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## Parent Contributions to Friendship Stability During the Primary School Years

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### Abstract

The present study examines whether characteristics of parents predict the stability of a child's best friendships across the primary school years. Participants included 1,523 Finnish children (766 boys, 757 girls) who reported involvement in a total of 1,326 reciprocated friendship dyads in the 1<sup>st</sup> grade ( $M=7.16$  years old). At the onset of the study, mothers and fathers completed questionnaires describing their own parenting (i.e. behavioral control, psychological control, and affection toward the child) and depressive symptoms. Child scores for peer status (i.e. acceptance and rejection) were derived from 1<sup>st</sup> grade peer nomination data. Discrete-time survival analyses predicted the occurrence and timing of friendship dissolution, across grades 2 to 6, for friendships that began in grade 1. Parent depression and parent psychological control uniquely predicted subsequent child friendship dissolution, above and beyond the contribution of peer status variables.

### Keywords

friendships; relationship dissolution; survival analysis; parental behaviors; parental depression

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It is hard work to make a friend, and even harder to keep a friend for a long period of time. Friends are important during the primary school years because they are sources of companionship and positive regard (Bukowski, Motzoi, & Meyer, 2009). We propose that parents and peers together contribute to the maintenance of children's best friendships. The current study is guided by three concepts. First is the notion that negative parent characteristics can have an adverse impact on maintenance of friendships. Depressed and controlling parents have troubled relations with children (Beck, 1999), fail to model positive forms of engagement, and often undermine social skill development. Second is the notion that positive parent characteristics promote a child's ability to maintain friendships. Warm

and affectionate parents tend to have well-regulated children who often maintain successful interpersonal relationships (Bean, Bush, McKenry, & Wilson, 2003). Third is the notion that peer status plays a role over friendship outcomes. For example, well-liked children have more long-lasting friendships than their classmates (Poulin & Chan, 2010). The model in Figure 1 serves as a conceptual guide for the present study, which was designed to describe friendship stability in school age children and to identify parenting and peer factors that predict it. To this end, we examine mother and father reports of their own depressive symptoms and parenting styles in a large community sample of Finnish school children and used these reports to predict the occurrence and timing of the dissolution of best friendships from the beginning to the end of primary school. New to this study, we include both parent characteristics and peer social status in the same model because the latter is an overlapping indicator of both parenting and peer difficulties.

### **The Significance of Friendship During the Primary School Years**

Dissolution of friendships is not uncommon during the primary school years. A study of US children found that 35% of kindergarten friendships persisted to the 3<sup>rd</sup> grade (Howes, 1990). Like their US kindergarten counterparts, children in Finland enter school with a near blank slate of peer relationships. Thus, 1<sup>st</sup> grade is a pivotal time in the child's social world. In most cases new friendships must be constructed with previously unknown age mates. Unlike their US counterparts, children in Finland tend to keep the same classmates throughout primary school.

For most children (regardless of context), friendships are important sources of support for children as they navigate new classroom environments (Howes, 2009). Friendships may turn over with some frequency, but it is still the case that the degree to which a child's friendships are stable is an important indicator of adjustment. The ability to make and keep friends during the first year of formal schooling signals later social and academic success in school (Tomada, Schneider, de Domini, Greenman, & Fonzi, 2005). For many, friendship loss can be difficult. Some children become distraught at the loss of a friend, particularly those who have difficulty making new friends (Bowker, Rubin, Burgess, Booth-LaForce, & Rose-Krasnor, 2006). Other children make and discard friends with alacrity; frequent friend turnover has been hypothesized to indicate socioemotional difficulties among early adolescents (Chan & Poulin, 2009).

### **The Role of Parents in Friendship Stability**

Parents are posited to shape the peer relationships of their children through direct and indirect pathways (Parke, MacDonald, Beitel, & Bhavnagri, 1988). Direct pathways include behaviors and activities designed to shape or control relations with peers, such as arranging play dates and coaching social interactions. Parental depression is apt to interfere with successful peer relationships (path *a*; Figure 1). Parents who are depressed are disconnected from children (Lovejoy, Graczyk, O'Hare, & Neuman, 2000), are disinclined to coach and supervise peer play, and take steps to restrict opportunities for social engagement (Ginsburg, 2007). Some well-adjusted parents may nevertheless adopt practices that are counterproductive, interfering with the maintenance and stability of friendships. For

example, coercive and psychologically controlling parents (Barber, Stolz, & Olsen, 2005) may fail to provide a hospitable environment for guests, who may become disinclined to visit or even extend invitations that may necessitate interacting with an off-putting parent who is strict and punitive (path *b*; Figure 1). By contrast, warm, inductive parents willingly support and nurture positive peer relationships and provide an environment that is conducive for friend affiliation (Putallaz & Heflin, 1990) (path *c*; Figure 1). Parent behavioral control may be an asset insofar as it provides for the creation of structured environments that offer opportunities for supervised classmate interactions (path *d*; Figure 1).

Indirect pathways describe parent behaviors that adversely impact the adjustment and abilities of children, hampering the development of the emotional and interpersonal resources necessary to maintain a long-term friendship. Here too depression and psychological control are assumed to be risk factors. Depressed parents transmit negative emotions to children, which may then carry over into interactions with peers (Eisenberg et al., 1993). Depressed parents also tend not to be sensitive to the child's emotional needs, and as such, could undermine emotional development and self-regulation (Goodman, Brogan, Lynch, & Fielding, 1993). Parents who engage in psychological control model behaviors such as discounting feelings and withdrawal of affection (Aunola & Nurmi, 2005; Barber, Xia, Olsen, McNeely, & Bose, 2012), which undermine support, trust and intimacy between adolescent friends, and may do the same for children. Psychologically controlling parents may embarrass children in the presence of their friends in order to compel child compliance, undercutting the development of adaptive social skills. Power assertive parenting strategies teach children to focus on instrumental results, emphasizing individual outcomes over relationship maintenance (Hart, Ladd, & Burleson, 1990). Children with depressed parents and children with psychologically controlling parents tend to have higher levels of internalizing problems (Goodman & Gotlib, 1999; McShane, & Hastings, 2009), a known risk factor for difficulties in maintaining friendships (Poulin & Chan, 2010). Both parent attributes are also linked to insecure attachment relationships, depriving children of resources needed to navigate friendships and setting the stage for an internal working model that assumes friends are not trustworthy sources of support (Bowlby, 1969). By way of contrast, warm parents model positive interaction styles that promote the development of empathy, a key skill in constructive school-age peer interactions (Zhou et al., 2002). Finally, parent behavioral control assists in the development of self-regulation and self-esteem (Bean et al., 2003), both of which make the child or adolescent a more desirable interaction partner. In terms of the current study's conceptual model, any identified direct associations between parenting styles and child friendship stability (paths *a-d*; Figure 1) should subsume the indirect effects described above.

