or demographic characteristics such as age or gender. It is also possible that the association between friends' behaviors and early adolescents' adjustment is stronger among adolescents who have mostly same-age or same-school friends because these adolescents likely spend more time together and thus have more opportunities to socialize one another.

Literature Review

Friends' Deviant Behavior Predicts Target Adolescents' Externalizing Problems

A substantial body of literature links adolescents' deviant behavior with their friends' deviant behavior. For example, Brendgen et al. (2000) found that adolescents who had deviant friends (friends who scored high on the Self-Report Delinquent Behavior Questionnaire) were significantly more deviant than other adolescents who did not have deviant friends, and excessive time spent with deviant friends appears to compound this risk (Wissink, Deković, & Meijer, 2009). Other studies find the same relationship for measures of adolescent externalizing behavior (Reitz et al., 2006) and antisocial behavior (Van Lier, Vitaro, Wanner, Vuijk, & Crijnen, 2005). Furthermore, adolescents' reports of their friends' deviant behavior (e.g., drug use, stealing, lying, trouble in school, and fighting) at an earlier time point predicts target adolescents' deviant behavior at a later time point (Goodnight et al., 2006). The effects of friends' deviance are strong enough to remain even after controlling for the target adolescents' earlier levels of deviancy (Goodnight et al., 2006; Vitaro, Brendgen, & Tremblay, 2000). A recent study by Brendgen et al. (2008) used a twin study to measure children's physical aggression. The authors used both teacher and peer reports to describe both the target adolescent and his/her friends' aggressive behaviors. They found that having highly aggressive friends explained significant variance in the target adolescents' own physical aggression, above and beyond what could be explained by genetic inheritance.

Considering a broader range of delinquent or deviant behaviors, studies also show that having friends who use substances is highly related to target adolescents' personal substance use (Prinstein et al., 2001), indicating that deviant influence is not necessarily restricted to same

behaviors. Prinstein et al. (2001) found that friends' risky substance use behaviors, particularly heavy drinking and marijuana use, was not only related to target adolescents' own substance use, but also predicted adolescents' deviant behavior and physical fighting.

While friends' actual levels of deviant behavior affect adolescents' own levels of deviant behavior, recent research has shown that just the perception of friends' deviancy may be sufficient to predict target adolescent deviance (Prinstein & Wang, 2005; Wissink et al., 2009). Related to perceptions about friends, Mrug et al. (2004) specified whether target adolescents self-identified friends (self-chosen) or were identified by others as a friend (other-chosen), and found that the aggression of self-chosen friends predicted target adolescents' own aggression at later time points, whereas the aggression of other-chosen friends did not predict target adolescents' aggression at later time points.

Beyond friendships specifically, some research has examined the relationship between adolescents' externalizing problems and their peer groups' externalizing behaviors. Similar to findings pertaining to friendships, teacher and peer reports of the peer groups' deviant behavior predicts target adolescents' externalizing problems (Boxer, Guerra, Huesmann, & Morales, 2005). These authors found that the peer group can have significant effects on adolescents, both in positive and negative directions. Specifically, adolescents who are exposed to highly aggressive peers are likely to increase in their own aggression over time, whereas highly aggressive youth who are surrounded by non-aggressive peers are likely to exhibit decreasing aggression over time. Interestingly, Boxer et al. (2005) also reported that the greater the discrepancy between an adolescent and his/her peers, the more the target adolescent's aggression changed.

Aside from the status of friends, as discussed in the theoretical section above, individual characteristics of the adolescent may moderate the association between friends' and adolescents' behaviors. For example, Prinstein, Brechwald, and Cohen (2011) found that influence susceptibility, or how susceptible an individual is to his/her friends, operated as a moderator. Prinstein et al. (2011) operationalized influence susceptibility as how much adolescents were willing to conform to peer pressure in a chat room setting. The authors found that adolescents who were low in influence susceptibility were unaffected by their peers' responses to hypothetical scenarios, while adolescents who were high in influence susceptibility were only influenced by their peers who were high in status. Similar findings have been shown concerning adolescents' attitudes toward delinquency. Adolescents who viewed delinquency unfavorably were largely unaffected by the delinquency of their friends (Vitaro et al, 2000).

Friends' Deviant Behavior Predicts Target Adolescents' Internalizing Problems

Whereas an abundance of literature links friends' deviant behavior with adolescents' own externalizing problems, much less attention has been given to the relationship between friends' behaviors and adolescents' internalizing problems. A few key studies have addressed the association between friends' behaviors and adolescents' internalizing problems (given the paucity of relevant research, the existing studies will be reviewed in more detail than studies concerning the socialization of externalizing behaviors). One study by Mrug et al. (2004) looked at the association between friends' aggressive behaviors and adolescents' depressive symptoms. The study's participants included 236 children in third, fourth, or fifth grades at the onset of the study. Four waves of data were collected at 6, 18, and 24 months after the beginning of the study. Children were asked to circle the names of their classmates who they considered friends and to nominate their three "best friends." Friends' behaviors were assessed with peer nominations

(Revised Class Play; Masten, Morison, & Pellegrini, 1985). The goal was to see if there was a difference in susceptibility depending on whether the adolescent liked disruptive peers, or whether the disruptive peers liked the target adolescent. Friends' aggressive behaviors predicted target children's later self-reported depressive symptoms when friends were nominated by target children. Contrarily, there were no effects of friends' aggressive behaviors on children's later depressive symptoms when target adolescents were identified by others as friends.

Van Zalk, Kerr, Branje, Stattin, and Meeus (2010) conducted a recent study on the socialization of depression among adolescent friends. Additionally, they examined associations linking friends' deviancy (e.g., shoplifting, vandalism, and petty theft) and drinking behaviors with adolescents' depressive symptoms. Their sample consisted of 329 adolescents who were asked to identify up to 10 friends who they spent time with in school and 10 friends who they spent time with out of school. Depressive symptoms were measured via self-reports on the Child Depression Scale from the Center for Epidemiological Studies. Alcohol use was measured with a single item about frequency of alcohol intoxication over the past year. Similarly, adolescents were asked to report whether they had engaged in delinquent behaviors over the past year. Similar to other studies mentioned thus far, the authors found that friends' depressive symptoms predicted adolescents' depressive symptoms over time. Friends' deviancy did not predict changes in depressive symptoms, but friends' drinking did predict increases in adolescents' depressive symptoms over time. The authors also reported that friends who were nominated as out-of-school friends were more similar in terms of depressive symptoms than were friends who were nominated as in-school friends.

Brendgen et al. (2000) used a sample of 305 ninth-graders to assess whether friends' deviant behaviors (e.g., fighting, theft, vandalism, and drug and alcohol use) were associated

with target adolescents' depression. Deviant behaviors were assessed with the self-report Delinquent Behavior Questionnaire and depression was measured with the Children's Depression Inventory. Adolescents were asked to nominate up to four of their best friends within their classroom. Adolescents whose friendships were not reciprocated were coded as friendless. The authors found that levels of depression in adolescents who were friends with deviant adolescents were equal to those of adolescents who did not have friends, and significantly higher than adolescents with non-deviant friends. A related study found that adolescents' cigarette use was positively associated with their friends' suicidal ideation and negatively associated with their friends' prosocial behaviors (Prinstein et al., 2001).

Adolescents' internalizing problems not explained by friend's deviancy. As reviewed above, few studies have considered the association between friends' externalizing behaviors and adolescents' internalizing problems, but several additional studies provide evidence that adolescents' internalizing problems are susceptible to friends' influence. For example, Hogue and Steinberg (1995) found that adolescents' internalized distress predicted their friends' internalized distress, controlling for the friends' earlier level of internalized distress. Similarly, Stevens & Prinstein (2005) found that friends' depressive symptoms predicted an increase in adolescents' depressive symptoms, controlling for the adolescents' initial levels of depression (see also Mercer & DeRosier, 2010; Van Zalk et al., 2010). In a separate study, Prinstein and colleagues also found that the average level of depression among a group of friends predicts adolescents' self-reported depression over time (Conway, Rancourt, Adelman, Burk, & Prinstein, 2011). Related research has shown that socialization of social anxiety may occur in adolescent friendships, especially among girls (van Zalk, van Zalk, Kerr, & Stattin, 2011). One potential explanation for depression contagion among adolescent peers is co-rumination, a pattern of

excessive discussion about problems within a close relationship that itself predicts internalizing symptoms (Tompkins, Hockett, Abraisbesh, & Witt, 2011).

Prinstein (2007) reported that the quality of the friendship between adolescent boys moderated peer contagion, in that adolescent boys in higher-quality friendships were unaffected by their friend's depressive symptoms, but adolescent boys in lower-quality friendships were susceptible to depression contagion. Interestingly, this was not true for girls. In contrast, in a sample of 1,752 adolescents, Giletta et al. (2011) investigated whether depression contagion varied depending on whether the best friendships were with "true" best friends or "class" best friends. The true best friend was defined as "the classmate who would have been nominated as the very best friend even without classroom restrictions associated with the peer nomination procedure," and the class best friend was defined as "an adolescent's best friend within the class" (p. 1806). Analyses revealed that members of true best friendships were more similar than members of class best friendships in terms of depressive symptoms. However, this effect held only among female adolescents; among male adolescents, higher levels of depression at Time 1 predicted a decrease in the friends' depression at Time 2. Based on the current findings in the literature, it is prudent for future research to further examine factors that may strengthen or weaken friends' positive and negative influences.

Friends' Prosocial Behavior Predicts Target Adolescents' Internalizing and Externalizing Problems

Currently, there is not much evidence pertaining to how friends' prosocial behaviors influence the internalizing and externalizing problems of adolescents. In one exception, Prinstein et al. (2001) examined the association between friends' prosocial behaviors and target

adolescents' externalizing problems. In a cross-sectional analysis, target adolescents reported on their friends' prosocial behaviors with items such as: whether they get good grades, if they are liked by teachers, if they are involved in school clubs/teams, whether they are liked by their peers, and whether they help their peers who are having problems. Externalizing problems were measured via adolescents' self-report of substance use, weapon carrying, and physical fighting. Friend's prosocial behaviors were associated with target adolescents' lower levels of violent behavior.

Other studies have examined associations between friends' prosocial behaviors and adolescents' own prosocial behaviors and academic competence. Wentzel et al. (2004) found that friends' peer- and teacher-reported prosocial behavior was associated with target adolescents' prosocial behaviors two years later. However, this association failed to reach significance after controlling for the target adolescents' earlier prosocial behaviors. In a more recent cross-sectional study, Tu et al. (2012) reported an association between mutual friends' teacher-reported prosocial behaviors and early adolescents' teacher-reported academic competence. Having friends with more prosocial behaviors also served as a protective factor against lower academic competence among victimized early adolescents.

Given the scarcity of research pertaining to friends' prosocial behaviors predicting adolescent's internalizing and externalizing behaviors, extra focus was given to research on the association between friend's academic achievement and target adolescent's own academic achievement. With few exceptions (Véronneau, Vitaro, Brendgen, Dishion, & Tremblay, 2010), evidence appears to support the hypothesis that friends' achievement has a positive association with adolescents' own achievement. For example, Mounts and Steinberg (1995) found that adolescents who had high-achieving friends showed more improvement in grades than

adolescents who had low achieving friends one year later (see also Altermatt et al., 2005). Wentzel et al. (2004) found that friends' GPA in sixth grade significantly predicted the target adolescents' GPA in eighth grade, although this relationship was not significant after controlling for the target adolescents' GPA in sixth grade. Other research indicates that adolescents with high-achieving friends have lower levels of off-track academic behavior one year later (Crosnoe, Cavanagh, & Elder, 2003). Crosnoe et al. (2003) explained that academically-oriented friends serve as an "academic resource" for adolescents. Adolescents with high-achieving friends also tend to evaluate themselves more favorably than adolescents with low-achieving friends (Altermatt et al., 2005). Ryan (2001) found that associations among friends seem to generalize to the adolescents' peer group more generally, showing that adolescent peers become more similar to each other over time in terms of their school enjoyment. Thus, whereas few studies have examined associations between friends' prosocial behaviors and adolescents' own internalizing and externalizing behaviors, research clearly suggests that friends' prosocial behaviors influence adolescents' behavior and attitudes.

Friends' Demographics and Target Adolescent' Internalizing and Externalizing Problems

Aside from the direct socialization of behaviors among friends, demographic characteristics of friends may be linked with early adolescents' internalizing and externalizing problems. The adjustment correlates of varying proportions of other-sex friends have received some attention in the literature. In addition, a small body of literature has explored the adjustment correlates of having older friends (compared to younger or same-age friends) and friends outside of the school context (compared to having school-based friends). These demographic characteristics of friendship groups may be especially linked with adjustment

(internalizing and externalizing problems) when opportunities for friendships with older, other-sex, and non-school peers increase in early adolescence.

