

Social support as a predictor of school bonding and academic motivation following the transition to Italian middle school

Barry H. Schneider

University of Ottawa

Giovanna Tomada

University of Florence

Sébastien Normand

University of Ottawa

Eloisa Tonci

University of Florence

Piero de Domini

University of Siena

ABSTRACT

After five years in elementary schools with small classes and stimulation of basic thinking skills, Italian children move to very traditional *scuola media*. Data obtained from 434 Italian pupils revealed that school bonding and academic motivation declined sharply after this transition. Social support by parents, but not friends, was a predictor of school bonding and academic motivation. There was little consistent evidence of compensatory processes: Support by a friend did not generally compensate for negative relationships with parents. However, there were some indications that a positive relationship with one parent might compensate for negative interactions with the other parent. Our findings suggest that

This research was financially supported by the Spencer Foundation. All correspondence concerning this article should be addressed to Barry H. Schneider, School of Psychology, University of Ottawa, 120 University Pr., Ottawa, K1N 6N5, Canada [e-mail: barry@uottawa.ca]. Robin Goodwin was the Action Editor on this article.

parental social support has a unique function in bolstering school bonding and academic motivation after the transition to *scuola media*.

KEY WORDS: academic motivation • friends • parents • school bonding • social support

Bowlby (1973) observed that happiness, self-reliance, and use of one's talents are fostered in contexts where human beings experience support from trusted others on whom they can rely. According to Ryan and Powelson (1991), such support is often lacking in contemporary schools, where learning has become mechanical and detached from the interpersonal context. Students supported by trusted adults are better at retaining information (Vallerand, Fortier, & Guay, 1997), display better academic achievement (e.g., Boggiano, Flink, Shields, Seelbach, & Barrett, 1993), and are more intrinsically motivated (Deci, Nezlek, & Sheinman, 1981).

Social support may be related to school bonding and academic motivation. School bonding refers to the connections students have with their schools, the school personnel, and the academic ideals espoused by the school (Maddox & Prinz, 2003). Beyond its confirmed association with academic performance (e.g., Lopez, Ehly, & Garcia-Vasquez, 2002), school bonding can deter social deviance (Murray & Greenberg, 2001) and compensate for stressful life events (e.g., Hawkins & Catalano, 1992). Academic motivation provides energy to initiate adaptive behavior and to persist when encountering difficulties (Vallerand & Thill, 1993). Additionally, academic motivation is related to self-regulation of learning, education aspirations, investment of effort in the classroom and academic achievement (see Reeve, 2002, for an extensive review). According to Weiner (1990), academic motivation cannot be separated from the social context in which it develops. Moreover, intimate interpersonal relationships have been shown to bolster the motivation to work on school tasks (Ryan, Stiller, & Lynch, 1994).

Specific relationship functions vs. the compensation hypothesis

Weiss (1974) argued that the different provisions of social support are typically obtained in different relationships. Attachment literature suggests that support provided by fathers may have different functions from support by mothers (e.g., Kerns & Stevens, 1996; Suess, Grossmann, & Sroufe, 1992; Youngblade & Belsky, 1992). A warm, secure attachment to the mother figure is described as fulfilling the primary need for affection. In contrast, a secure attachment to the father figure has been linked to greater intellectual functioning (Radin, 1981), improved academic success (Wagner & Phillips, 1992), enhanced self-concept (Amato, 1986) and better ability to cope with stress (Grossmann, Grossmann, & Zimmermann, 1999). These

specific functions of fathers have often been seen as particularly important for sons, who imitate the behavior modeled by their fathers, acquire their fathers' perceptions of the world and his ways of solving problems (Maccoby, 1980; Williams & Radin, 1993). Nevertheless, an active role by fathers has also been linked strongly to daughters' academic skill in some studies (e.g., Updegraff, McHale, & Crouter, 1996). Perhaps the father's role is fundamental in establishing the values of the home, in maintaining consistency and order and in regulating the family's relations with external institutions such as schools (e.g., Hawkins & Dollahite, 1997). Of course, the specific functions of child–father or child–mother relationships may vary according to culture.

Working with early adolescents, Furman and Buhrmester (1985; Buhrmester & Furman, 1987) discovered that different relationships vary in the social provisions they provide. The preadolescent participants rated friendships as the highest source of companionship, whereas parent–child relationships were seen as providing instrumental aid, affection, reliable alliance and enhancement of self-worth. Several studies have left little doubt that friendship is a valuable asset to U.S. schoolchildren entering transition situations, such as moving from one school level to the next; friendship may bolster both the social and academic aspects of adjustment (e.g., Berndt, Hawkins, & Jiao, 1999; Ladd & Kochenderfer, 1996).