### **The Role of Peer Status in Friendship Stability**

Peer social status predicts maintenance of friendships during childhood (Ladd, 1983) and adolescence (Ellis & Zaratany, 2007). Rejection signals a number of social disadvantages, which are presumably liabilities to friendship maintenance. Rejection is linked to poor social skills, and children with poor social skills have difficulty understanding and applying the rules of social exchange that govern interactions between equals (Laursen & Hartup, 2002). As a consequence, reciprocity between friends may be disrupted (path *e*; Figure 1). Rejected

children also tend to be poorly regulated, a trait that increases conflict and undermines positive experiences between friends (Hartup & Stevens, 1997). By the same token, being accepted conveys a number of social advantages, which are presumably assets to friendship maintenance (path *f*; Figure 1). Acceptance signals prosociality, and children with prosocial skills are rewarding interaction partners (Bowker et al., 2006). Accepted children also tend to be skilled at conflict mitigation (Gifford-Smith & Brownell, 2003). Successful conflict management reduces the chances that a coercive exchange will damage the affiliation (Laursen & Adams, in press).

## The Present Study

The present study utilizes discrete-time survival analysis to examine the stability of reciprocated best friendships from the beginning of primary school (in the 1st grade) to the end of primary school (in the 6<sup>th</sup> grade). The goal was to identify the relative contributions of parenting characteristics and peer status to best friendship stability. We assessed three commonly recognized parenting styles (Steinberg, 2001): Behavioral control, psychological control, and warmth. We also assessed parental depression in an effort to disentangle the unique contributions of parenting styles from parent mental health difficulties known to shape parenting (Lovejoy et al., 2000). Finally, we assessed peer social status (i.e., acceptance and rejection) in an effort to disentangle the effects of parenting from those that overlap with peer social status.

Three research questions were addressed. (1) Does negative parent characteristics foster the disruption of children's friendships? Controlling and depressed parents tend to be either restrictive or ambivalent regarding their children's relationships (Lovejoy, Graczyk, O'Hare, & Neuman, 2000; Ginsburg, 2007), therefore we hypothesized that parental psychological control and depression increases the risk of best friendship dissolution. (2) Does positive parent characteristics increase the endurance of friendship maintenance? Because warm and affectionate parents instill behaviors conducive to positive interpersonal relations (Bean et al., 2003; Zhou et al., 2002) we hypothesized that parental warmth and behavioral control decreases the risk of best friendship dissolution. (3) Is low peer social status a risk factor for the maintenance of friendships? Parenting variables linked to friendship functioning are known to be confounded with peer social status. Better liked children tend to have more successful friendships than less well-liked children (Hartup & Stevens, 1997; Laursen & Hartup, 2002), so we hypothesized that low peer status (high rejection and low acceptance) increases the risk of best friendship dissolution. Finally, given findings regarding sex differences in friendship quality (Rose & Smith, 2011), we examined sex as a moderator of the predictors of friendship dissolution. Because of a lack of consistent findings regarding sex differences (Poulin & Chan, 2010), we did not advance hypotheses about gender as a moderator of factors affecting friendship longevity.

## Method

### Participants

Participants in the First Steps Study (Lerkanen et al, 2006) were recruited from four municipalities in Finland: two in Central Finland, one in Western Finland, and one in

Eastern Finland. The sample included 1,523 (757 girls and 766 boys) 1<sup>st</sup> grade students (range=6 to 8 years old,  $M=7.16$ ,  $SD=0.29$ ) who were involved in at least one reciprocated same-sex friendship. The sample was almost entirely ethnic Finns, consistent with Finnish language schools in the region (Silinskas, Niemi, Lerkkanen, & Nurmi, 2013). The study was entitled “Lapset, vanhemmat ja opettajat yhteistyössä koulutien alussa eli ALKUPORTAAT” in Finnish and had received approval from the human subjects ethical review committee at the University of Jyväskylä (#15.06.2006).

Parents of first grade children provided information on the family. Most children came from two biological parent families (79.2%), with the remainder divided between biological mother and stepfather families (7.8%) and single biological mother (13.0%) families. All mothers who agreed to participate in the study completed surveys ( $n=1104$ ; 72.5%). Of the fathers who completed surveys ( $n=788$ , 51.7%), all but 108 came from two biological parent families. As a consequence, we limited participation to children from two biological parent families. Of this total, data from mothers and fathers were available for 680 families (44.6%), data from mothers only were available for 424 families (27.8%). Children for whom there were no data on family structure ( $n=421$ ; 27.6%) and children whose parents failed to complete surveys (but for whom peer nomination data were available;  $n=392$  of the previous 421; 25.7%) were included in the study (see below for treatment of missing data). Parents who completed surveys did not differ from those who did not on SES and parents' language. Participating fathers were roughly 3 years younger ( $d=0.43$ ), and had lower vocational education ( $d=0.18$ ), when compared to participating mothers, both of which are common differences among Finnish partners. The sample was representative of the Finnish population (Statistics Finland, 2007). Approximately 34% of parents (compared with 30% of the general population) completed high/vocational school (Grades 10–12), 36% (compared with 35%) completed a college degree (3-year bachelor's or vocational degree), 29% (compared with 29%) completed a master's degree or higher, and 1% (compared with 6%) completed comprehensive school (grade 9).