Sex of friends. As children reach puberty and early adolescence they become increasingly interested in associating with members of the opposite sex. Research suggests that the proportion of friends who are classified as opposite-sex is similar between boys and girls (Arndorfer et al., 2008; Dick, Pagan, Holliday, Viken, Pulkkinen, Kaprio, & Rose, 2007), and the proportion increases fairly linearly as children age (Arndorfer et al., 2008; Malow-Iroff, 2006; Poulin & Pedersen, 2007). This change in the structure of adolescent friendships may come with additional risk (for girls especially) and protective factors (for boys especially). In general, boys are more likely to approve of deviant behavior than girls (Harton & Latané, 1997), more likely to participate in delinquent activities than girls (Nijhof et al., 2010), and are more likely to participate in serious violence (Haynie et al., 2007). However, girls are more likely to experience higher levels of internalizing problems (e.g., depression) (Brendgen et al., 2000). Thus, it is possible that girls who are friends with boys may be at increased risk for deviant behavior, compared to girls whose friendships are comprised of only girls. Contrarily, it is possible that boys will exhibit lower levels of deviant behavior and higher levels of depressive symptoms when they are friends with girls, but exhibit higher levels of deviant behavior when they are friends with only boys. Some existing research has supported these hypotheses. For example, adolescents with some opposite-sex friends are much more likely to use alcohol (Dick et al., 2007) and to report increased expectancies to use both alcohol and cigarettes (Malow-Iroff, 2006). Malow-Iroff notes that this pattern is especially strong among girls with opposite-sex best-friends. Mrug, Borch, and Cillessen (2011) also found that mixed-sex peer groups are more likely to use alcohol than same-sex peer groups, and girls (but not boys) in mixed-sex peer

groups are more likely to try smoking. They showed that girls with only male friends were 30 times more likely to start smoking than girls with only female friends, and girls with male and female friends were more than 5 times more likely to start smoking than girls with only female friends.

Similar results have been reported concerning adolescents' violent behaviors. Haynie et al. (2007) found that girls with a higher proportion of opposite-sex friends had greater odds of engaging in violent behavior, whereas boys with a higher proportion of opposite-sex friends had lower odds of engaging in violent behavior. Similar findings have been shown in regards to adolescents' antisocial behavior (Arndorfer et al., 2008; Poulin & Pedersen, 2007). Poulin and Pedersen (2007) found that teacher ratings of antisocial behavior in sixth grade were positively associated with the proportion of other-sex friends one year later. Andorfer et al. (2008) reported that girls with other-sex best friends had higher levels of antisocial behavior than girls with only same-sex best friends, whereas boys with other-sex best friends had lower levels of antisocial behavior than boys with only same-sex best friends.

Contrary to results that indicate potential risks associated with other-sex friendships, particularly among early adolescent girls, some studies suggest that other-sex friendships have positive effects on adolescent adjustment. Indeed, the transition from same-sex to mixed-sex friendship groups may be an important stepping stone toward romantic relationships in adolescence (Connolly, Craig, Goldberg, & Pepler, 2004). Other-sex friendships may confer other benefits as well. For example, Kuttler, La Greca, and Prinstein (1999) found that high school-aged boys tended to receive more self-esteem support from their other-sex friends than their same-sex friends. A moderate proportion of other-sex friends have also been linked with higher levels of self-report social competence among boys and girls in early adolescence

(Bukowski et al., 1999). However, the authors noted an interesting difference between the boys and girls. Boys tended to be protected from other-sex friendships regardless of whether they had same-sex friends, but girls with only other-sex friends (no same-sex friends) had lower levels of social competence compared to girls with no friends and girls with at least one same-sex friend. Other research has shown non-linear effects (moderate is best) of mixed-sex friendships on peer-reports of peer acceptance and helpfulness in pre-adolescence (Kovacs, Parker, & Hoffman, 1996). Inconsistent evidence regarding the positive or negative influence of other-sex friendships suggests that the association between proportion of other-sex friendships and internalizing and externalizing problems may depend on behavioral characteristics of the friendship group.

Older friends. Associating with older friends may be a risk factor for deviant behavior because adolescents are more likely to participate in deviant behavior compared to preadolescents or early adolescents (Heinze, Toro, & Urberg, 2004). For example, Barber and Olsen (2004) found that older adolescents are more likely to engage in conflict with their parents and exhibit antisocial behavior. Older adolescents are also more likely to use alcohol, smoke cigarettes, and use marijuana (Chen & Jacobson, 2012; Costello & Crosnoe, 2003). Additionally, adolescents (12-15 yrs.) are more likely to be diagnosed with internalizing and externalizing disorders compared to preadolescents (8-11 yrs.) (Costello et al., 2003; Merikangas et al., 2009).

In addition to higher rates of behavioral and emotional problems, adolescents who are more mature or physically advanced may be considered more popular among peers (Harton & Latané, 1997). For example, girls who are more advanced in their physical development in early adolescence are rated as more popular among both boys and girls, as well as by teachers (Reynolds & Juvonen, 2011). Therefore, having older friends increases the probability of having a friend who is deviant or has internalizing problems, and older friends may have more influence

on early adolescents due to the social status associated with their physical maturity. For example, early adolescents may participate in deviant behavior to impress their older friends. Velazquez, Pasch, Perry, and Komro (2011) found that adolescents who report using alcohol, marijuana, or cigarettes are significantly more likely to have an older friend compared to adolescents who do not have an older friend. On the basis of existing research showing increases in depression and deviant behavior around the transition to adolescence, as well as increases in deviant behavior among children and early adolescents who associate with older adolescents, modest associations linking an older friendship group with internalizing and externalizing problems seem likely.

In-school friends vs. out-of-school friends. The context in which early adolescent friendships occur, or in which friends spend time together, may also influence adjustment. In particular, friendships that occur outside of school, away from the supervision of adults could serve as a breeding ground for deviant behaviors. For example, Witkow and Fuligni (2010) found that the percentage of friendships in-school is positively correlated with the adolescents GPA. Stattin, Kerr, and Skoog (2011) also found that having friends outside of school is associated with an increased frequency of deviant behaviors (e.g., skipping school and shoplifting). Greene and Banerjee (2009) found that adolescents who spend more unsupervised time with peers are more likely to have more deviant friendships. Similarly, Pettit et al. (2001) found that mother and child reports of parental monitoring of children's activities is negatively associated with the children's deviant behavior, as reported by the children, mothers, and teachers (see also Pettit, Bates, Dodge, & Meece, 1999). Unsupervised time with friends likely results in increased opportunities to participate in deviant behaviors that would not be permissible under the watchful eyes of parents and teachers. Thus, friendship groups composed

of more out-of-school peers may be linked with higher levels of externalizing problems in early adolescence.

Interactions between Friends' Demographic Characteristics and Friends' Behaviors

Simple associations linking friends' behaviors and demographics with early adolescents' behavioral and psychological adjustment may belie a more complex socialization process in which friends' behaviors are more or less influential depending upon demographic features of the friendships. Only a few studies have examined interactions between friends' behaviors and demographics as predictors of adolescent adjustment. Svensson and Oberwittler (2010) found that the more adolescents reported spending time in unstructured activities (e.g., hanging out in the streets) with deviant friends (e.g., use drugs), the more they reported participating in deviant behavior themselves (e.g., theft, fighting, vandalism). Likewise, Dishion, Andrews, and Crosby (1995) noted that the greatest effects for peer susceptibility of deviant behaviors occurred when the friendships were formed outside of school and when adolescents lived within the same neighborhood. Another study found a stronger association between friends' and adolescents' depressive symptoms when the friendships took place out-of-school vs. in-school (Van Zalk et al., 2010). Haynie et al. (2007) examined interactions among the sex of adolescents, the sex of their friends, and their friends' violent behaviors (e.g., using a knife or shooting someone). They found that girls who had violent other-sex friends became more violent over time, while boys with other-sex friends tended to become less violent over time, regardless of their friends' violent behaviors.

The Present Study

Existing research has clearly shown that behaviors and attitudes between friends are not only similar, but that the behaviors and attitudes become more similar across time. However, most research on socialization among friends has focused on deviant or externalizing behaviors and failed to consider conditions under which socialization (or selection) may be strengthened or weakened. Further examining the influence of friends' prosocial behaviors and identifying factors that may exacerbate the socialization of friends' prosocial and deviant behaviors are important next steps in the research process.

Existing research has documented socialization of same-behaviors between friends (Brendgen et al., 2000; Reitz et al., 2006), but very little research links friends' prosocial behaviors with early adolescents' own externalizing and internalizing problems. For example, only two studies have shown that friends' prosocial behaviors are related to adolescents' lower externalizing problems (Boxer et al., 2005; Prinstein, et al., 2001), and no studies have examined the association between friends' prosocial behaviors and early adolescents' internalizing problems. Only one prior study has reported an association between friends' deviant behaviors and adolescents' internalizing problems (Mrug et al., 2004). Additionally, whereas research has shown that friends' demographic characteristics are associated with adolescents' behavior and adjustment (e.g, popularity and social status) (Ellis & Zarbatany, 2007; Nijhof et al., 2010; Peters et al., 2010; Valente et al., 2005), very few studies have considered friends' demographics as moderators that may exacerbate or attenuate the association between friends' behaviors and adolescents' externalizing problems (Arndorfer & Stormshak, 2008; Haynie et al., 2007; Mrug et al., 2011). Only one study has examined whether friends' demographics moderate the association between friends' behaviors and adolescents' internalizing problems (Van Zalk et al., 2010).

Similarly, no published studies have reported friends' age as a moderator of peer influence, and very few studies have examined whether the location (i.e., in-school or outside-of-school) of the friendship may serve as a moderator of peer influence (Dishion et al., 1995).

The present study examined cross-sectional associations between friends' prosocial and deviant behaviors and early adolescents' internalizing and externalizing problems, using multiple informants of friends' behaviors (early adolescents and teachers) and early adolescents' adjustment (early adolescents, parents, and teachers). Including multiple informants of predictor and outcome variables preserved the potentially unique perspective of each informant (e.g., teachers may provide more objective reports about adolescents' friends' deviant behaviors; adolescents have an insider's view on their depressed feelings), eliminated common informant variance in some analyses (e.g., when adolescent-reported friends' behaviors were tested as predictors of teacher or parent reports of adolescents' adjustment), and allowed tests of replication (e.g., do friends' prosocial behaviors, reported by adolescents and teachers, predict adolescents' internalizing problems, reported by adolescents and parents). Several demographic characteristics of friendships (same- or other-sex composition of friendship group, relative age of friendship group, and in-school or out-of-school location of friendship group) also were examined as correlates of early adolescents' adjustment and as moderators of the associations between friends' behaviors and early adolescents' adjustment. The cross-sectional design of the present study precludes conclusions about directionality (e.g., selection or socialization), but advances the literature by testing variability in the strength of associations between friends' behaviors and early adolescents' adjustment depending on the demographic composition of the friendship group.

Aim 1 (Main Effects of Friends' Behaviors and Demographics). An initial goal of the present study was to replicate and extend previous findings linking friends' deviant and prosocial behavior with early adolescents' internalizing and externalizing problems. We hypothesized that friends' deviant behaviors would be positively associated with target adolescents' externalizing and internalizing problems, and that friends' prosocial behaviors would be negatively associated with target adolescents' externalizing and internalizing problems. The present study advances prior research by examining independent, or unique, associations between friends' prosocial and deviant behaviors and early adolescents' internalizing and externalizing problems.

An additional goal of this study was to replicate and extend existing literature linking friends' demographic characteristics (sex, age, and location of the friendships) with early adolescents' internalizing and externalizing problems. Again, the present study examined unique associations between friends' sex, age, and location and adolescents' internalizing and externalizing problems, controlling for friends' deviant and prosocial behaviors. First, the sex composition of adolescents' friendship group may influence their behaviors and attitudes (Dick et al., 2007). Adolescents who are part of mixed-sex friendship groups are more likely to use alcohol and smoke (Mrug et al., 2011). Contrarily, having some other-sex friends is associated with higher self-esteem support from friends (among boys), social competence, and peer acceptance (Bukowski et al., 1999; Kovacs et al., 1996; Kuttler et al., 1999). Given the potential risks and benefits of other-sex friendships in early adolescence, we did not expect to find a direct association between the proportion of other-sex friends and early adolescents' externalizing or internalizing problems.

Second, the age of early adolescents' friends may be associated with early adolescents' internalizing and externalizing problems. Older adolescents tend to participate in more deviant

activities (e.g., substance use) than younger adolescents (Chen & Jacobson, 2012; Heinze et al., 2004), and they report higher levels of depression (Barber & Olsen, 2004). Velazquez et al. (2011) showed that having older friends places younger adolescents at risk in several domains (i.e., opportunities to use alcohol). Based on these findings, we hypothesized that having a larger proportion of older friends would be positively associated with adolescents' externalizing and internalizing problems, though we anticipate only a modest positive association.

Third, early adolescents' levels of internalizing and externalizing problems may depend, in part, on whether they associate with friends at school or friends outside of school. A greater degree of out-of-school friendships has been linked with adolescents' problem behaviors (Stattin et al., 2011). When friendships occur outside of school, away from adult supervision, activities and interactions tend to be less structured and supervised, which is linked with an increase in deviant (Svensson & Oberwittler, 2010) and internalizing behavior (Van Zalk et al., 2010). More out-of-school friends may also reflect difficulty with establishing more normative school-based friendships, and fewer friendships and peer rejection at school are linked with internalizing and externalizing problems (Parker et al., 2006). We thus hypothesized that a larger proportion of out-of-school friendships would be associated with early adolescents' externalizing and internalizing problems.