Furman and Buhrmester (1985) proposed that the availability of a functionally similar relationship may compensate for a deficit in another relationship. They found that despite the unique nature of each relationship in children's social networks, all social provisions can be obtained in more than one relationship. There is some evidence of such a compensation effect in empirical studies. For example, in a study of peer-rejected children by Patterson, Cohn, and Kao (1989), those children with a warm maternal relationship had better adjustment than did others with more strained maternal relations. Stocker (1994) found that children whose relationships with both mothers and friends lacked in warmth displayed the poorest adjustment outcomes among their sample in terms of loneliness, low self-worth and misconduct. Conversely, adjustment was much better for those who reported warmth in only one but not the other of these relationships (Stocker, 1994). Sullivan (1953) maintained that the positive experiences associated with chumship may enable adolescents to overcome the negative consequences of unfavorable family environments. There is some empirical support for this. Gauze, Bukowski, Aquan-Assee, and Sippola (1996) found that friendship was more strongly linked to self-perceived wellbeing for children from maladaptive and incohesive families than for children in more healthy families. Sesma (2001) found that adolescents' friendship intimacy was associated with wellbeing when adversity was high and when child–parent closeness was low. Similarly, Bachar, Canetti, Bonne, Kaplan De-Nour, and Shalev (1997) discovered that among Israeli high-school students who reported weak parental bonding, those who did not report having a chum in preadolescent years were more maladjusted than those who reported having a best friend. Taken together, these findings suggest

that friendship may have a role in compensating for vulnerabilities and distress when the family environment is unsupportive.

Existing theory and research provide little insight as to which sources of support might be crucial at what point during a transition. The transition to middle school co-occurs with the onset of adolescence, when peer relationships come to the fore and sole reliance on parents for important aspects of guidance and support diminishes. Therefore, it might be expected that the support of friends is particularly crucial as the transition progresses.

The cultural context of school transitions

Most of the world's cultures are more family-oriented than the majority culture of North America (Stanton, 1995); this includes Italy, where the present study was conducted (Claes, Lacourse, Bouchard, & Luckow, 2001). Children in more family-oriented societies may not rely on friends for social support to the same extent as do North American children of majority culture: Support may come primarily from parents, grandparents, siblings and cousins (e.g., DeRosier & Kupersmidt, 1991). Nevertheless, a society with strong family life is not necessarily a society with impoverished peer relations (Kirchler, Pombeni, & Palmonari, 1991): Strong family bonds may provide models of harmonious interpersonal functioning that might be reflected in relationships with peers. It is conceivable that in very family-oriented societies, nothing may compensate for conflict in child-parent relationships. Furthermore, academic achievement may be more valued in some cultures than in others, providing parents with differential impetus for encouraging their children's academic motivation.

Italian culture provides a particularly interesting setting for studying the relative influences of parents and peers. Although Italy is categorized as individualistic along with the United States in Hofstede's (1984) tables, and despite the recent tendency toward urbanization in Italian society, extended family influence remains fundamental (e.g., New, 1988; Paci, 1982; Siebert, 1984).

There probably are few educational systems anywhere in which children experience school transitions as radical as those faced by children in Italy. The *scuole dell'infanzia* of Central Italy, which enroll children of the same ages as American nursery schools and kindergartens, are famous worldwide for the quality of the adult-child interactions therein (Corsaro & Rizzo, 1990). They are particularly renowned for the adults' roles in stimulating and strengthening children's perspective-taking abilities and communal-group and friendship bonds through the continual use of dialogue, discussion, and debate (e.g., Corsaro & Rizzo, 1990). Parents are very involved in the *scuole dell'infanzia* on a daily basis (New, Mallory, & Mantovani, 2000). The philosophy of the *scuole dell'infanzia* continues to a considerable extent into *scuola elementare* (elementary school), which is taught in small classes by teachers trained in education. Parent involvement, though not as regular as during the preschool years, remains intensive.

The transition at approximately age 12 to the *scuola media*, or middle school, involves a transfer to middle schools that are, as in the US, larger than elementary schools. The transition to middle school in Italy, as in the US, involves encountering a new and larger peer group. However, the transition in teaching style and in relationships between pupils and teachers is far more drastic than is encountered in the US or Canada. Italian middle school teachers are trained in the academic subjects they teach, not in education. Their approach is markedly subject-centered. The curriculum is specified by the Ministry of Education in Rome and is grounded in the classics. Achievement is evaluated by individual public oral examination. Parental involvement in the education of European middle-school students is minimal in comparison to the early school years because parents regard the education of middle-school students as the business of professionals (Hirsch, 1997). These sudden and stressful school transitions have been recognized as problematic. In fact, the transitions were to become more gradual in a school reorganization that was postponed after the election victory of the right-wing parties in 2001.