## Measures

**Best Friendship Nominations**—In the spring of 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> grades participants were given a roster of all students in the classroom and asked to circle the names of up to three classmates with whom they “most liked to spend time with during recess” and underline the names of three classmates with whom they “least liked to spend time with during recess” (Coie, Dodge, & Coppotelli, 1982). In 6<sup>th</sup> grade, participants wrote the names of three classmates with whom they most liked to spend time and three with whom they least liked to spend time.

*Reciprocated best friendships in Grade 1* were defined as dyads in which both partners nominated one another as a liked most affiliate in the 1<sup>st</sup> grade (Berndt & McCandless, 2009). Reciprocated best friendships were overwhelmingly same-sex (99%), so we restricted our study to these dyads. *The number of reciprocated best friendships* represents the total number of all same-sex reciprocated best friendships in which a participant was involved in the 1<sup>st</sup> grade (range: 1–4,  $M=1.74$ ,  $SD=0.76$ ).

*Best Friendship dissolution* occurred when at least one member of a reciprocated 1<sup>st</sup> grade best friendship dyad failed to nominate the other as a most-liked affiliate at a later time point (Cairns, Leung, Buchanan, & Cairns, 1995). Of the 1,326 reciprocated 1<sup>st</sup> grade best friendship dyads, 287 dissolved but were reconstituted at a later time point. In these cases, the initial dissolution point was treated as the termination point in the primary analyses.

*Peer acceptance* scores reflect the total number of incoming liked most nominations each student received, standardized by class. *Peer rejection* scores reflect the total number of incoming liked least nominations each student received, standardized by class.

**Parenting Styles**—Mothers and fathers of 1<sup>st</sup> grade participants completed a revised Finnish version (Aunola & Nurmi, 2004) of the Child-Rearing Practices Report (CRPR; Roberts, Block, & Block, 1984), which included six items that assessed *behavioral control* (e.g., “My child should learn that we have rules in our family”), three items that assessed *psychological control* (e.g., “My child needs to know the sacrifices I make for him/her”), and 10-items that assessed *affection* (e.g., “I often show my child that I love him/her”). All items were scored on a scale ranging from 1 (*low*) to 5 (*high*). Internal reliabilities were adequate for behavioral control (mothers:  $\alpha = .66$ ; fathers:  $\alpha = .69$ ), psychological control (mothers:  $\alpha = .72$ ; fathers:  $\alpha = .75$ ), and affection (mothers:  $\alpha = .83$ ; fathers:  $\alpha = .83$ ).

**Parent Depressive Symptoms**—Mothers and fathers of 1<sup>st</sup> grade participants completed an abbreviated four-item Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Items (e.g., “I feel sad”) were scored on a scale ranging from 1 (*not at all true of me*) to 5 (*very true of me*). Internal reliabilities were good (mothers:  $\alpha = .87$ ; fathers:  $\alpha = .88$ ).

## Procedure

Parent consent and child assent were required for student participation. Parental consent forms were enclosed in envelopes and sent home with children; parents returned completed questionnaires by mail. A total of 2,114 of 2,658 children in first grade (79.5%) returned parental consent forms and agreed to participate.

Trained researchers administered surveys to students during regular school hours. Of the 2,114 students participating in the 1<sup>st</sup> grade, 1,955 (92.5%) completed friendship nomination inventories. Of this total 1,523 reported at least one reciprocal same-sex best friendship originating in the 1<sup>st</sup> grade. T-tests revealed that the 432 students who were not involved in reciprocal same-sex best friendships in the 1<sup>st</sup> grade had significantly higher levels of peer rejection, and significantly lower levels of peer acceptance than those with reciprocated best friends. There were no differences between the two groups on parenting variables.

Attrition was low; 94.8% ( $n=1,444$ ) participated in data collection in the 2<sup>nd</sup> grade, 93.0% ( $n=1,417$ ) in the 3<sup>rd</sup> grade, 91.0% ( $n=1,386$ ) in the 4<sup>th</sup> grade, and 72.4% ( $n=1,103$ ) in the 6<sup>th</sup> grade. All students attended the same school throughout the study and most students retained almost all of the same classmates from one year to the next.



## Plan of Analysis

**Discrete-time survival analyses**—We conducted discrete-time survival analysis (also known as event history analyses) to gauge the impact of parents on the peer relationships of children. Discrete-time survival analyses measure the occurrence and timing of events through an array of logistic regressions, predicting dissolution at multiple, successive time points (Graham, Willett, & Singer, 2013). In the current study, we used discrete time survival analyses to predict the occurrence and timing of the dissolution of 1<sup>st</sup> grade best friendships from parent and child characteristics. Analyses were conducted in Mplus v7.13 (Muthén & Muthén, 2014).

**Preliminary analyses**—Likelihood-ratio tests indicated no differences between friends, so the variances, covariances, means, and path estimates were constrained to be equal for members of each friend dyad. Additional analyses examined the proportionality assumption, to determine whether a predictor's effect varied across time intervals. To this end, two models were compared: (a) an unconditional model in which each predictor's effects varied freely across time intervals, and (b) a conditional model in which effects were constrained to be equal across time intervals. Likelihood-ratio tests revealed that unconditional models did not have significantly better fits than conditional models, indicating that the effects of predictors did not significantly differ across grades (Graham et al., 2013). Thus, each 1<sup>st</sup> grade predictor variable had the same effect on the intervals from the 1<sup>st</sup> to 2<sup>nd</sup> grade, from the 2<sup>nd</sup> to 3<sup>rd</sup> grade, from the 3<sup>rd</sup> to 4<sup>th</sup> grade, and from the 4<sup>th</sup> to 6<sup>th</sup> grade. As a consequence, predictors were fixed to be time invariant.

Additional multiple group latent class analyses compared results from a model limited to reports from mothers to a model limited to reports from fathers. Comparable paths were set to be equal across models. Model fit did not significantly worsen, indicating that parents did not differ in the degree to which their scores predicted friendship dissolution. Therefore, mother and father reports were constrained to be equal. When mother and father reports were included as separate predictors in the model, the same pattern of statistically significant results emerged.