Aim 2 (Interactions between Friends' Behaviors and Demographics). The primary goal of the present study was to examine whether friends' demographic characteristics moderate associations between friends' deviant and prosocial behaviors and early adolescents' externalizing and internalizing problems. In early adolescence, mixed-sex peer groups are generally considered more popular and have higher social status than same-sex peer groups (Poulin & Pedersen, 2007); thus, early adolescents may be more strongly influenced by their

friends' behaviors when the friendship group is composed of a relatively high proportion of other-sex friends (Laursen et al., 2011). Mrug et al. (2011) showed that adolescents were more likely to use alcohol if they had other-sex friends who used alcohol compared to same-sex friends who used alcohol. We thus hypothesized that friends' deviant behavior would be more strongly associated with early adolescents' externalizing and internalizing problems among early adolescents with a higher proportion of other-sex friends compared to early adolescents with a lower proportion of other-sex friends. Likewise, we anticipated that friends' prosocial behavior would be more strongly associated with early adolescents' lower externalizing and internalizing problems among early adolescents with a higher proportion of other-sex friends compared to early adolescents with a lower proportion of other-sex friends.

Given the greater perceived popularity of older, or more mature, adolescents (Harton & Latané, 1997), we also hypothesized that positive and negative associations between friends' deviant and prosocial behavior and early adolescents' internalizing and externalizing problems, respectively, would be stronger among early adolescents with a relatively older friendship group compared to early adolescents with a relatively younger friendship group. Finally, given the potentially lower amount of structure and adult supervision in out-of-school friendships (Stattin et al., 2011), we hypothesized that the positive and negative associations between friends' deviant and prosocial behaviors and early adolescents' internalizing and externalizing problems, respectively, would be stronger among early adolescents with a greater proportion of out-of-school friends, compared to early adolescents with more in-school friends.

Methods

Participants

Participants in the study from which data for the present study were drawn included 129 fifth through seventh graders and one parent (82% biological mothers) and teacher (81% of teacher-reports obtained) per early adolescent. The sample includes 52% males and 59% Caucasian, 35% African American, and 7% other races/ethnicities, consistent with demographics of the communities from which participants were recruited. The modal family income is between \$35,001 and \$50,000; 21% of families reported an income of less than \$20,000; and 24.2% reported an income of more than \$75,000. Two cohorts of early adolescents participated in the study. To permit similar measures across cohorts, data from the second wave of data collection (spring of the first year of middle school) were used for the first cohort of participants, and data from the first wave of data collection (summer before middle school) were used for the second cohort of participants.

Procedure

Participants were recruited via flyers sent home with fifth and sixth grade students at five elementary schools in the southeastern United States. Parents who responded to the school flyers were given information about the study and were scheduled for a research visit over the phone during the spring. Permission to contact the participants' teachers was obtained via mail, and teachers were contacted in the spring to participate. Teacher consent was obtained, and teachers completed questionnaires about participants' social, academic, and psychological adjustment; teachers were compensated monetarily. Early adolescents and their parents visited the research lab during the summer; consent to participate was obtained and early adolescents and parents

were compensated monetarily. All study procedures were approved by the University Institutional Review Board.

Measures

Friends' prosocial and deviant behaviors. Self-reports of friends' behaviors were assessed with an adaptation of measures used to assess adolescents' reports of their friends' deviant and prosocial behaviors (Dishion, Patterson, Stoolmiller, & Skinner, 1991; Laird, Criss, Pettit, Dodge, & Bates, 2008). Items were rated on a 5 point linear scale (1 = Never do this, 2 = Once in a while, 3 = Sometimes, 4 = Fairly often, 5 = Very often). Friends' prosocial behaviors were measured with seven items (e.g. do the kids in your group of friends make good grades, have a lot of fun, get along with their parents). Inter-item reliability of the friends' prosocial behavior scale was adequate ($\alpha = .73$). Deviant behaviors were similarly assessed with eight items (e.g., do the kids in your group of friends get into fights with other kids, use bad language, lie to their parents or teachers). Inter-item reliability for the friends' deviant behavior scale was high ($\alpha = .91$). In addition to self-reports of friends' behaviors, teacher reports were also assessed (Dishion et al., 1991). Teachers were asked to describe adolescents' friends based on 7 social-behavioral characteristics. Four prosocial characteristics (e.g., smart, funny, involved in school) and three deviant characteristics (e.g., dangerous, rebellious) were assessed. Teachers circled the percentile in which the student's friends would be described for each characteristic (0 = Don't know, 1 = Lowest 5%, 2 = Lower 30%, 3 = Middle 30%, 4 = Higher 30%, 5 = Highest 5%). Inter-item reliability was high ($\alpha = .82$) for the prosocial measure and ($\alpha = .86$) for the deviant measure.

Friends' demographic characteristics. Early adolescents were asked to describe the demographic characteristics of their friends with 6 questions (How many of your close/good friends are girls? How many of your close/good friends are boys? How many of your close/good friends are about your age? How many of your close/good friends are older? How many of your close/good friends are younger? How many of your close/good friends attend the same school as you (reverse-scored)?). For the first cohort of participants in the present study, open-ended questions were asked about the demographic characteristics of friends, whereas close-ended, likert-scale questions were asked for the second cohort of participants (0 = None, 1 = Some, 2 = Most, 3 = All). To combine data from the two cohorts of participants, open-ended responses from the first cohort were re-coded to match the scale of the second cohort of participants. Specifically, for the first cohort of participants, the number of friends in each demographic category (other-sex friends, older friends, out-of-school friends) was divided by the total number of self-reported close/good friends (How many close or good friends do you have?) to yield scores that were comparable to the second cohort of participants. Open-ended reports of zero friends in any category were re-coded as *None*; proportions of friends in a given demographic category that were greater than 0% and less than 50% were re-coded as *Some*; proportions of friends in a given demographic category that were greater than 49% and less than 100% were re-coded as *Most*; and proportions of friends in a given demographic category that were 100% were re-coded as *All*.

Externalizing problems. Externalizing problems include aggressive, disruptive, and delinquent behaviors. They were assessed with the 35-item externalizing subscale of the 113-item parent-reported Child Behavior Checklist (CBCL; e.g., gets in many fights; argues a lot; Achenbach, 1991a), with items rated on a 3-point scale (0 = Not true, 1 = Somewhat or

Sometimes true, 2 = Very true or Often true). The inter-item reliability for the measure was very high ($\alpha = .92$). Externalizing problems were also assessed with the 31-item externalizing subscale of the 84-item teacher-reported Teacher Report Form (e.g., impulsive or acts without thinking, breaks school rules; Achenbach, 1991b), with items rated on a 3-point scale (0 = Not true, 1 = Somewhat or Sometimes true, 2 = Very true or Often true). Inter-item reliability was also very high ($\alpha = .91$).

Internalizing problems. Internalizing problems include withdrawn, anxious, and depressed behaviors. They were assessed with the 32-item internalizing subscale of the 113-item parent-reported CBCL (e.g., feels worthless or inferior, feels too guilty; Achenbach, 1991a; Achenbach, 1991b). Inter-item reliability was high ($\alpha = .85$). In addition, early adolescents' self-reported depressive feelings were assessed with the 26-item Children's Depression Inventory (CDI; Camuffo, Cerutti, Lucarelli, & Mayer, 1988; Kovacs, 1985), which measures feelings of despondency, hopelessness, loss of appetite and interest in activities, and self-deprecation. On this measure, early adolescents circle the sentence that best describes them (e.g., I am sad once in a while, I am sad many times, and I am sad all the time). Inter-item reliability was high ($\alpha = .87$).

Results

Analysis Plan

Descriptive statistics and correlations were computed in SPSS and regression analyses were conducted in AMOS to take advantage of full information maximum likelihood estimation with missing data. Regression analyses were conducted in three steps (regression coefficients and squared multiple correlations were presented at the step of entry in tables). Control variables (family income, age, sex, ethnicity, and number of friends) were entered on the first step of each

regression analysis. The second step of each regression analysis included either adolescent- or teacher-reported friends' prosocial and deviant behaviors and adolescent-reported friends' demographic characteristics (age, sex, school). The third step included two-way interactions between either adolescent- or teacher-reported friends' prosocial and deviant behaviors and adolescent-reported friends' demographic characteristics. Parent- or teacher-reported externalizing problems or adolescent- or parent-reported internalizing problems was the outcome variable in each regression analysis. Significant interactions between friends' behaviors and friends' demographic characteristics were plotted according to standard procedures (Aiken & West, 1991).

Analyses tested unique associations between friends' behavioral and demographic characteristics and early adolescents' internalizing and externalizing problems in same-informant and cross-informant models. Due to the use of multiple informants of friends' behaviors and adolescents' adjustment, each hypothesized association was tested in four independent models. For example, the association between friends' prosocial behaviors and early adolescents' internalizing problems was tested in models that included (1) adolescent-reported friends' prosocial behaviors and adolescent-reported internalizing problems, (2) adolescent-reported friends' prosocial behaviors and parent-reported internalizing problems, (3) teacher-reported friends' prosocial behaviors and adolescent-reported internalizing problems, and (4) teacher-reported friends' prosocial behaviors and parent-reported internalizing problems. Given that interaction effects are more difficult to replicate than main effects and more susceptible to Type 1 error, an interaction effect was not interpreted or plotted unless the effect was replicated in another analysis (i.e., at least 50% of tests were statistically significant) or reached a chance-corrected level of statistical significance ($p < .01$).

Preliminary Analyses

Descriptive analyses were conducted in order to determine the ranges, means, and standard deviations of the study variables for the total sample (Table 1). On average, both early adolescents and teachers reported fairly low levels of deviant behavior for adolescents' friends. Additionally, early adolescents reported fairly high levels of prosocial behavior for their friends, with teachers reporting less prosocial behavior of adolescents' friends. As expected, early adolescents reported fewer other-sex friends (than same-sex friends), fewer older friends (than same-age friends), and fewer out-of-school friends (than same-school friends). On average, reports of internalizing and externalizing problems were low.

Correlations were conducted for all study variables (Tables 2 – 5). Table 2 reports correlations among the predictor variables (i.e., friends' behaviors and demographics). Adolescent reports of friends' prosocial and deviant behaviors were negatively correlated ($r = -.51, p < .001$). Additionally, the correlation between adolescent reports of friends' prosocial behaviors and teacher reports of friends' prosocial behaviors approached significance ($r = .18, p < .10$), and adolescent reports of friends' prosocial behaviors were negatively correlated with proportion of out-of-school friends ($r = -.20, p < .05$), but in the opposite direction expected. Adolescent reports of friends' deviant behaviors were negatively correlated with teacher reports of friends' prosocial behaviors ($r = -.23, p < .05$), and approached significance with teacher reports of friends' deviant behavior ($r = .20, p < .10$) and proportion of older friends ($r = .19, p < .10$). Teacher reports of friends' deviant and prosocial behaviors were also negatively correlated ($r = -.33, p < .01$).

Table 3 reports correlations between early adolescents' internalizing and externalizing problems. Parent reports of externalizing problems were significantly correlated with teacher reports of externalizing problems ($r = .36, p < .001$), parent reports of internalizing problems ($r = .60, p < .001$), and adolescent reports of internalizing problems ($r = .22, p < .05$). Additionally, teacher reports of externalizing problems were significantly correlated with adolescent reports of internalizing problems ($r = .21, p < .05$). Parent and adolescent reports of internalizing problems were not correlated.

Table 4 reports correlations between predictor and outcome variables. Parent reports of externalizing problems were correlated with adolescent reports of friends deviant behaviors ($r = .22, p < .05$), teacher reports of friends' prosocial behaviors ($r = -.26, p < .05$) and deviant behaviors ($r = .20, p < .10$), and the proportion of other-sex friends ($r = .19, p < .05$). Teacher reports of externalizing problems were unrelated to adolescent reports of friends' behaviors, but correlated with teacher reports of friends' prosocial behaviors ($r = -.41, p < .001$) and deviant behaviors ($r = .47, p < .001$), and proportion of other-sex friends ($r = .27, p < .01$). Parent reports of internalizing problems approached significance with proportion of older friends ($r = -.17, p < .10$), with no other significant relationships. Adolescent reports of internalizing problems were significantly correlated with adolescent reports of friends' prosocial behaviors ($r = -.40, p < .001$) and deviant behaviors ($r = .48, p < .001$), as well as teacher reports of friends' prosocial behaviors ($r = -.28, p < .01$).