In the current study, we wanted to find out, first of all, how pupils' school bonding and academic motivation changed after the radical shift in educational environment. Our primary purpose was to determine the relative contributions of social support and negative interactions with parents and peers to school bonding and academic motivation after the transition to the *scuola media*. We wanted to determine, in particular, the benefits of close and warm relationships with either a friend or the other parent to children experiencing negative relationships with one parent.

We hypothesized that after the transition to middle school, pupils' school bonding and academic motivation would deteriorate sharply. Since international researchers have shown that boys do less well than girls in secondary school (e.g., Gallagher, 1997; Mulholland, Hansen, & Kaminski, 2004; U.S. Department of Education, 2000), we expected boys to be less bonded with school and less motivated than girls, particularly after the transition. Consistent with research suggesting that the quality of relationships with parents is reflected in the quality of children's peer relations (see review by Schneider, Atkinson, & Tardif, 2001), we hypothesized that participants reporting supportive relationships with their parents would also have supportive relationships with their friends; we expected the converse for negative interactions. We expected that negative or unsupportive parent-child relationships would predict poor school bonding and weak academic motivation in children. In addition, based on the North American research reviewed earlier, we expected that social support by fathers would be linked more strongly to school bonding and academic motivation than social support by mothers. Finally, we expected that, among participants who experience negative interactions with one parent, those who receive social support from a friend or from the other parent would demonstrate better school bonding and academic motivation than participants who cannot count on such support to compensate.

Method

Participants

A total of 471 participants (225 boys and 209 girls) began the study while in Grade 5, the last year of elementary school. Of these, 434 participants continued the longitudinal study in Grade 6, which was the first year of middle school. Almost all of the attrition was due to some of the children moving away or transferring to schools not participating in the study. The average age of the participants was 9.9 years at the beginning of the data collection in Grade 5 and 11.0 years at the beginning of the data collection in the post transition year. Eleven schools were selected to represent the socioeconomic composition of the city of Florence, Italy and the surrounding rural villages. Written consent forms were distributed to all parents of the participating classes; this was supplemented by oral child assent. The consent rate was 98%.

Procedure

The participants completed the questionnaires in the morning, supervised by their teachers and a research assistant. The order in which the surveys were given was randomized to minimize order effects. We collected data in November of Grade 5. There were two data-collection points in Grade 6 after the transition: November and May. It was impossible for us to obtain all measures of social support at all three time points without excessive disruption of the children's schedule. However, we felt that it was important to track changes in their school bonding and academic motivation both shortly after the transition and at the end of the first year in the new school. Therefore, we administered these measures on all three occasions, whereas the measures of relationship quality were only completed once in each of the two years of the study.

Measures

The items in the instruments were translated from English into Italian and then back translated into English to check for precision. Several items had to be reworded to fit into the Italian context.

Relationship qualities. We used Furman and Buhrmester's (1985) Network of Relationships Inventory (NRI) to assess relationship qualities. The revised version of the NRI contains 30 questions and had 10 subscales (per relationship measured). These 10 subscales include six provisions from Weiss' (1974) scale of social provisions: (i) Reliable alliance, (ii) enhancement, (iii) instrumental help (guidance), (iv) companionship, (v) affection, and (vi) intimacy. Furman and Buhrmester (1985) added four other qualities to the measure: (i) Relative power of the child and other person, (ii) conflict, (iii) punishment, and (iv) satisfaction. Each scale contains three Likert-type items for each of the relationship qualities being measured. We asked the participants to rate their relationships with (i) their mother (or stepmother), (ii) their father (or stepfather), and (iii) their best friend.

Furman and Buhrmester found that children included these relationships first when asked to list the most important people in their lives. Convergent validity for the NRI has been confirmed by comparing it with the Family Environment Scale (FES; Creasey & Jarvis, 1989).

The NRI provides both scores on 12 narrow-band scales, each based on 3 items as well as two broad conceptual clusters. In our analyses, we use two broad scales, Social Support (consisting of the Reliable Alliance, Affection, Reassurance of Worth, Instrumental Aid, Companionship, Intimacy, and Nurturance, a total of 21 items, e.g., “How much does this person treat you like you’re admired and respected?”) and Negative Interactions (consisting of the 9 items of the Punishment, Antagonism, and Conflict scales, e.g., “How much do you and this person get upset or mad at each other?”), as applied to relationships with mothers, fathers, and the respondent’s best friend. Analyses using each of the more specific subscales would have been unwieldy. The average alpha coefficient was .85, similar to the reliability data reported for the original U.S. data (Furman & Buhrmester, 1985). The alpha for the broad Social Support factor used in the analyses below was .89, whereas the alpha for Negative Interactions was .82.