**Main analyses**—Discrete-time survival analyses were conducted in a latent variable framework. In these analyses, the 1<sup>st</sup> grade predictors of best friendship dissolution included (1) parent reports for both friends describing parental affection, behavioral control, psychological control, and depressive symptoms, and (2) peer reports for both friends describing acceptance and rejection. For each friend, the number of his or her reciprocated best friendships in the 1<sup>st</sup> grade was also included as a predictor variable, to control for the fact that some students had more friends than others and to rule out the possibility that those with many friends could afford more relationship turnover than those with few friends. Non-linear effects were calculated for each predictor variable to examine the possibility that elevated risks for dissolution were restricted to dyads with extreme levels of a predictor variable. The initial analyses included a linear term ( $x$ ) and a quadratic term ( $x^2$ ) for each predictor variable. Quadratic terms which yielded no significant associations with friendship dissolution were omitted. Lastly, analyses were conducted using the COMPLEX function in



Mplus, which is designed to account for nested data, in this case, students nested within classrooms, and students nested within friendships.

Latent class analyses with binary time-specific event indicators were conducted which are equivalent to a conventional discrete-time survival analysis (Muthén & Masyn, 2005). Four binary time-specific event indicators were included, one for each interval. Best friendship dyads are included in analyses until data from one or both friends is unavailable, at which point right censoring is applied (Graham et al., 2013). Friendships were censored when friends moved to different classrooms, eliminating the concern that changes in classrooms were responsible for dissolution. For each best friendship at each interval, the event indicator was coded as reciprocated (0), newly dissolved (1), previously dissolved (censored), or unavailable (censored). Two related functions describe best friendship stability. The hazard curve depicts the conditional probability that a reciprocated 1<sup>st</sup> grade best friendship will dissolve at each grade, given that it did not dissolve at an earlier grade. The survival curve depicts the probability that a reciprocated 1<sup>st</sup> grade best friendship will continue at each grade. In survival analyses, the hazard and survival functions are calculated separately for each interval. In a survival analyses, results are reported in terms of associations between a predictor variable and the hazard function. The odds-ratios to emerge are akin to results from a logistic regression. An odds-ratio greater than 1 indicates that higher levels of the predictor variable correspond to greater rates of friendship dissolution. The risk of dissolution is interpreted as a function of standard deviations (*SD*). For example, an odds-ratio of 1.10 corresponds to a 10% increase in the rate of dissolution (above the average annual rate of dissolution), for dyads with scores 1 *SD* above the mean, a 21% increase for dyads with scores 2 *SD* above the mean, and a 33% increase for dyads with scores 3 *SD* above the mean.

**Supplemental analyses**—Three analyses examined differences in the definition of friendship dissolution. The first analysis excluded best friendships that became unilateral (i.e., only one friend nominated the other) before they dissolved ( $N=182$ ). The second analysis excluded reconstituted best friendships ( $N=283$ ). The third analysis included reconstituted best friendships but censored data from the first dissolution interval ( $N=133$  2<sup>nd</sup> to 3<sup>rd</sup> grade;  $N=81$  3<sup>rd</sup> to 4<sup>th</sup> grade;  $N=20$  4<sup>th</sup> to 6<sup>th</sup> grade). Additional analyses which crossed sex with each predictor did not find evidence of moderation by sex.

**Missing data**—An average of 20.1% (range 0% to 27.9%) of reports on predictor variables were missing. Little's MCAR test revealed that data were missing completely at random,  $\chi^2(21)=26.27, p=.33$ . A series of one-way ANOVAs revealed that there were no differences on any predictors between those who participated in all waves of data collection and those who did not. Missing data on predictor variables were handled with Full Information Maximum Likelihood (FIML) estimation with robust standard errors, allowing friendships with incomplete parent and child data to be included in the models. Few participants were missing friend nomination reports (0.1 to 1.5% from 1<sup>st</sup> to 6<sup>th</sup> grade). Dyads missing friend nominations were censored from the interval lacking reports.

## Results

### Preliminary results

Correlations between predictor variables are presented in Table 1. For mothers and fathers, higher levels of depression were associated with higher levels of behavioral control and psychological control, and lower levels of affection. For mothers and fathers, higher levels of behavioral control were associated with higher levels of psychological control. For mothers only, higher levels of behavioral control were associated with higher levels of affection. Finally, higher levels of peer rejection were associated with higher levels of maternal psychological control and lower levels of maternal affection.

### Best friendship stability from 1<sup>st</sup> to 6<sup>th</sup> grade

Figure 2 depicts the survival and hazard curves describing the relative risk of friendship dissolution across primary school. The survival curve indicated that roughly half of all 1<sup>st</sup> grade reciprocated friendships continued in the 2<sup>nd</sup> grade (survival rate=52%). Roughly a quarter survived to the 3<sup>rd</sup> grade (survival rate=27%). Less than a fifth survived to 4<sup>th</sup> grade (survival rate=17%). Only 8% of 1<sup>st</sup> grade friends remained friends at the end of primary school in the 6<sup>th</sup> grade. The hazard curve indicates that 1<sup>st</sup> grade reciprocated friendships were at greatest risk for dissolution during the 2<sup>nd</sup> grade (hazard rate=46%). The risk of dissolution declined during the 3<sup>rd</sup> grade (hazard rate=35%), and was stable from the 4<sup>th</sup> to 6<sup>th</sup> grades (hazard rate=30%). A likelihood-ratio test revealed that the hazard rate for friendship dissolution significantly differed over time,  $\chi^2(3)=136.77, p>.05$ . Therefore, hazard rates were allowed to vary.

### Negative parent characteristics as predictors best friendship stability

Figure 3 depicts the odds ratios for the predictors in the final latent class survival analysis, model fit was acceptable ( $AIC = 97985.71, BIC = 98410.53$ ). Associations for each significant parenting predictor are discussed in turn.