Table 5 reports correlations between control variables and the predictor and outcome variables. Adolescents' grade in school was marginally correlated with adolescent reports of friends' deviant behaviors ($r = .18, p < .10$) and teacher reports of friends' deviant behaviors ($r = -.24, p < .05$). Additionally, grade in school was negatively correlated with the proportion of

other-sex friends ($r = -.25, p < .01$). Adolescents' own sex (female) was positively correlated with the proportion of other-sex friends ($r = .25, p < .01$). Ethnicity (minority) was negatively correlated with teacher reports of friends' prosocial behaviors ($r = -.23, p < .05$), and positively correlated with teacher reports of friends' deviant behaviors ($r = .37, p < .001$). Additionally, ethnicity (minority) was positively correlated with the proportion of other-sex friends ($r = .22, p < .05$), and marginally correlated with the proportion of older ($r = .19, p < .10$) and out-of-school friends ($r = .16, p < .10$). Family income was marginally correlated with adolescent reports of friends' deviant behaviors ($r = -.18, p < .10$), positively correlated with teacher reports of friends' prosocial behaviors ($r = .47, p < .001$), and negatively correlated with teacher reports of friends' deviant behaviors ($r = -.40, p < .001$). Family income was also marginally correlated with the proportion of older friends ($r = -.20, p < .10$), and negatively correlated with the proportion of other-sex friends ($r = -.38, p < .001$). In addition, family income was negatively correlated with parent reports of externalizing problems ($r = -.20, p < .05$) and teacher reports of externalizing problems ($r = -.35, p < .001$). Number of friends was positively correlated with friends' prosocial behaviors ($r = .25, p < .01$) and negatively correlated with the proportion of out-of-school friends ($r = -.22, p < .05$).

Predicting Parent-Reported Externalizing Problems

Model 1: Adolescent-reported friends' behaviors (Table 6). Ethnicity (minority; non-significant trend) and income were negatively associated with early adolescents' parent-reported externalizing problems. In addition, friends' deviant behaviors were associated with higher externalizing problems, but friends' prosocial behaviors and demographic characteristics were not. The interaction between friends' deviant behaviors and proportion of older friends was associated with externalizing problems at the non-significant trend level. Contrary to hypotheses,

the proportion of other-sex and in-school friends failed to moderate the association between friends' behaviors and early adolescents' externalizing problems.

Model 2: Teacher-reported friends' behaviors (Table 7). Again, ethnicity (minority; non-significant trend) and income were negatively associated with early adolescents' parent-reported externalizing problems (these are the same associations as Model 1). Friends' prosocial behaviors were negatively associated with early adolescents' externalizing problems at the non-significant trend level. Friends' deviant behaviors and demographic characteristics were not directly associated with early adolescents' externalizing problems, but the proportion of older friends moderated the association between friends' prosocial behaviors and early adolescents' externalizing problems (note: this interaction effect was replicated in Model 3/Table 8 with adolescent reports of friends' prosocial behavior and teacher reports of externalizing problems). As shown in Figure 1, follow-up analyses revealed a stronger association between friends' prosocial behaviors and early adolescents' lower externalizing problems among early adolescents with a lower proportion of older friends, compared to early adolescents with a higher proportion of older friends. No other interaction effects emerged in this model.

Predicting Teacher-Reported Externalizing Problems

Model 3: Adolescent-reported friends' behaviors (Table 8). Family income was negatively associated with early adolescents' teacher-reported externalizing problems. Friends' deviant behaviors and the proportion of other-sex friends were associated with early adolescents' higher externalizing problems, and the proportion of older friends was negatively associated with externalizing problems at the non-significant trend level. Friends' prosocial behaviors and the proportion of same-school friends were not associated with early adolescents' externalizing

problems. In addition, the proportion of older friends moderated associations linking friends' deviant behaviors (replicated in Model 4/Table 9 with teacher reports of friends' deviant behaviors and teacher reports of externalizing problems) and friends' prosocial behaviors (replicated in Model 2/Table 7 with teacher reports of friends prosocial behaviors and parent reports of externalizing problems) with early adolescents' externalizing problems. As shown in Figure 2, the association between friends' deviant behaviors and early adolescents' higher externalizing problems was stronger among early adolescents with lower proportions of older friends, compared to early adolescents with higher proportions of older friends. Similarly, as shown in Figure 3, the association between friends' prosocial behaviors and early adolescents' lower externalizing problems was stronger among early adolescents with lower proportions of older friends, compared to early adolescents with higher proportions of older friends. No additional interactions reached significance.

Model 4: Teacher-reported friends' behaviors (Table 9). Again, family income was negatively associated with early adolescents' teacher-reported externalizing problems (same association as Model 3). Friends' deviant behaviors and the proportion of other-sex friends were associated with early adolescents' higher externalizing problems, and friends' prosocial behaviors and proportion of older friends were associated with lower externalizing problems.

In addition, several interactions emerged. First, the proportion of other-sex friends moderated the association between friends' prosocial behaviors and early adolescents' externalizing problems, but this interaction did not meet criteria of interpretation (i.e., replicated or reached chance-corrected significance level). Second, the proportion of other-sex friends moderated the association between friends' deviant behaviors and adolescents' externalizing problems ($p < .001$), such that the association between friends' deviant behaviors and early

adolescents' higher externalizing problems was stronger among early adolescents with higher proportions of other-sex friends compared to early adolescents with lower proportions of other-sex friends (see Figure 4). Third, the proportion of older friends moderated the association between friends' deviant behaviors and early adolescents' externalizing problems (replicated in Model 3/Table 8 with adolescent reports of friends' deviant behaviors and teacher reports of externalizing problems), such that the association between friends' deviant behaviors and early adolescents' higher externalizing problems was stronger among early adolescents with lower proportions of older friends compared to early adolescents with higher proportions of older friends (see Figure 5). Finally, the proportion of same-school friends moderated the association between friends' deviant behaviors and early adolescents' externalizing problems ($p < .01$), such that the relation between friends' deviant behaviors and early adolescents' higher externalizing problems was stronger among early adolescents' with lower proportions of same-school friends compared to early adolescents with higher proportions of same-school friends (see Figure 6). Note, however, that there was a moderate positive association between friends' deviant behaviors and early adolescents' externalizing problems among early adolescents with higher and lower proportions of same-school friends.

Predicting Parent-Reported Internalizing Problems

Model 5: Adolescent-reported friends' behaviors (Table 10). Control variables and friends' behavioral and demographic characteristics were not associated with parent-reported internalizing problems, except for a marginal association between higher proportions of older friends and lower internalizing problems. In addition, the proportion of same-school friends moderated the relation between friends' prosocial behaviors and early adolescents' internalizing problems ($p < .001$), such that the association between friends' prosocial behaviors and early

adolescents' lower internalizing problems was stronger among early adolescents with lower proportions of same-school friends compared to early adolescents with higher proportions of same-school friends (see Figure 7). Three additional interaction effects emerged, but did not meet criteria for interpretation. Specifically, the proportion of other-sex friends moderated the relation between friends' deviant behaviors and early adolescents' internalizing problems, the proportion of other-sex friends moderated the relation between friends' prosocial behaviors and early adolescents' internalizing problems, and the proportion of older friends moderated the relation between friends' deviant behaviors and early adolescents' internalizing problems.

Model 6: Teacher-reported friends' behaviors (Table 11). Like Model 5, control variables and friends' behavioral and demographic characteristics were not associated with parent-reported internalizing problems, except for a marginal association between higher proportions of older friends and lower internalizing problems. The proportion of older friends moderated the relation between friends' prosocial behaviors and early adolescents' parent-reported internalizing problems; however, the interaction failed to meet criteria for interpretation. No other interactions emerged in the model.

Predicting Adolescent-Reported Depression

Model 7: Adolescent-reported friends' behaviors (Table 12). Among the control variables, only grade was positively associated with depression. In addition, friends' deviant behaviors were associated with higher depression, and friends' prosocial behaviors were associated with lower depression. These main effects of friends' behaviors were not moderated by friends' demographic characteristics, nor were demographic characteristics directly associated with early adolescents' depression.

Model 8: Teacher-reported friends' behaviors (Table 13). Again, among the control variables, only grade was positively associated with depression (same association as Model 7). Friends' prosocial behaviors were associated with lower depression among early adolescents, but no other main or interaction effects emerged.

Discussion

The present study examined independent associations between friends' behaviors (assessed with early adolescent and teacher reports) and demographic characteristics and early adolescents' internalizing and externalizing problems (assessed with early adolescent, teacher, and parent reports), as well as interactions between friends' behaviors and friends' demographic characteristics. As hypothesized, friends' prosocial and deviant behaviors were uniquely associated with early adolescents' internalizing and externalizing problems, controlling for number of friends and demographic characteristics of target early adolescents and friends. Main effects of friends' behaviors were qualified by interactions with friends' demographic characteristics in some cases. In particular, replicated moderation analyses revealed stronger associations between friends' lower prosocial and higher deviant behaviors and early adolescents' externalizing problems among early adolescents with lower proportions of older friends, compared to early adolescents' with higher proportions of older friends. In addition, some support emerged for stronger associations between friends' behaviors and early adolescents' adjustment among early adolescents with relatively high proportions of other-sex friends (compared to lower proportions of other-sex friends) and relatively low proportions of same-school friends (compared to higher proportions of same-school friends).

Friends' Behaviors as Predictors of Externalizing Problems

A large body of research has consistently shown main effects of friends' deviant behavior on adolescents' own deviant behavior (e.g., Brendgen et al., 2000; Dishion et al., 1996; Goodnight et al., 2006), and results of the present study are consistent with these findings. In 75% of cases in which the association was tested, friends' deviant behaviors were associated with early adolescents' externalizing problems (see Table 14 for a summary of replication across models). More specifically, adolescent- and teacher-reported friends' deviant behaviors were associated with teacher-reported externalizing problems, and adolescent-reported (but not teacher-reported) friends' deviant behaviors were associated with parent-reported externalizing problems. In addition, teacher-reported (but not adolescent-reported) friends' prosocial behaviors were associated with lower parent- and teacher-reported externalizing problems, comprising 50% of analyses in which this association was tested. Several other studies have linked friends' prosocial behavior with adolescents' lower externalizing problems (Prinstein et al., 2001; Wentzel et al., 2004). The present study advances prior research by documenting unique associations between friends' prosocial and deviant behaviors (controlling for one another via simultaneous entry in regression) and early adolescents' externalizing problems. These unique associations suggest that prosocial friends offer different supports or opportunities than low-deviant friends, whereas deviant friends expose early adolescents to different risks than low-prosocial friends. Thus, in addition to the risks associated with friends who exhibit both high-deviant and low-prosocial behaviors, friends who exhibit either high-deviant behaviors or low-prosocial behaviors may function as part of alternative pathways to internalizing or externalizing problems.

Associations between friends' and adolescents' deviant behaviors are relatively well understood, and the process by which adolescents influence one another may be explained, in

part, by social learning theory (Bandura, 1973). Specifically, an adolescent may learn the behaviors and attitudes of their friends based upon the perceived consequences of those actions. For example, externalizing problems increase over time when adolescent friends reinforce deviant talk (Dishion et al., 1996; Poulin, Dishion, & Haas, 1999). Friendships with deviant early adolescents also may be the result of rejection by the broader group, which may be an antecedent and outcome of externalizing problems (Vitaro et al., 2001).

Similar associations were found for friends' prosocial behavior. Controlling for friends' deviant behaviors, friends' higher prosocial behaviors were associated with early adolescents' lower externalizing problems (and friends' lower prosocial behaviors were associated with early adolescents' higher externalizing problems). These results are consistent with research linking friends' prosocial behaviors with adolescents' own prosocial behavior and academic achievement (Crosnoe et al., 2003; Mounts & Steinberg, 2001; Wentzel et al., 2004). Ryan (2001), for example, reported that adolescents with friends who liked school tended to enjoy school more themselves, compared to adolescents with friends who disliked school. Early adolescents with more prosocial friends are likely exposed to more productive and rewarding environments (e.g., school clubs and sports), compared to early adolescents with fewer prosocial friends. In addition, early adolescents who participate in positive activities with friends may increase time spent under adult supervision, whereas early adolescents with fewer prosocial friends may spend more time in unstructured and unsupervised environments, which is associated with more externalizing behavior problems (Pettit et al., 1999). Although results of the present study are consistent with prior research concerning friends' behaviors, several associations between friends' behaviors and early adolescents' adjustment were qualified by interactions with friends' demographic characteristics, as discussed below.

Friends' Demographic Characteristics as Predictors of Externalizing Problems

Unique associations between friends' demographic characteristics and early adolescents' externalizing problems were also tested. Direct associations between the proportion of out-of-school friendships and externalizing problems were not found, but higher proportions of other-sex friendships were associated with higher teacher-reported externalizing problems, and surprisingly, lower proportions of older friendships were marginally associated with higher teacher-reported externalizing problems. These associations emerged controlling for friends' prosocial and deviant behaviors.

Although a moderate proportion of other-sex friendships may support social competence in early adolescence (Bukowski et al., 1999), particularly by facilitating the transition from same-sex friendships to romantic relationships (Connolly et al., 2004), several studies have linked mixed-sex peer groups in early adolescence with deviant or externalizing behavior (Dick et al., 2007; Malow-Iroff, 2006; Poulin & Pedersen, 2007). The association between other-sex friendships and externalizing problems may be explained, in part, by the perceived value of other-sex interactions and relationships in early adolescence (Connolly et al., 2004; Poulin & Pedersen, 2007). That is, early adolescents' concern with preserving and building other-sex friendships may lead them to prioritize these relationships over demands from parents (e.g., rules about phone or online communication, bedtime) and teachers (e.g., rules about attentiveness in class, completion of homework assignments).