The *friendship nomination* procedure (Bukowski, Hoza, & Boivin, 1994) consisted of asking children to circle the names of their close friends from a roster of all their participating classmates. We asked them to identify their best friends among those they had circled. Nominations were unlimited so that the children would not believe that they must nominate a specific number of friends even if they do not have many (Furman, 1996). Because friendship is best measured through reciprocal nominations (e.g., Schneider, Wiener, & Murphy, 1994), we considered as reciprocal friends members of dyads in which: (i) At least one of the two rated the other as his or her best friend; (ii) this was reciprocated by being mentioned on the friend’s list, in any position. Each child was only included in one dyad in order to assure the independence of the data analyzed.

School bonding. We used an abridged version of Cook, Greenberg, and Kusche’s (1995) *People in my Life* to assess children’s school bonding. This instrument includes reports of relationships with teachers as well as overall perceptions of the school environment. Murray and Greenberg (2001) found four reliable factors: (i) Affiliation with Teacher (e.g., “My teacher is proud of the things I do”); (ii) Dissatisfaction with Teacher (e.g., “It’s hard for me to talk to my teachers”); (iii) Bonds with School (e.g., “Kids at my school have a good chance to grow up and be successful”); and (iv) School Dangerousness (e.g., “I feel scared at my school”). Participants were asked to rate each of the 22 statements on a 4-point Likert-type scale (1 = almost never or never true to 4 = almost always or always true). We used only the (i) Affiliation with Teacher; (ii) Dissatisfaction with Teacher; and (iii) Bonds with School items because of their relevance to our hypotheses. Each subscale was internally consistent in the Italian data: Affiliation with Teacher: $\alpha = 0.83$, Dissatisfaction with Teacher: $\alpha = 0.74$ and Bonds with School: $\alpha = 0.78$.

Children's academic motivation. We measured children's academic motivation using an adaptation of the *Children's Academic Intrinsic Motivation Inventory* (Gottfried, 1985), which we modified for our purposes by removing specific reference to the academic fields of reading, mathematics, social sciences and science. In an exploratory analysis, participants were presented a 23-item scale and asked to respond to each statement by circling one of four options ranging from "Strongly Agree" to "Strongly Disagree." Factor analysis of the results indicated the presence of two large underlying factors that explained 38% of the variance. The final scale consisted of 12 items covering the two underlying factors identified as (i) Enjoyment of Learning (8 items, e.g., "When I learn something new, I feel good inside;" $\alpha = 0.77$) and (ii) Disinvestment in Schooling (4 items, e.g., "I do not enjoy learning;" $\alpha = 0.71$). The items are listed in the Appendix.

Results

Changes in school bonding and academic motivation after the transition to middle school

We performed a series of repeated-measures analyses of variance (ANOVA) to examine post transition change. For each repeated-measures ANOVA, the within-person variable was Time, as expressed by the Year 1, Beginning of Year 2 and End of Year 2 measures of each dimension of attitudes towards school. Gender was the only between-subjects factor. It should be noted that the data from up to 16% of the participants were excluded from the various analyses we report because not all the interpersonal relationships involved in the analysis existed. Obviously, more data had to be excluded from the multiple-regression analyses reported later, in which several different relationships were included in the same equations, than from the relationship-specific ANOVAs reported next.

There were significant changes in school bonding and academic motivation for most outcomes. Scores for Affiliation with Teacher declined from a mean of 27.7 ($SD = 5.7$) in Year 1 to 24.5 ($SD = 4.5$) at the beginning of Year 2, and remained at that level at the end of Year 2: $M = 24.4$ ($SD = 4.7$); $F_{\text{time}}(2, 728) = 83.99$; $p < .001$. Similarly, scores for Bonds with School declined from a mean of 19.2 ($SD = 3.7$) in Year 1 to 17.7 ($SD = 3.5$) at the beginning of Year 2, and remained at that level at the end of Year 2: $M = 17.6$ ($SD = 3.7$); $F_{\text{time}}(2, 728) = 41.8$; $p < .001$. Scores for Disinvestment in Schooling remained at the same level between Year 1 ($M = 6.1$; $SD = 3.2$) and the beginning of Year 2 ($M = 6.2$; $SD = 3.3$), but significantly increased at the end of Year 2: $M = 7.0$ ($SD = 3.3$); $F_{\text{time}}(2, 728) = 15.83$; $p < .001$. Scores for Enjoyment of Learning declined from a mean of 17.7 ($SD = 3.2$) in Year 1 to 17.2 ($SD = 3.6$) at the beginning of Year 2, and also significantly declined at the end of Year 2: $M = 16.7$ ($SD = 3.2$); $F_{\text{time}}(2, 728) = 13.13$; $p < .001$. The only dimension on which there was not a significant change over time was Dissatisfaction with Teacher.