**Parental depression**—Consistent with the hypothesis that parental depression increases the risk of best friendship dissolution, there was a statistically significant quadratic (but not linear) effect for parental depression. Figure 4 depicts the escalating likelihood of friendship dissolution as a function of parental depressive symptoms. To interpret the results, we start with the mean of parental depression, which was 1.79 ( $SD=0.83$ ) on a scale from 1 to 5. Children whose parents reported depressive symptoms 1  $SD$  below the mean ( $M=1.00$ ), had only a 2.6% increase (logits=0.03) in the annual risk of friendship dissolution. At this level, the hazard rates for friendship dissolution were not appreciably elevated in the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, and 6<sup>th</sup> grades. In contrast, children whose parents reported depressive symptoms 3  $SD$  above the mean ( $M=4.28$ ), had a 104% increase (logits=0.72) in the annual risk of friendship dissolution. The hazard rates for friendship dissolution increased to 64% in the 2<sup>nd</sup> grade (compared to 46%, the average rate of dissolution in this interval), 53% in the 3<sup>rd</sup> grade (compared to 35%), 47% in the 4<sup>th</sup> grade (compared to 30%), and 47% in the 6<sup>th</sup> grade (compared to 30%).

**Parent psychological control**—Consistent with the hypothesis that parental psychological control increases the risk of best friendship dissolution, there was a statistically significant linear effect for parental psychological control. To interpret the results, we start with the mean of psychological control, which was 2.57 ( $SD=0.68$ ) on a scale from 1 to 5. Children whose parents reported psychological control 1  $SD$  below the mean ( $M=1.89$ ), had an 8% decrease (logits= $-0.08$ ) in the annual risk of friendship dissolution. The hazard rates for friendship dissolution decreased to 44% in the 2<sup>nd</sup> grade (compared to 46%, the average rate of dissolution in this interval), 33% in the 3<sup>rd</sup> grade (compared to 35%), 28% in the 4<sup>th</sup> grade (compared to 30%), and 28% in the 6<sup>th</sup> grade (compared to 30%). In contrast, children whose parents reported psychological control 3  $SD$  above the mean ( $M=4.61$ ), had a 26% increase (logits= $0.23$ ) in the annual risk of friendship dissolution. The hazard rates for friendship dissolution increased to 52% in the 2<sup>nd</sup> grade (compared to 46%, the average rate of dissolution in this interval), 41% in the 3<sup>rd</sup> grade (compared to 35%), 35% in the 4<sup>th</sup> grade (compared to 30%), and 35% in the 6<sup>th</sup> grade (compared to 30%).

### **Positive parent characteristics as predictors of best friendship stability**

**Parental affection and behavioral control**—Contrary to our hypothesis that positive parenting styles decreases the risk of best friendship dissolution, there was neither linear nor nonlinear associations from parental affection and behavioral control in 1<sup>st</sup> grade to the hazard function for best friendship dissolution.

### **Peer status as predictors of best friendship stability**

There was tentative support for the hypothesis that low peer status increases the risk of best friendship dissolution. The quadratic effect for peer rejection fell to borderline statistical significance ( $p=0.08$  to  $0.09$ ) after the application of the COMPLEX function that separately adjusted for nesting within classrooms and nesting within friendships, suggesting that peer rejection predicts the dissolution of 1<sup>st</sup> grade friendships in some classrooms and friendships but not in others. A brief summary of these borderline statistically significant results follows. Children with peer rejection scores 1  $SD$  below the mean had only a 1% increase (logits= $0.01$ ) in the annual risk of friendship dissolution. By contrast, children with peer rejection scores 3  $SD$  above the mean, had a 69% increase (logits= $0.53$ ) in the annual risk of friendship dissolution.

### **Supplemental analyses**

A similar pattern of statistically significant results emerged in supplemental analyses that (a) excluded best friendships that became unilateral before they dissolved; (b) excluded reconstituted best friendships, and (c) censored data from reconstituted best dissolved friendships. In the first two cases, the quadratic function of parental depressive symptoms fell to borderline levels of statistical significance ( $OR=1.06$ ,  $p=.08$ ). These p-value likely result from declining power due to reductions in sample sizes (i.e., the odds-ratio increased slightly while power decreased by 10–14%). In the third case, all statistically significant results were replicated.

## Discussion

Our study described the stability of best friendships during the primary school years. Most friendships were transitory: Fewer than 10% of 1<sup>st</sup> grade best friendships survived until the 6<sup>th</sup> grade, with roughly half dissolving within a year of initiation. We found clear support for the hypothesis that negative features of parenting, such as depression and psychological control, increase the risk of dissolution of best friendships.

The friendships of young children are, for the most part, short-lived. Our findings confirm results from previous studies (e.g., Berndt & Hoyle, 1985; Schneider, Fonzi, Tani, & Tomada, 1997), which indicate that a sizable proportion of primary school friendships last less than a year. Because children's social relationships are fluid during this period, a moderate degree of turnover in friendship should not be taken as evidence of social difficulties for the majority of children, the loss of a friend is painful, but not debilitating. Most simply make a new best friend. But for children with peer difficulties, friendship instability can pose a serious challenge (Bowker, 2004). Friendlessness is a risk factor for depression in childhood (Bukowski, Laursen, & Hoza, 2010), and if not addressed, can lead to poor life satisfaction in middle adulthood (Marion, Laursen, Zettergren, & Bergman, 2013). Thus, increases in rates of dissolution can have profound long-term consequences for some children, particularly if it means the difference between having a friend and not.

It is clear that some children have greater difficulties than other children to maintain friendships. These difficulties may be tied directly to the behaviors and characteristics of their parents. As expected, parent depressive symptoms predicted best friendship instability. There was a 17% to 18% difference in rates of annual dissolution between those whose parents were 1 *SD* below the mean on depression and those whose parents were 3 *SD* above the mean on depression. Parents with scores at the 3 *SD* level probably qualify as clinically depressed; the prevalence of depression among parents of young children (10% for mothers in the US; Ertel, Rich-Edwards, & Koenen, 2011) suggests the potential to impact a large number of children. It is not difficult to understand why children with depressed parents have a difficult time keeping best friends. Depressed parents are unresponsive and inattentive (Gelfand & Teti, 1990; Onatsu-Arvilommi, Nurmi, & Aunola, 1998). Depressed parents are apt to have insecurely attached children, whom in turn, have a more critical and less responsive relationships with peers (Kerns, Klepac, & Cole, 1996). These parents fail to model prosocial and compassionate behavior, and as a consequence, have children who display low levels of supportive behaviors in interactions with peers (Chase-Lansdale, Wakschlag, & Brooks-Gunn, 1995), and display elevated levels of internalizing symptoms that are known to predict friendship instability (Poulin & Chan, 2010).