It is important to note that adolescents' own sex may moderate the association between other-sex friendships and behavior problems, such that other-sex friendships carry greater risks for girls than boys (Arndorfer & Stormshak, 2008; Mrug et al., 2011). Another cautionary point

is that the present study does not rule out potential positive influences of higher proportions of other-sex friendships because positive adjustment outcomes were not examined in this study. Future research should consider positive adjustment outcomes of other-sex friendships, such as social skills, peer acceptance, and romantic relationships

Lower proportions of older friends were also associated with teacher-reported externalizing problems in the present study. This result is surprising given the amount of research linking older age with higher levels of problem behaviors (Barber & Olsen, 2004; Chen & Jacobson, 2012; Heinze et al., 2004). One possible explanation for the unexpected result is that the measure of externalizing problems used in the present study differs from the measures used in much of the literature linking older friends with deviant behavior, which tend to focus on substance use (Chen & Jacobson, 2012; Velazquez et al., 2011). An additional explanation is that the age range of the sample in the present study (5th – 7th grade) may precede the age range during which deviant behaviors typically increase (Costello et al., 2003; Merikangas et al., 2009), limiting the likelihood that slightly older friends would exhibit much higher rates of externalizing behavior. It is also possible that early adolescents who are able to establish friendships with older adolescents are relatively more mature or socially competent, which may correlate with fewer externalizing problems. Although there are several possible explanations for the link between older friendships and lower externalizing problems in the present study, it is important to emphasize that the main effect of age of friends was qualified by interactions with friends' prosocial and deviant behaviors, as discussed below.

Interactions between Friends' Demographic Characteristics and Friends' Behaviors Predicting Externalizing Problems

The association between friends' deviant behaviors and early adolescents' externalizing problems was moderated by the age of the friendship group (50% of analyses, or 2/4, in addition to one marginal moderation effect). Friends' age moderated associations between adolescent- and teacher-reported friends' deviant behaviors and early adolescents' teacher-reported externalizing behaviors. In each case, decomposition of the interaction effect revealed a stronger association between friends' deviant behaviors and early adolescents' externalizing problems among early adolescents with a lower proportion of older friends, compared to early adolescents with a higher proportion of older friends.

Likewise, friends' age moderated the association between adolescent-reported friends' prosocial behaviors and early adolescents' teacher-reported externalizing problems, as well as the association between teacher-reported friends' prosocial behaviors and early adolescents' parent-reported externalizing problems (50% of analyses, or 2/4). Again, the association between higher friends' prosocial behaviors and early adolescents' lower externalizing problems was stronger among early adolescents with a lower proportion of older friends, compared to early adolescents with a higher proportion of older friends.

It was hypothesized that associations between friends' behaviors and early adolescents' adjustment would be strengthened among early adolescents with a higher proportion of older friends based on reasoning that older friends may have higher perceived status (in the eyes of the younger adolescent) and therefore more influence (Hartson & Latané, 1997). However, results consistently indicated greater similarity between friends when the target early adolescents' friends were mostly same-age rather than older. It is possible that early adolescents have more opportunities for interaction with friends who are about the same age because same-age friends are more likely to share the same school, grade, and classroom. The increased time together,

rather than friends' age per se, may increase susceptibility to friends' behaviors (Duncan, Duncan, & Strycker, 2000). Conversely, early adolescents may spend less time with older friends, potentially limiting their influence.

Another possibility is that high proportions of older friends may indicate less normative and lower-quality friendships, which may have less influence compared to more normative same-age friendships. That is, early adolescents who have high proportions of older friends may have difficulty finding acceptance or friendships among same-age peers, reflecting social competence deficits that may interfere with the quality (and perhaps influence) of friendships. This idea is consistent with research by Zettergren (2005), who noted that rejected children are less likely to have same-age friends, while more popular children tend to have more same-age friends.

In addition to the moderating role of friends' age, the proportion of other-sex friends moderated the association between friends' teacher-reported deviant behaviors and early adolescents' teacher-reported externalizing problems (25% of analyses, or 1/4, but reached the chance-corrected level of significance). Consistent with hypotheses, the association between friends' deviant behaviors and early adolescents' externalizing problems was stronger among early adolescents with a higher proportion of other-sex friends, compared to early adolescents with a lower proportion of other-sex friends. As noted, due to the salience of other-sex interactions and relationships in early adolescence, friendship groups with more other-sex members may have higher perceived social status or value (Faust, 1960; Poulin & Pedersen, 2007), and therefore more socializing influence. The interaction between friends' deviant behaviors and proportion of other-sex friends may be further moderated by sex of the target adolescent (Haynie et al., 2007).

In addition to the moderating role of friends' age and sex, the proportion of friends who attend the same school moderated the association between friends' teacher-reported deviant behaviors and early adolescents' teacher-reported externalizing problems (25% of analyses, but reached the chance-corrected level of significance). Consistent with our hypotheses, the association between friends' deviant behavior and early adolescents' externalizing problems was stronger among early adolescents with a lower proportion of same school friends. As discussed, due to the lack of structure and supervision (Pettit et al., 1999) early adolescents may be more susceptible to their friends' deviant behaviors when they occur out of school (see also Svensson & Oberwittler, 2010).

Friends' Behaviors as Predictors of Internalizing Problems

Associations between similar types of behaviors (e.g., externalizing) among friends are well-documented. However, very few studies have examined associations between friends' deviant and prosocial behaviors and early adolescents' internalizing problems. In the present study, adolescent- and teacher-reported friends' prosocial behaviors were uniquely associated with lower adolescent-reported (but not parent-reported) depression (50% of analyses, or 2/4). Adolescent-reported (but not teacher-reported) friends' deviant behaviors were also uniquely associated with higher adolescent-reported (but not parent-reported) depression. Again, results suggest that prosocial friends provide support or opportunities that are not redundant with support or opportunities from low-deviant friends.

Prior research has shown that friends' prosocial behaviors are associated with adolescents' own prosocial behaviors, including grades and activities in school (Tu et al., 2012; Wentzel et al., 2004). The present study demonstrates that friends' prosocial behaviors are also

linked with early adolescents' lower depressive feelings. Some research has shown that individuals predisposed to depression may be protected by positive environments and fewer stressful life events (Haefffel & Vargas, 2011). Early adolescents with more prosocial friends likely spend more time participating in activities that are engaging and rewarding (e.g., school clubs or structured extracurricular activities), compared to early adolescents with less prosocial friends. In contrast, early adolescents with more deviant friends likely participate in more dangerous and risky behaviors associated with stress and punishment. In addition, early adolescents with more deviant friends may alienate themselves from more prosocial friends and other positive socializing agents (e.g., parents, teachers) who may protect against internalizing problems (Vitaro et al., 2001).

Friends' Demographic Characteristics as Predictors of Internalizing Problems

Proportions of other-sex friends and in-school friends were unrelated to early adolescents' internalizing problems. However, lower proportions of older friends were uniquely associated with higher parent-reported (but not adolescent-reported) internalizing problems at the non-significant trend level. This result is somewhat surprising given that older adolescents are more likely to be diagnosed with internalizing disorders compared to younger adolescents (Costello et al., 2003; Merikangas et al., 2009). However, Costello et al. (2003) noted that rates of internalizing problems were high in preadolescence (9-10 years-old), then declined until middle adolescence, when internalizing problems increased again. Thus, friends who were slightly older than the early adolescents in the present study may not have experienced elevated levels of internalizing problems. Again, another possibility is that establishing older friendships reflects social or emotional competence that protects against internalizing (and externalizing)

problems. However, due to the marginal significance of this result, it should be interpreted with caution.

Interactions between Friends' Behaviors and Friends' Demographic Characteristics

Predicting Internalizing Problems

The proportion of in-school friends moderated the association between adolescent-reported (but not teacher-reported) friends' prosocial behaviors and early adolescents' parent-reported (but not adolescent-reported) internalizing problems (25% of analyses, or 1/4, but reached the chance-corrected level of significance). The association between friends' higher prosocial behaviors and early adolescents' lower internalizing problems was stronger among early adolescents with fewer in-school friendships, compared to early adolescents with more in-school friendships. This result is consistent with the hypothesis that out-of-school friendships would be more influential because of less structure and supervision in friendships that are not school-based (Pettit et al., 1999). One possible explanation is adolescents' opportunities to talk about and ruminate on their less prosocial activities, which is associated with internalizing problems (Tompkins et al., 2011), and it is possible that less prosocial friends spend more time thinking about and hashing out their problems. Additionally, it is possible that friendships with fewer prosocial behaviors and activities represent lower-quality friendships, which is associated with more depressive symptoms (Prinstein, 2007). Contrarily, prosocial relationships may represent high quality relationships wherein adolescents spend more time participating and discussing more positive things.

Informant Differences

Notable informant differences emerged in the prediction of early adolescents' teacher-reported and parent-reported adjustment. In particular, regression analyses revealed six main

effects and six interactive effects of friends' demographic and behavioral characteristics on teacher-reported externalizing problems, but only one main effect and one interactive effect on parent-reported externalizing problems. Early adolescents may interact with their friends more frequently at school than home, and thus teachers may be in a better position to observe behavioral influences among friends. Future research on selection and socialization among friends should further explore informant differences.

Limitations and Future Directions

While the present study contributes to knowledge concerning variability in the behavioral similarities between friends based on the demographic composition of the friendship group, results should be interpreted in the context of several important limitations. First, it is not possible to draw conclusions about the directionality of associations given the cross-sectional nature of the study. It is possible that friends' behaviors and demographic characteristics influence adolescents' internalizing and externalizing problems, but it is also possible that early adolescents' internalizing and externalizing problems influence the kinds of friends they choose (or that so-called third variables influence friends' behaviors and early adolescents' adjustment). For example, maladjusted adolescents may choose more deviant and less prosocial friends. Future research should consider the independent effects of friends' behaviors and demographics using a longitudinal design to better distinguish socialization and selection processes.

An additional limitation of the current study was the number and type of items used to measure friends' deviant and prosocial behaviors. It is likely that the associations linking friends' behaviors and adolescents' adjustment are strengthened or weakened depending on the types of deviant or prosocial behaviors under investigation. It may be informative for future studies to include a greater range of prosocial and deviant behaviors. In addition, future research should

consider differences between deviant and prosocial behaviors of friends in school compared to non-school settings, as well as outcome variables that more clearly distinguish school-based adjustment from general adjustment.

Another limitation of the current study is the divide between friends' behaviors and friends' demographic characteristics. The present study considered the proportions of other-sex, older, and in-school friends, as well as the deviant and prosocial behaviors of friends at the group level, but did not identify specific friendships with specific combinations of behavioral and demographic characteristics. Future research may be able to link the behavioral and demographic characteristics of individual friends to better estimate the effects of interactions between behavioral and demographic characteristics, perhaps by examining best friendships exclusively.

In addition, several interpretations of results of the present study were based on unmeasured, though measurable, variables. For example, we reasoned that the greater behavioral similarities between same-age friends may be due to the greater amount of time that these friends spend together, compared to friends who do not share the same age or grade. Additionally, we reasoned that associations between friends' behaviors and early adolescents' adjustment may be stronger among early adolescents with a greater proportion of other-sex friends because of the perceived value of other-sex friendship in early adolescence. However, our measures did not assess time with friends or value of friendships.

Finally, the effects of the attributes of friends examined in the present study may vary depending on the sex of the preadolescent (Haynie et al., 2007). The relatively small sample size of the present study precluded careful examination of three-way interactions between friends'

behaviors, friends' demographics, and adolescents' own sex. Future research should use a larger sample to consider these potentially important sex differences.

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Appendices

Appendix A

Tables

Table 1.

Descriptive Statistics for All Study Variables

	N	Minimum	Maximum	Mean	SD
Friends' Deviant Behaviors (Adolescent-Report)	111	1.0	4.75	1.80	.76
Friends' Deviant Behaviors (Teacher-Report)	99	0	4.67	1.59	1.03
Friends' Prosocial Behaviors (Adolescent-Report)	111	2.75	5.0	4.20	.54
Friends' Prosocial Behaviors (Teacher Report)	99	1.0	5.0	3.19	1.03
Proportion of Older Friends	99	.00	3.0	.98	.73
Proportion of Out-School Friends	108	.00	3.0	.68	.71
Proportion of Other-Sex Friends	109	.00	3.0	1.49	.81
Internalizing Problems (Parent-Report)	111	.00	1.0	.19	.17
Externalizing Problems (Parent-Report)	111	.00	1.0	.18	.19
Externalizing Problems (Teacher-Report)	104	.00	1.58	.21	.33
Adolescent Depression (Adolescent-Report)	110	.00	1.27	.32	.25

Table 2.