Consistent with results indicating that parental psychological control is tied to peer difficulties (Nelson & Crick, 2002), we found that psychological control predicted elevated rates of best friendship dissolution. There was a 7% to 8% difference in rates of annual dissolution between those whose parents were 1 *SD* below the mean on psychological control and those whose parents were 3 *SD* above the mean on psychological control. Controlling parenting behaviors such as guilt induction and shaming adversely impact the child's self-esteem (Bean et al., 2003), which can interfere with positive exchanges between

friends (Barber & Schluterman, 2008). Psychological control is a form of coercive parenting. It is possible that parents who model coercive behaviors have children who apply similar control strategies to interactions with peers (Chang, Schwartz, Dodge, & McBride-Chang, 2003). Our findings add to those of previous studies that implicate parental psychological control in adverse child outcomes (e.g., Aunola & Nurmi, 2005; Barber et al., 2005). Children with parents who engage in psychologically controlling behavior tend to exhibit lower levels of empathy and prosocial orientations (Barber, 1996), which are risk factors for peer problems (Crick, 1996; Kaukiainen et al., 1999).

Contrary to our expectations, we failed to find evidence that positive parenting behaviors altered the stability of children's best friendships. Of course, null findings must be interpreted with caution. Nevertheless, it may be that longer-lasting friendships cannot be counted among the benefits associated with constructive parenting practices (Amato & Fowler, 2002). One possibility is that we did not assess the specific forms of positive parenting that promote friendship stability. Inductive parenting, or the tendency for parents to provide feedback or rationales to children for their decisions, promotes self-efficacy (Whitbeck et al., 1997). Parents who engage in emotional coaching tend to have children who are socially competent (Denham, Mitchell-Copeland, Strandberg, Auerbach, & Blair, 1997), and have fewer behavioral difficulties in the early school years (Hooven, Gottman, & Katz, 1995). One possible explanation for the absence of findings is that positive parenting practices may not be uniformly linked to friendship stability but may instead do so only under specific circumstance or when paired with other parenting practices. In this regard, typologies derived from person-oriented analyses may hold advantages over traditional variable oriented strategies (Larsen & Hoff, 2006).

The findings indicate that parent behavior at the outset of the study was an invariant predictor of dissolution. Put simply, this means that the parenting variables measured in the 1<sup>st</sup> grade carried the same valence in the prediction of dissolution from one age period to the next. Of course, this does not imply that the properties of the friendships themselves are the same. We know that across the primary school years, companionship declines while intimacy and reciprocity increase (Buhrmester & Furman, 1987). Yet despite changes in the functions of friendships, there were no changes in the characteristics of 1<sup>st</sup> grade parents that predicted later best friendship dissolution. Parent characteristics at later time points (time varying predictors) may differentially predict friendship dissolution, a prospect that could not be considered in the present study. From a conceptual standpoint, it is difficult to see why parent depression and parent psychological control would become less important as predictors of friendship instability as children get older; each is concurrently tied to friendship difficulties in children and adolescents (Cummings, Keller, & Davies, 2005; Karavasilis, Doyle, & Markiewicz, 2003; Soenens, Vansteenkiste, Goossens, Duriez, & Niemiec, 2008). It is possible that positive features of parenting, such as warmth and behavioral control, emerge as factors that enhance friendship stability later during primary school, as autonomy expands and supervision declines.

Our study is not without limitations. Some limitations concern the assessment of friendships. Children were limited to three friendship nominations per grade, so we only tapped the closest affiliations. Best friendships (assessed herein) may be more sensitive to parent

variables than lesser friendships, because the latter may see each other's parents less frequently. Friendship nominations were limited to classmates in the present study, a common research practice given that propinquity drives friendship choice and few children make or maintain friendships out of class (Bukowski et al., 2009). It is unclear if out-of-class friendships have similar rates of stability, or if the same predictors remain salient. The assessment of friendship was somewhat different in the 6<sup>th</sup> grade, when children wrote down the names of friends rather than circle them from a list, however it is not unreasonable to assume that 13 year olds can remember the names of their top three friends. We defined friendship in terms of reciprocated preferred affiliate nominations. A more common measure of friendship involves simply asking children to nominate their friends. There is a long history of using preferred affiliate nominations as an index of friends (e.g., Erdley et al., 1998; Laursen, Bukowski, Aunola, & Nurmi, 2007), and the validity of this technique is well established among young children (Bukowski & Hoza, 1989). A different assessment of friendship has the potential to yield somewhat different rates of dissolution, although there is no reason to expect that different predictors would emerge. We assumed (for purposes of statistical analyses) that all friendships began in the 1<sup>st</sup> grade. While some students may have been friends prior to school entry, given the large number of first grade classrooms assessed, it is unlikely that friends avoided separation. In any event, violation of the assumption that all friendships began in grade 1 should have little effect on results, because those with prior friendships would have been nonsystemically distributed on the basis of the predictors.

Some limitations were inherent in the design of the study. Children without friends in the first grade were not included in the analyses. Friendless children are more likely to have peer difficulties, and consequently may have less stable relationships, but it is unclear how this would have altered results for parental predictors of instability given that there were no differences in the characteristics of the parents of children with and without friends in the first grade. We also lacked the power to determine if the predictors of not being nominated as a friend were different than the predictors of not nominating someone as a friend. It is an interesting question that is better handled with data collected at frequent intervals. We also lacked the power to limit analyses to one friendship dyad per child. The results indicated that the number of friendships did not predict the rate or the timing of friendship dissolution, nor did its inclusion in the model change the overall pattern of results. Although boosting confidence in the findings, such precautions cannot fully overcome concerns about nonindependence arising from classroom nestedness and participation in multiple friendships. We were unable to include child attributes known to be linked to friendship instability (e.g., aggression); much of the variance in these attributes should be captured in the peer rejection and peer acceptance variables. Finally, studies with adolescents suggest that differences between friends are strong predictor of dissolution (e.g., DeLay, Laursen, Kiuru, Salmela-Aro, & Nurmi, 2013; Hafen, Laursen, Burk, Kerr, & Stattin, 2011), in some cases stronger than individual levels of behaviors (Hartl, Laursen, & Cillessen, 2015). We would not expect differences between friends on parenting behaviors to meaningfully predict friendship instability, but differences in peer status variables might.

The fact that Finnish primary schools go to great lengths to keep children with the same classmates during the primary school years is a strength of our study, because it eliminates



confounds arising when friendships end due to classroom changes. In those rare instances when children were moved into different classrooms in our study, data were censored, which permitted friends to be included in the analyses up until the point of separation. It is important to note, however, that classmate turnover is a common feature of schools in many cultures. Under these circumstances, friendship instability may be expected and embraced. Children and parents may also make efforts to maintain friendships out-of-school. It remains to be seen if the findings from the present study readily generalize to cultures with different classroom composition practices.

The effects of parental depression and parent psychological control on best friendship stability, although modest for most participants, were quite large for some. The risk of dissolution was increased by as much as 41% for children with parents at 2 standard deviations above the mean and by as much as 104% for children with parents at 3 standard deviations above the mean. Millions of children around the world have parents who are depressed and millions more have psychologically controlling parents. None of them want to lose friends prematurely; some may suffer irreparable harm should they find themselves friendless as a result.

We conclude that parents matter to the best friendships of young children. The evidence implicates negative affectivity in the parent-child relationship. Depressed and psychologically controlling parents create an affective climate that is detrimental to child well-being and that may spill over into the peer social world (Barber, 2002; Luoma et al, 2001). Best friendships may be a causality of this affective spillover.

## Acknowledgments

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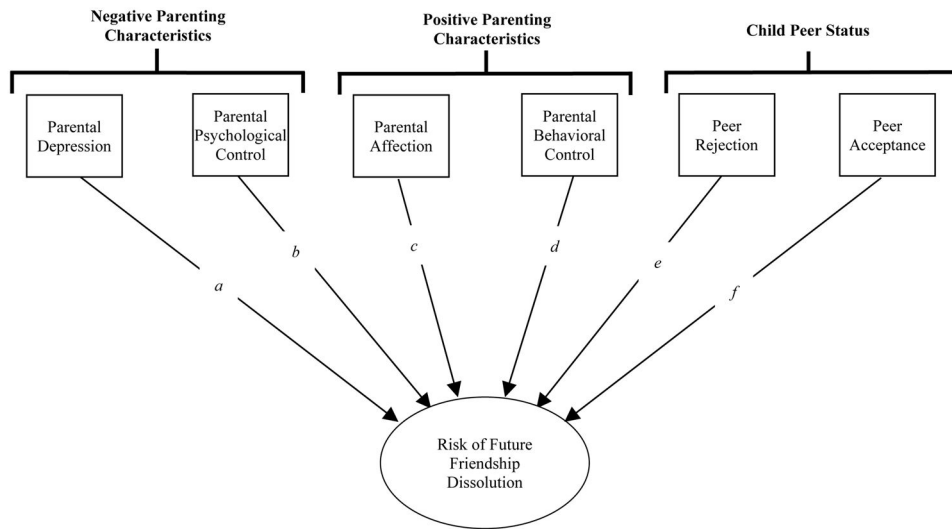


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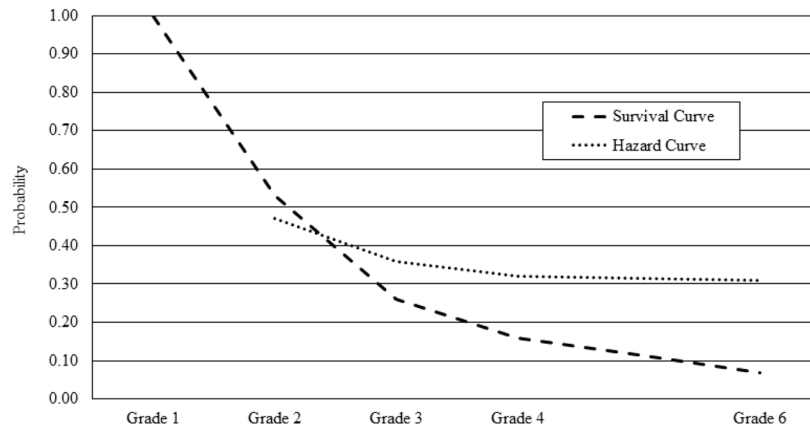
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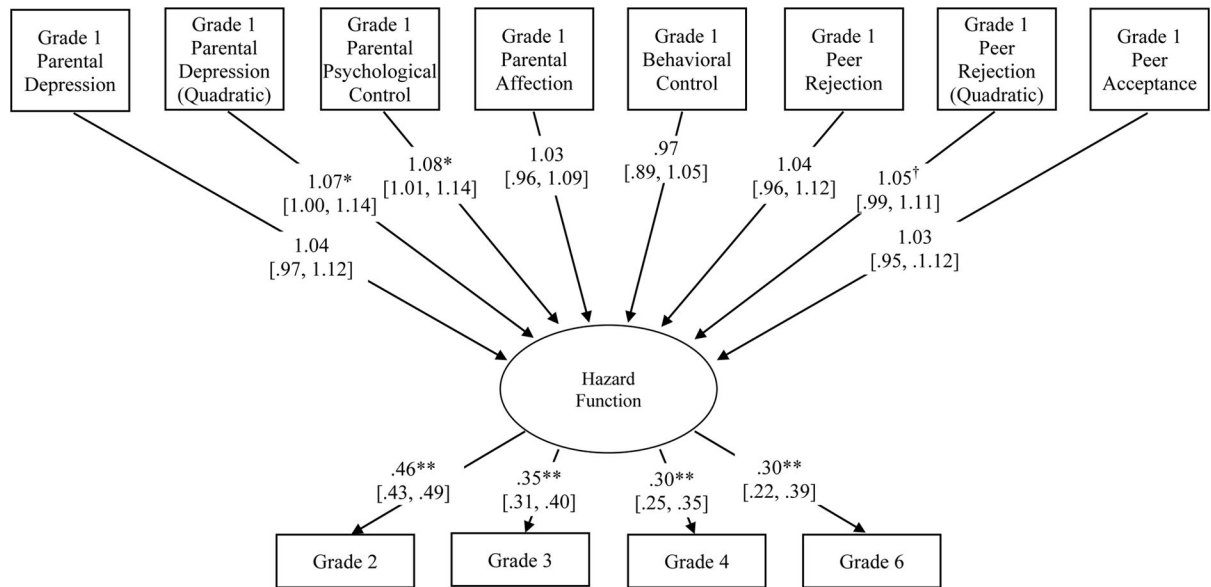
**Figure 1.** Conceptual model of the influence of initial positive and negative parenting characteristics and child peer status on the risk of future best friendship dissolution.