Correlations for all Predictor Variables

	1	2	3	4	5	6	7
1. Friends' Prosocial (Adolescent-Report)	-						
2. Friends' Deviance (Adolescent-Report)	-.51***	-					
3. Friends' Prosocial (Teacher-Report)	.18†	-.23*	-				
4. Friends' Deviance (Teacher-Report)	.09	.20†	-.33**	-			
5. Older Friends	.00	.19†	-.17	.11	-		
6. Other-Sex	.11	.00	-.10	.16	.14	-	
7. Out-of-school	-.20*	-.02	-.08	.00	-.07	.01	-

† $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 3.

Correlations for all Outcome Variables

	1	2	3	4
1. Externalizing Problems (Parent-Report)	-			
2. Externalizing Problems (Teacher-Report)	.36***	-		
3. Internalizing Problems (Parent-Report)	.60***	.10	-	
4. Internalizing Problems (Adolescent-Report)	.22*	.21*	.13	-

* $p \leq .05$, *** $p \leq .001$

Table 4.

Correlations between Predictor and Outcome Variables

	Externalizing Problems (Parent- Report)	Externalizing Problems (Teacher- Report)	Internalizing Problems (Parent- Report)	Internalizing Problems (Adolescent- Report)
Friends' Prosocial (Adolescent-Report)	-.05	-.09	-.09	-.40***
Friends' Deviance (Adolescent-Report)	.22*	.24	.04	.48***
Friends' Prosocial (Teacher-Report)	-.26*	-.41***	-.05	-.28**
Friends' Deviance (Teacher-Report)	.20†	.47***	.08	.04
Older Friends	-.05	-.07	-.17†	.15
Other-Sex	.19*	.27**	-.02	.03
Out-of-school	-.01	.11	.02	-.04

† $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 5.

Correlations between Control Variables and Predictor and Outcome Variables

	Grade	Sex	Ethnicity	Income	Number of Friends
Friends' Prosocial (Adolescent-Report)	-.10	.15	.08	.03	.25**
Friends' Deviance (Adolescent-Report)	.18†	-.13	-.13	-.18†	.07
Friends' Prosocial (Teacher-Report)	.12	.05	-.23*	.47***	.03
Friends' Deviance (Teacher-Report)	-.24*	-.01	.37***	-.40***	.16
‡ Older Friends	-.11	-.11	.19†	-.20†	.07
Other-Sex	-.25**	.25**	.22*	-.38***	.13
Out-of-school	-.13	-.14	.16†	-.10	-.22*
Parent-Report Externalizing	.01	.07	-.03	-.20*	-.01
Teacher-Report Externalizing	-.16	-.14	.16	-.35***	.02
Parent-Report Internalizing	-.06	.06	-.03	-.03	-.15
Adolescent-Report Internalizing	.15	.00	.08	-.11	-.01

† $p \leq .10$, * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 6.

Model 1. Regression Model for Parent-Report Externalizing Behavior using Adolescent-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.13
Grade	.05	.14	.02	
Sex	.09	.04	.04	
Minority	-.17†	-.07	.04	
Income	-.30***	-.04	.01	
Number of Friends	-.03	-.01	.02	
Step 2: Main Effects				.22
Friends' Deviant Behavior	.28***	.08	.02	
Friends' Prosocial Behavior	.12	.04	.03	
Proportion of Other-Sex Friends	.14	.03	.02	
Proportion of Older Friends	-.11	-.03	.02	
Proportion of School-Friends	.02	.01	.02	
Step 3: Interactions				.31
Deviant Friends x Other-Sex	.20	.06	.03	
Prosocial Friends x Other-Sex	.08	.04	.04	
Deviant Friends x Older-Friends	-.16†	-.05	.03	
Prosocial Friends x Older-Friends	.04	.02	.04	
Deviant Friends x School-Friends	-.09	-.03	.03	
Prosocial Friends x School-Friends	.02	.01	.04	

† $p < .10$, *** $p < .001$

Table 7.

Model 2. Regression Model for Parent-Report Externalizing Behavior using Teacher-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.13
Grade	.05	.01	.02	
Sex	.09	.04	.04	
Minority	-.17†	-.07	.04	
Income	-.30***	-.04	.01	
Number of Friends	-.03	-.01	.02	
Step 2: Main Effects				.16
Friends' Deviant Behavior	.13	.03	.02	
Friends' Prosocial Behavior	-.18†	-.04	.02	
Proportion of Other-Sex Friends	.15	.04	.02	
Proportion of Older Friends	-.08	-.02	.03	
Proportion of School-Friends	-.01	-.00	.02	
Step 3: Interactions				.23
Deviant Friends x Other-Sex	-.01	-.00	.02	
Prosocial Friends x Other-Sex	-.06	-.02	.03	
Deviant Friends x Older-Friends	.11	.04	.03	
Prosocial Friends x Older-Friends	.20*	.05	.03	
Deviant Friends x School-Friends	.04	.01	.03	
Prosocial Friends x School-Friends	-.14	-.04	.03	

† $p < .10$, * $p < .05$, *** $p < .001$

Table 8.

Model 3. Regression Model for Teacher-Report Externalizing Behavior using Adolescent-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.16
Grade	-.11	-.05	.04	
Sex	-.14	-.09	.06	
Minority	-.02	-.01	.06	
Income	-.36***	-.08	.02	
Number of Friends	-.02	-.01	.03	
Step 2: Main Effects				.31
Friends' Deviant Behavior	.29***	.13	.04	
Friends' Prosocial Behavior	.12	.07	.05	
Proportion of Other-Sex Friends	.24**	.10	.04	
Proportion of Older Friends	-.17†	-.08	.04	
Proportion of School-Friends	.05	.03	.04	
Step 3: Interactions				.40
Deviant Friends x Other-Sex	.12	.06	.04	
Prosocial Friends x Other-Sex	-.11	-.08	.06	
Deviant Friends x Older-Friends	-.19*	-.11	.05	
Prosocial Friends x Older-Friends	.17*	.13	.07	
Deviant Friends x School-Friends	-.02	-.01	.05	
Prosocial Friends x School-Friends	-.01	-.01	.07	

† $p < .10$, * $p < .05$, ** $p < .01$, *** $p < .001$

Table 9.

Model 4. Regression Model for Teacher-Report Externalizing Behavior using Teacher-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.16
Grade	-.11	-.05	.04	
Sex	-.14	-.09	.06	
Minority	-.02	-.01	.06	
Income	-.36***	-.08	.02	
Number of Friends	-.02	-.01	.03	
Step 2: Main Effects				.34
Friends' Deviant Behavior	.34***	.12	.03	
Friends' Prosocial Behavior	-.27**	-.08	.03	
Proportion of Other-Sex Friends	.25**	.10	.03	
Proportion of Older Friends	-.19*	-.08	.04	
Proportion of School-Friends	.02	.01	.04	
Step 3: Interactions				.51
Deviant Friends x Other-Sex	.29***	.11	.03	
Prosocial Friends x Other-Sex	-.20*	-.09	.04	
Deviant Friends x Older-Friends	-.24**	-.13	.04	
Prosocial Friends x Older-Friends	-.04	-.02	.03	
Deviant Friends x School-Friends	-.22**	-.10	.04	
Prosocial Friends x School-Friends	-.05	-.03	.04	

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 10.

Model 5. Regression Model for Parent-Report Internalizing Behavior using Adolescent-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.03
Grade	-.04	-.01	.02	
Sex	.06	.02	.03	
Minority	-.05	-.02	.03	
Income	-.06	-.01	.01	
Number of Friends	-.14	-.02	.02	
Step 2: Main Effects				.08
Friends' Deviant Behavior	.08	-.01	.02	
Friends' Prosocial Behavior	-.04	-.04	.02	
Proportion of Other-Sex Friends	-.03	-.01	.02	
Proportion of Older Friends	-.18†	-.02	.02	
Proportion of School-Friends	-.03	-.01	.03	
Step 3: Interactions				.34
Deviant Friends x Other-Sex	.20*	.06	.02	
Prosocial Friends x Other-Sex	.20*	.08	.03	
Deviant Friends x Older-Friends	-.16*	-.05	.03	
Prosocial Friends x Older-Friends	-.05	-.02	.04	
Deviant Friends x School-Friends	.04	.01	.03	
Prosocial Friends x School-Friends	.35***	.17	.04	

† $p < .10$, * $p < .05$, *** $p < .001$

Table 11.

Model 6. Regression Model for Parent-Report Internalizing Behavior using Teacher-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.03
Grade	-.04	-.01	.02	
Sex	.06	.02	.03	
Minority	-.05	-.02	.03	
Income	-.06	-.01	.01	
Number of Friends	-.14	-.02	.02	
Step 2: Main Effects				.07
Friends' Deviant Behavior	.10	.02	.02	
Friends' Prosocial Behavior	-.01	-.00	.02	
Proportion of Other-Sex Friends	-.04	-.01	.02	
Proportion of Older Friends	-.17†	-.04	.02	
Proportion of School-Friends	-.02	-.01	.02	
Step 3: Interactions				.14
Deviant Friends x Other-Sex	.08	.02	.02	
Prosocial Friends x Other-Sex	-.06	-.01	.03	
Deviant Friends x Older-Friends	.04	.01	.03	
Prosocial Friends x Older-Friends	.23*	.05	.02	
Deviant Friends x School-Friends	.11	.03	.03	
Prosocial Friends x School-Friends	-.01	-.00	.03	

† $p < .10$, * $p < .05$

Table 12.

Model 7. Regression Model for Adolescent-Report Internalizing Behavior using Adolescent-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.07
Grade	.21*	.07	.03	
Sex	.00	.00	.05	
Minority	.08	.04	.05	
Income	-.13	-.02	.02	
Number of Friends	-.05	-.02	.03	
Step 2: Main Effects				.22
Friends' Deviant Behavior	.33***	.10	.03	
Friends' Prosocial Behavior	-.27**	-.12	.04	
Proportion of Other-Sex Friends	.04	.01	.03	
Proportion of Older Friends	.09	.03	.03	
Proportion of School-Friends	-.08	-.03	.03	
Step 3: Interactions				.26
Deviant Friends x Other-Sex	.12	.05	.03	
Prosocial Friends x Other-Sex	-.09	-.05	.05	
Deviant Friends x Older-Friends	-.04	-.02	.04	
Prosocial Friends x Older-Friends	.07	.04	.05	
Deviant Friends x School-Friends	-.02	-.01	.03	
Prosocial Friends x School-Friends	.01	.01	.05	

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 13.

Model 8. Regression Model for Adolescent-Report Internalizing Behavior using Teacher-Reports of Friends' Behaviors.

Predictors	β	B	SE	ΔR^2
Step 1: Controls				.07
Grade	.21*	.07	.03	
Sex	.00	.00	.05	
Minority	.08	.04	.05	
Income	-.13	-.02	.02	
Number of Friends	-.05	-.02	.03	
Step 2: Main Effects				.17
Friends' Deviant Behavior	-.08	-.02	.03	
Friends' Prosocial Behavior	-.31**	-.08	.03	
Proportion of Other-Sex Friends	.03	.01	.03	
Proportion of Older Friends	.12	.04	.03	
Proportion of School-Friends	-.05	-.02	.03	
Step 3: Interactions				.18
Deviant Friends x Other-Sex	.08	.03	.03	
Prosocial Friends x Other-Sex	-.08	-.03	.04	
Deviant Friends x Older-Friends	.04	.02	.05	
Prosocial Friends x Older-Friends	-.01	-.00	.04	
Deviant Friends x School-Friends	.06	.02	.04	
Prosocial Friends x School-Friends	.01	.00	.04	

* $p < .05$, ** $p < .01$

Table 14.

Percentages of significant effects for internalizing and externalizing problems across models.