**Figure 2.**

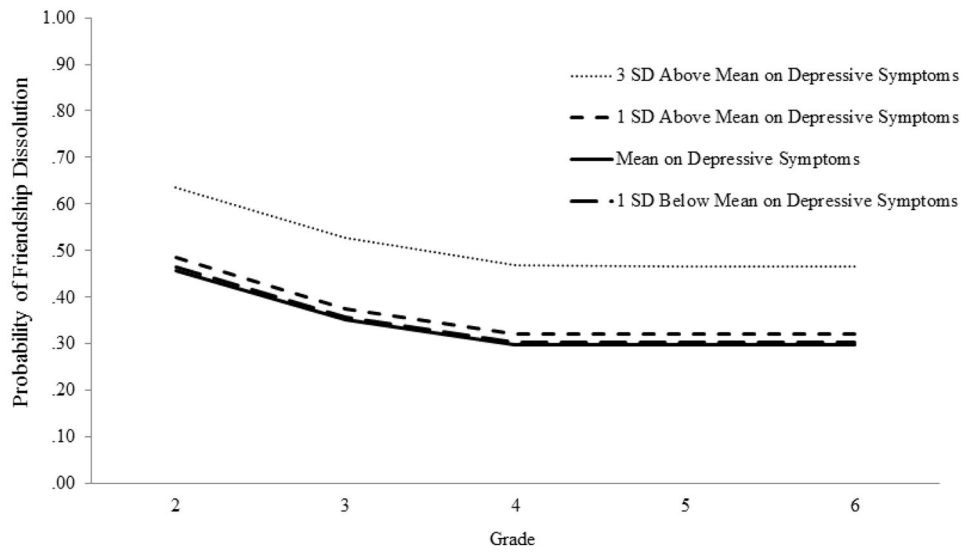
Survival and hazard curves for friendship dissolution.

*Note.*  $N = 1523$  participants in 1326 friendship dyads. The survival curve reflects the probability of friendship continuation. The hazard curve reflects the conditional probability of friendship dissolution.



**Figure 3.** Final discrete-time survival model of the dissolution of friendships from the 1<sup>st</sup> grade to the 6<sup>th</sup> grade.  
*Note.*  $N = 1523$  participants in 1326 friendship dyads. Unstandardized estimates indicate odds ratios for predictors and hazard rates of friendship dissolution. Paths were constrained to be equal across mother and father reports. Correlations between predictor variables are presented in Table 1. † $p < .10$ , \* $p < .05$ , \*\* $p < .01$ , two-tailed.





**Figure 4.** Fitted hazard curves describing the effect of parental depressive symptoms on friendship dissolution.  
*Note.*  $N = 1523$  participants in 1326 friendship dyads. Fitted hazard curves illustrate the effect of a one-unit change of parental depressive symptoms in the final model on the risk of friendship dissolution.

**Table 1**

Intercorrelations, Means, and Standard Deviations for Grade 1 Variables

| Variable                          | 1       | 2       | 3      | 4      | 5       | 6      | 7      | 8     | 9       | M     | SD   |
|-----------------------------------|---------|---------|--------|--------|---------|--------|--------|-------|---------|-------|------|
| 1. Maternal Affection             | --      |         |        |        |         |        |        |       |         | 4.28  | 0.43 |
| 2. Maternal Behavioral Control    | 0.10**  | --      |        |        |         |        |        |       |         | 3.65  | 0.48 |
| 3. Maternal Depressive Symptoms   | -0.25** | 0.09**  | --     |        |         |        |        |       |         | 1.79  | 0.83 |
| 4. Maternal Psychological Control | -0.02   | 0.36**  | 0.09** | --     |         |        |        |       |         | 2.57  | 0.68 |
| 5. Paternal Affection             | 0.30**  | -0.05   | -0.03  | 0.00   | --      |        |        |       |         | 4.08  | 0.45 |
| 6. Paternal Behavioral Control    | -0.08*  | 0.32**  | -0.04  | -0.09* | 0.06    | --     |        |       |         | 3.57  | 0.47 |
| 7. Paternal Depressive Symptoms   | 0.08*   | -0.04   | 0.25** | -0.01  | -0.22** | 0.11** | --     |       |         | 1.70  | 0.83 |
| 8. Paternal Psychological Control | -0.01   | -0.15** | -0.06  | 0.37** | 0.01    | 0.36** | 0.11** | --    |         | 2.79  | 0.74 |
| 9. Peer Acceptance                | 0.03    | 0.01    | -0.01  | -0.03  | 0.00    | 0.01   | 0.05   | 0.01  | --      | 0.26  | 0.73 |
| 10. Peer Rejection                | -0.07** | 0.03    | 0.02   | 0.07*  | -0.02   | -0.02  | -0.02  | -0.01 | -0.29** | -0.09 | 0.83 |

Note. Maternal and paternal reports of depression, behavioral control, affection, and psychological control were rated on a scale of 1 (*low or none*) to 5 (*high*). N=677 to 678 for father report variables, N=869 to 873 for mother report variables, and N=872 to 873 for peer status variables.

\*  $p < .05$ ,

\*\*  $p < .01$ .