Predictors	% Externalizing	% Internalizing
Step 1: Controls		
Grade	0	50
Sex	0	0
Minority	50	0
Income	100	0
Number of Friends	0	0
Step 2: Main Effects		
Friends' Deviant Behavior	75	25
Friends' Prosocial Behavior	50	50
Proportion of Other-Sex Friends	50	0
Proportion of Older Friends	50	50
Proportion of School-Friends	0	0
Step 3: Interactions		
Deviant Friends x Other-Sex	25	25
Prosocial Friends x Other-Sex	25	25
Deviant Friends x Older-Friends	50	25
Prosocial Friends x Older-Friends	50	25
Deviant Friends x School-Friends	25	0
Prosocial Friends x School-Friends	0	25

Appendix B

Figures

Figure 1. *Proportion of older friends as a moderator between teacher-report deviant friends and parent-report externalizing problems.*

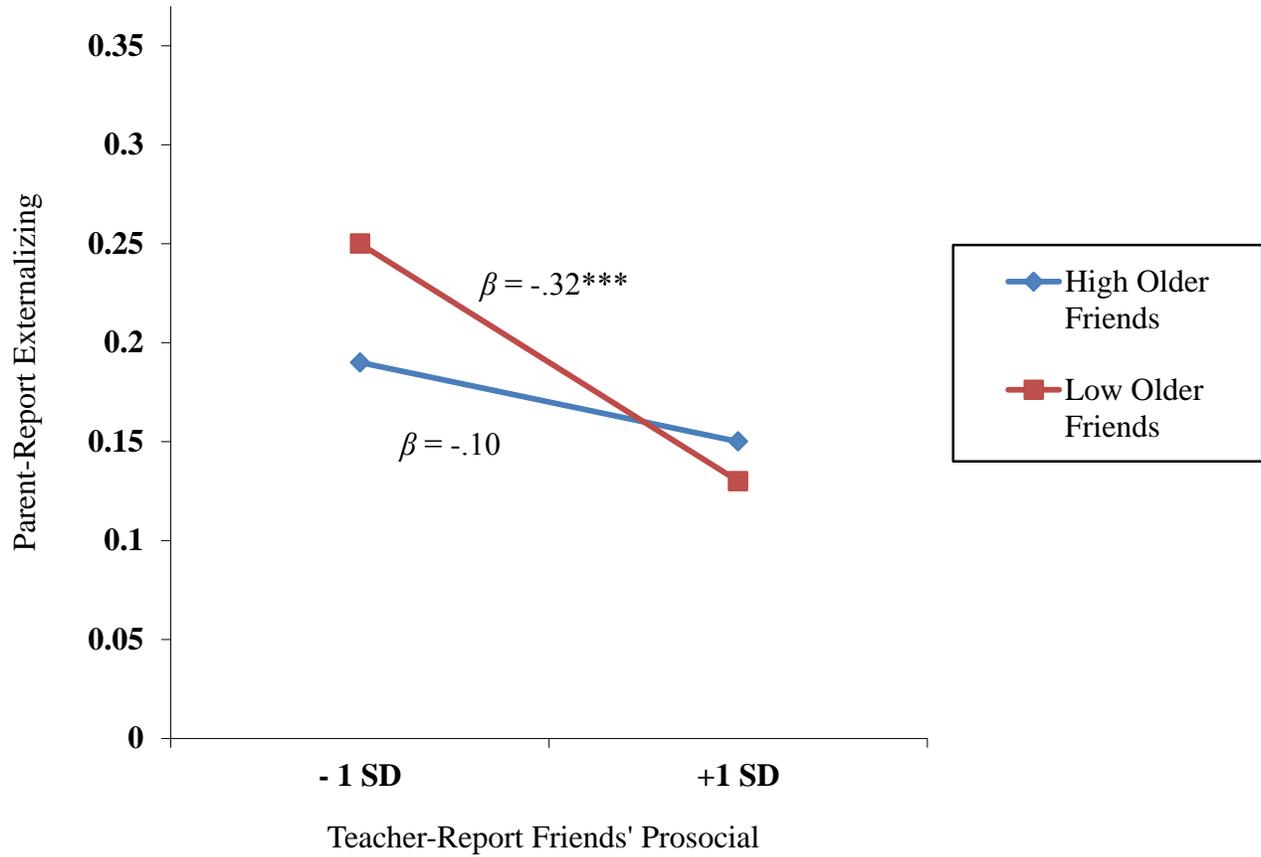


Figure 2. Proportion of older friends as a moderator between adolescent-report deviant friends and teacher-report externalizing problems.

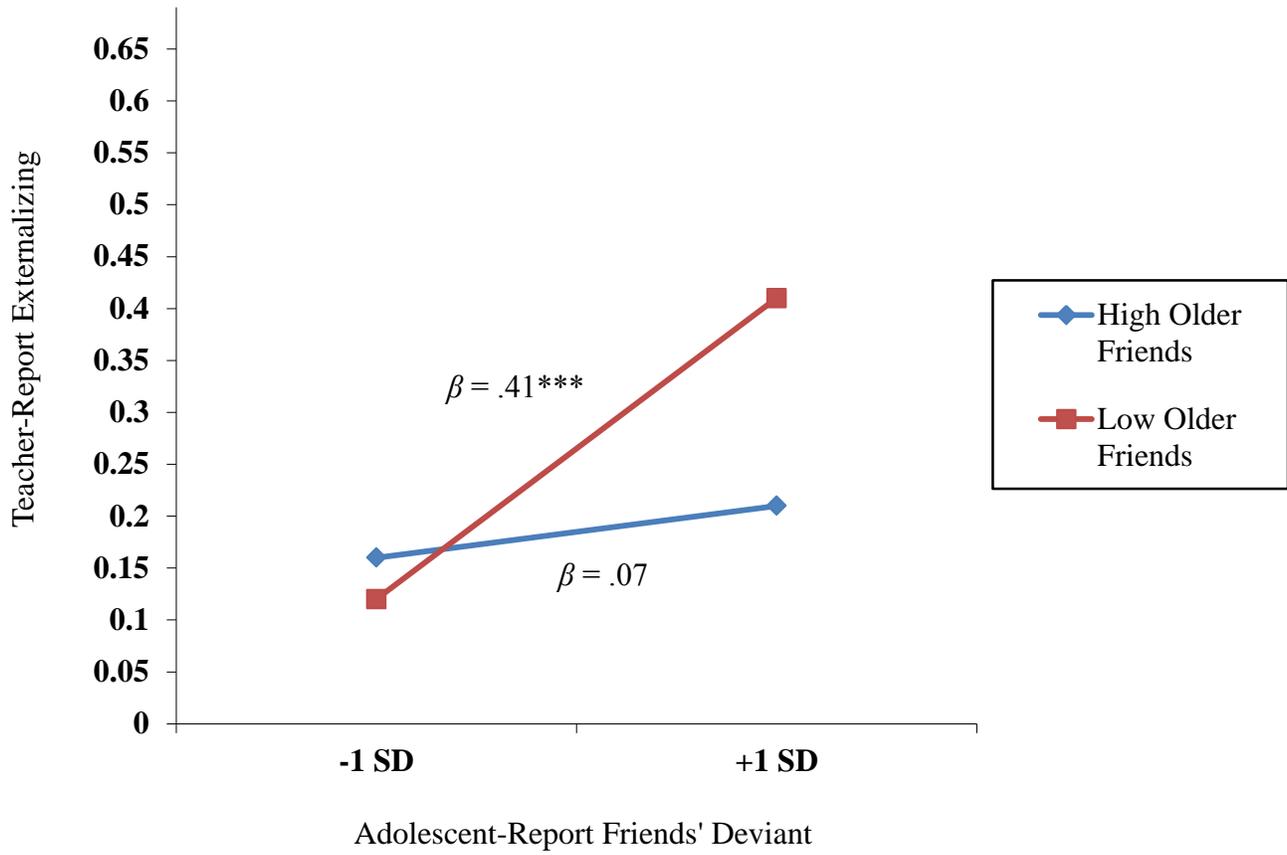


Figure 3. Proportion of older friends as a moderator between adolescent-report prosocial friends and teacher-report externalizing problems.

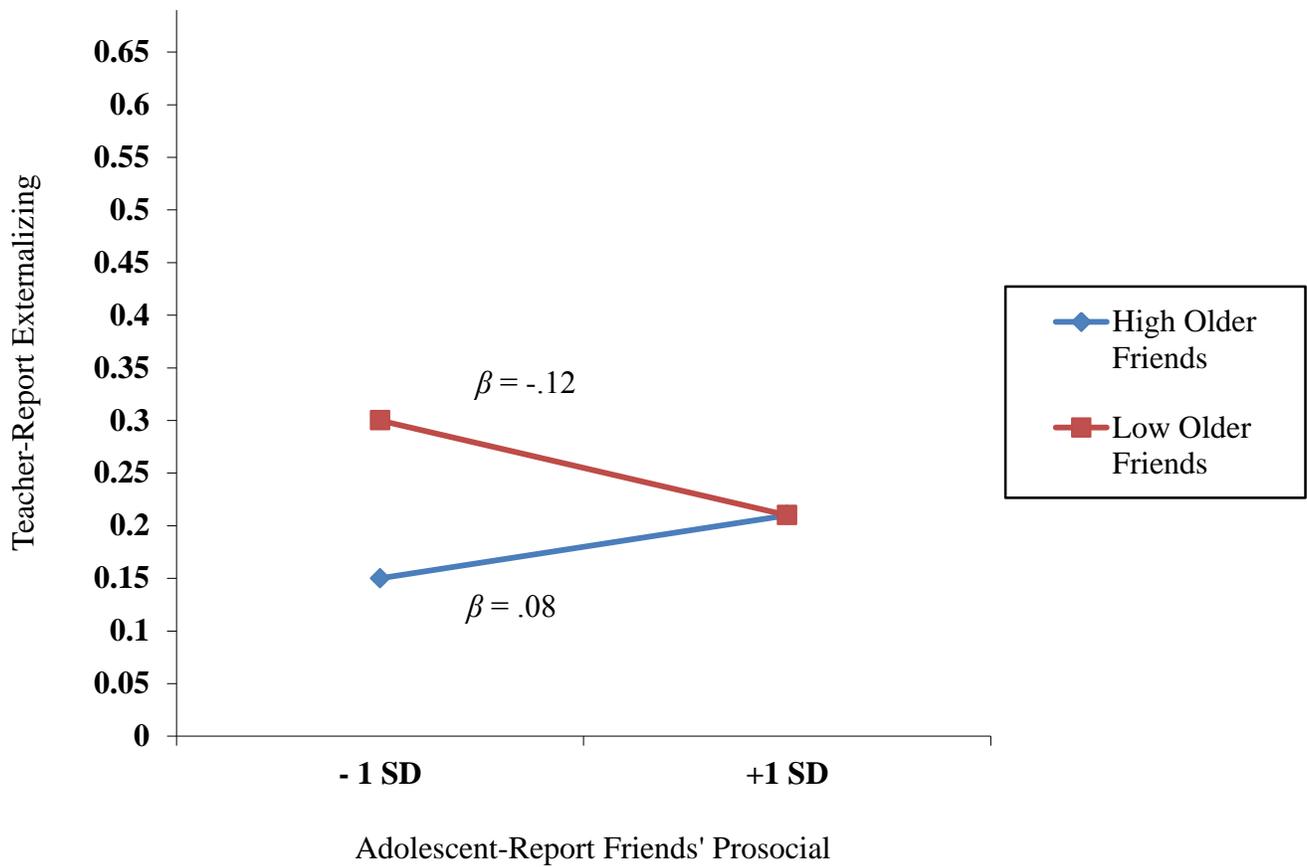


Figure 4. *Proportion of other-sex friends as a moderator between adolescent-report deviant friends and teacher-report externalizing problems.*

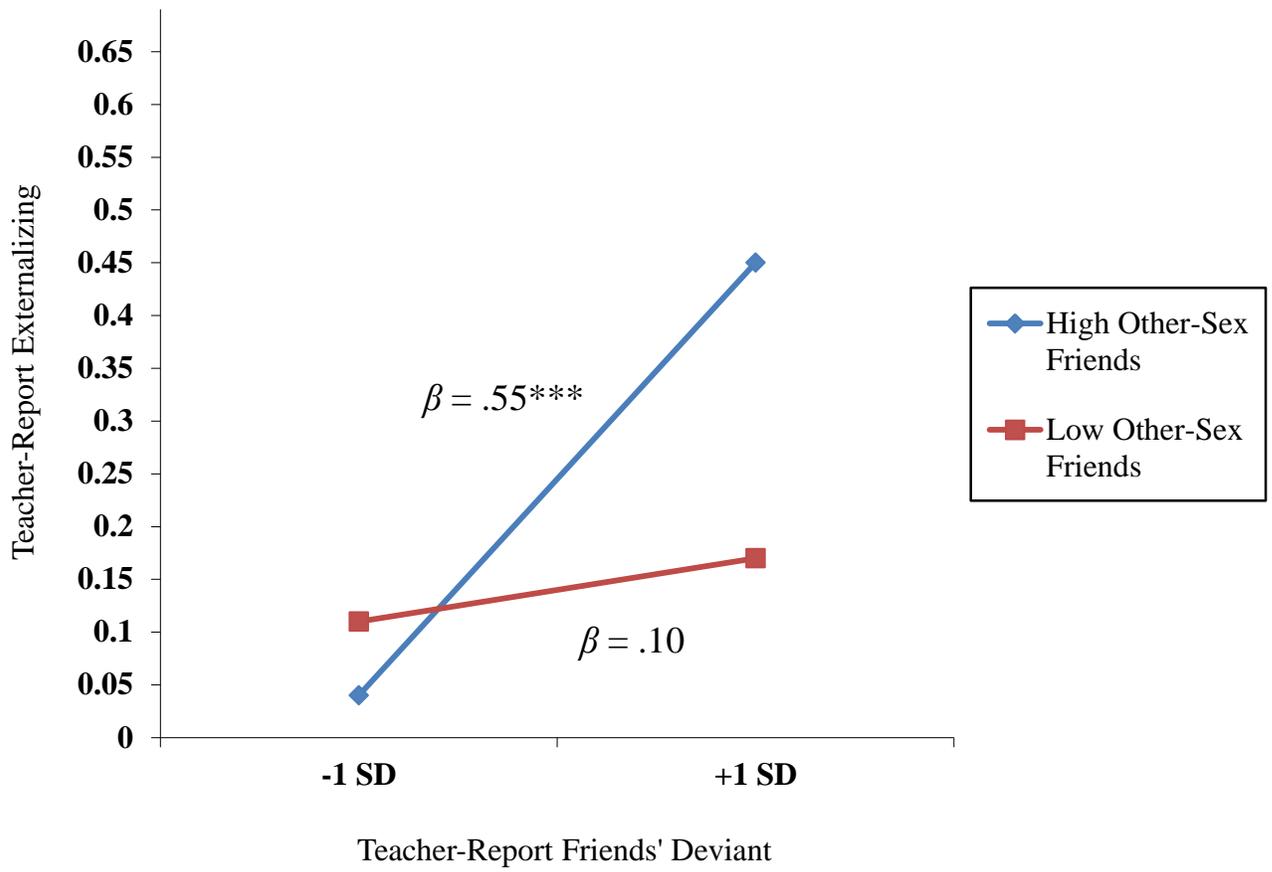


Figure 5. *Proportion of older friends as a moderator between teacher-report deviant friends and teacher-report externalizing problems.*

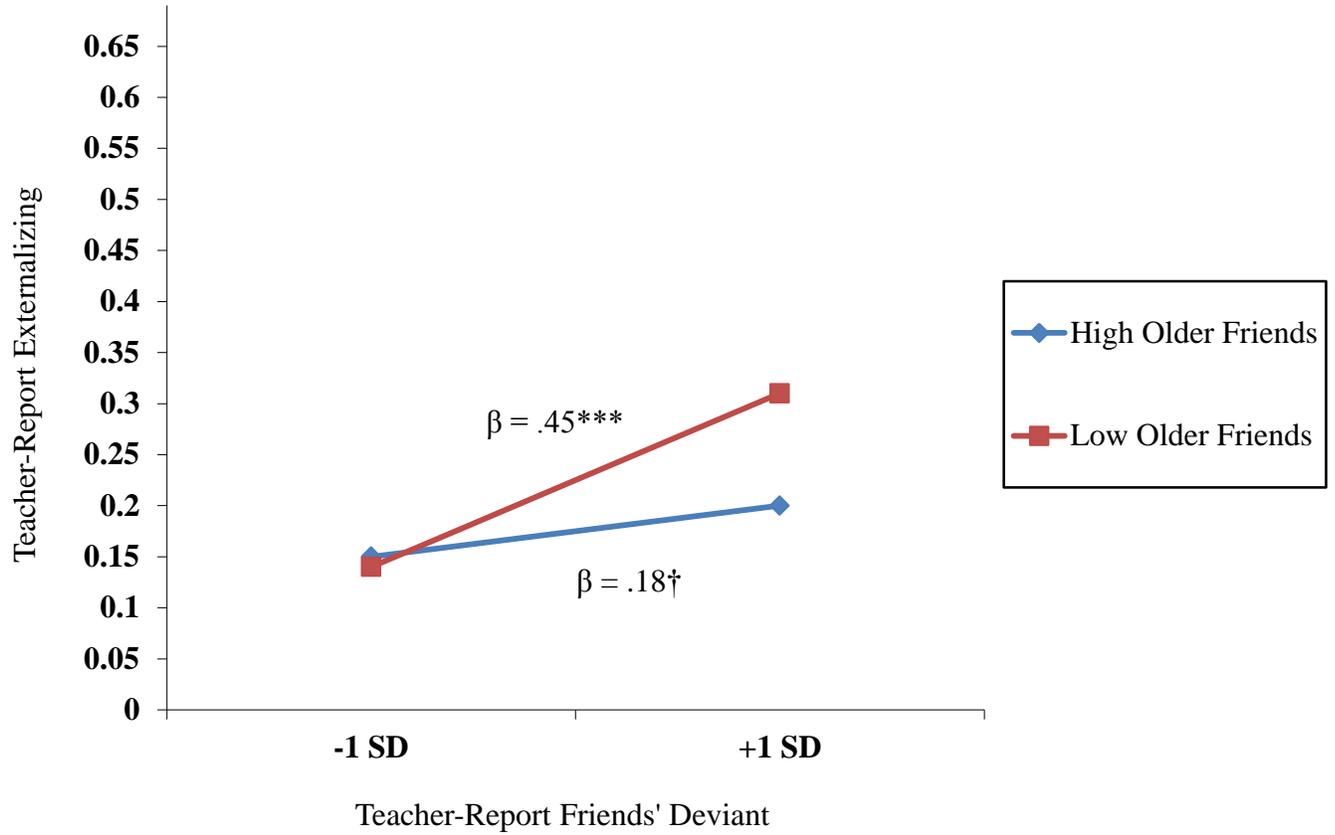


Figure 6. *Proportion of school friends as a moderator between teacher-report deviant friends and teacher-report externalizing problems.*

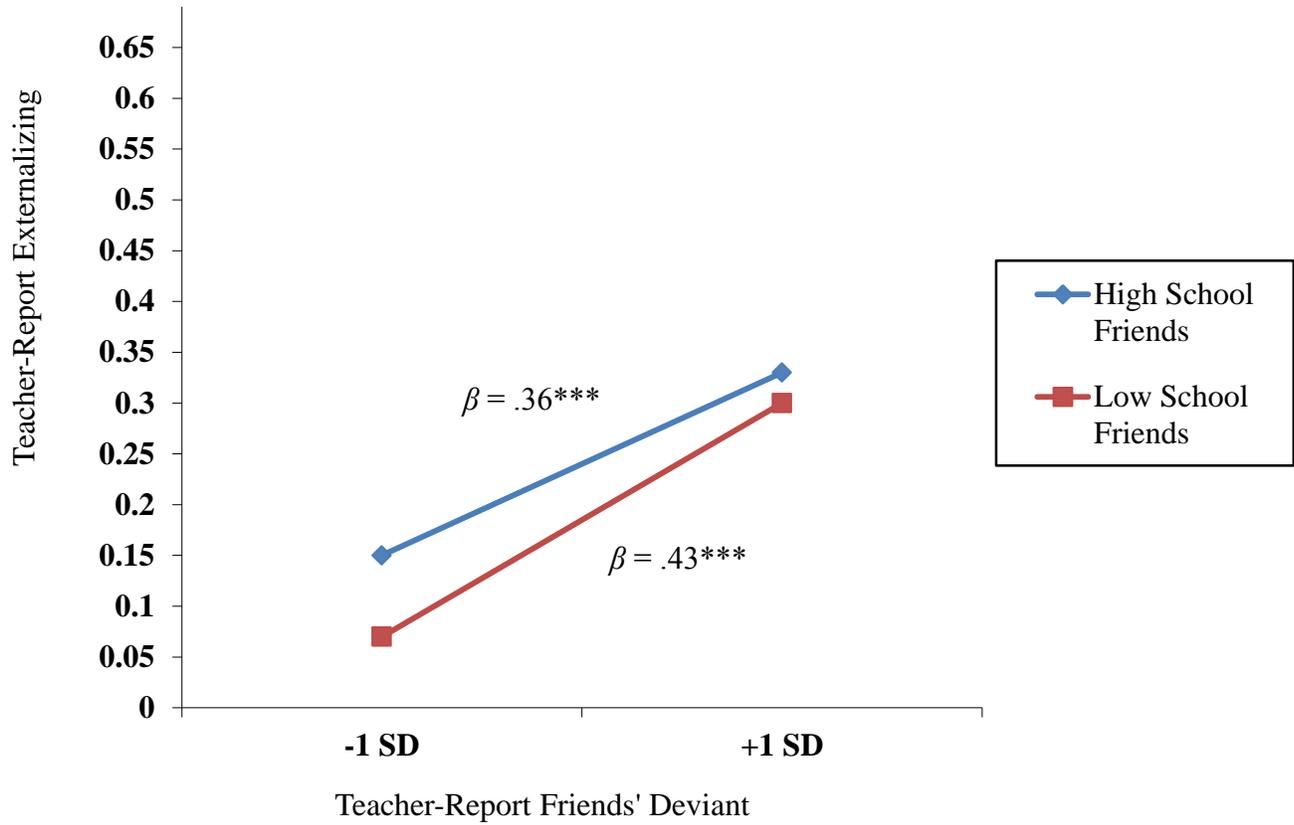
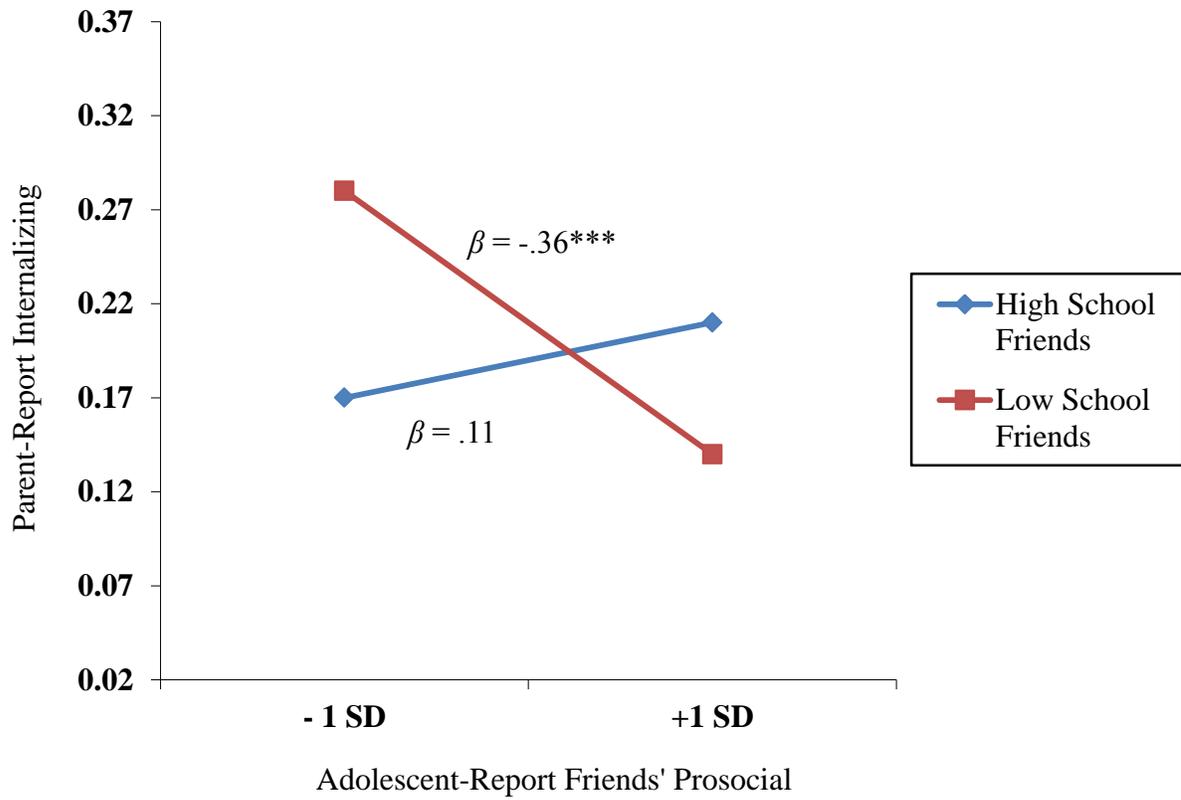


Figure 7. Interaction between proportion of school friends and adolescent-report prosocial friends predicting parent-report internalizing.



Appendix C

Measures

Friends' Prosocial Behaviors (Adolescent Report) (Laird, Criss, Pettit, Dodge, & Bates, 2008) $\alpha = .73$

Do the kids in your group (or your friends)...

1. Make good grades
2. Get along with teachers
3. Play sports
4. Have a lot of fun
5. Get along with their parents
6. Have lots of friends at school
7. Have good ideas about fun things to do

Friends' Deviant Behaviors (Adolescent Report) (Laird, Criss, Pettit, Dodge, & Bates, 2008) $\alpha = .91$

Do the kids in your group (or your friends)...

1. Get into fights with other kids
2. Use bad language
3. Lie to their parents and teachers
4. Get into trouble at school
5. Like to do things that make you scared or uncomfortable
6. Cheat on school tests
7. Hit or threaten people without any real reason
8. Ruin or damage things on purpose that don't belong to them

Friends' Prosocial Behaviors (Teacher Report) (Dishion, Patterson, Stoolmiller, & Skinner, 1991) $\alpha = .82$

Please circle the percentile that best describes this student's peer group or best friend on each of these characteristics.

1. Smart, good student(s)
2. Entertaining, funny
3. Involved in school activities
4. Popular

Friends' Deviant Behaviors (Teacher Report) (Dishion, Patterson, Stoolmiller, & Skinner, 1991) $\alpha = .86$

1. Tough, fighter
2. Dangerous to be with
3. Rebellious

Friends' Demographic Characteristics (Adolescent Report)

1. How many close or good friends do you have?
2. How many of your close/good friends are girls?
3. How many of your close/good friends are boys?
4. How many of your close/good friends are about your age?
5. How many of your close/good friends are older?
6. How many of your close/good friends are younger?
7. How many of your close/good friends attend the same school as you?