Although there were no significant Gender \times Time interactions, there were significant gender differences in school bonding and academic motivation,

with boys feeling more alienated and more distant from their teachers than girls: Affiliation with Teacher ($M = 27.1$; $SD = 5.6$ for boys compared with $M = 28.3$; $SD = 5.9$ for girls; $F[1, 363] = 13.17$; $p < 0.001$); Bonds with School ($M = 18.8$; $SD = 3.4$ for boys compared with $M = 19.6$; $SD = 4.0$ for girls; $F[1, 363] = 19.60$; $p < 0.001$); Dissatisfaction with Teacher ($M = 9.2$; $SD = 3.2$ for boys compared with $M = 8.4$; $SD = 3.1$ for girls; $F[1, 363] = 11.90$; $p < 0.01$); Disinvestment in Schooling ($M = 6.4$; $SD = 3.2$ for boys compared with $M = 5.9$; $SD = 3.2$ for girls; $F[1, 366] = 8.74$; $p < 0.01$); Enjoyment of Learning ($M = 17.3$; $SD = 3.5$ for boys compared with $M = 18.0$; $SD = 2.8$ for girls; $F[1, 366] = 13.18$; $p < 0.001$).

Similarities across relationships in support and negative interactions

There were substantial similarities across relationships in terms of both supportive and negative interactions. Bivariate Pearson correlations showed that participants reporting good social support from their mothers also tended to report good support from fathers ($r = .76$, $p < .001$ in Year 1; $r = .71$, $p < .001$ at the end of Year 2). Social support from mothers was moderately but still significantly correlated with support from friends ($r = .46$; $p < .001$ in Year 1; $r = .36$, $p < .001$ at the end of Year 2) and weakly but significantly correlated with support from teachers ($r = .18$; $p < .001$ in Year 1; $r = .30$, $p < .001$ at the end of Year 2). Participants reporting negative interactions with their mothers also tended to report negative interactions with their fathers ($r = .84$, $p < .001$ in Year 1; $r = .85$, $p < .001$ at the end of Year 2) and, again less strongly but still significantly, with their friends ($r = .54$, $p < .001$ in Year 1; $r = .46$, $p < .001$ at the end of Year 2) and teachers ($r = .11$, $p < .05$ in Year 1; $r = .18$, $p < .001$ at the end of Year 2). There were also moderate correlations between father and friend support ($r = .37$, $p < .001$ in Year 1; $r = .34$, $p < .001$ at the end of Year 2) and between father and teacher positive relationship variables ($r = .15$, $p < .01$ in Year 1; $r = .22$, $p < .001$ at the end of Year 2). The carryover across relationships also applied to the negative interactions between fathers and friends ($r = .55$, $p < .001$ in Year 1; $r = .49$, $p < .001$ at the end of Year 2) and to the negative interactions between fathers and teachers ($r = .15$, $p < .01$ in Year 1; $r = .28$, $p < .001$ at the end of Year 2).

Main effects of relational variables as predictors of school bonding and academic motivation

We conducted multiple regression analyses using a theory-driven forward-entry procedure (Cohen & Cohen, 1983) to evaluate the contributions of parental support and close friendship to school bonding and academic motivation. This procedure enabled us to gauge the contribution of social support by friends after controlling for the effects of support from either mothers or fathers. We entered the predictor variables in the following order: (i) Mother relationship (supportive and negative interactions), (ii) friend relationship (supportive and negative interactions), (iii) reciprocal friend status, and (iv) the interactions between supportive or negative mother relationship and friend supportive relationship or reciprocal friend

status. To avoid the problem of multicollinearity (given the very high correlations, ranging from .71 to .85, between support by mothers and fathers), we entered the social support from each parent in separate regression equations. These multiple regressions are most useful in understanding the main effects of support by parents and friends. Although the interactions do represent the potentially compensating effect of close friendship on school bonding and academic motivation of children experiencing unsupportive or negative interactions with a parent, they are a very stringent test of the compensatory hypothesis given the number of predictors entered. The MANOVAs reported in the next section provide a clearer focus on compensatory effects, including situations in which the child-mother relationship is negative but the child-father relationship is positive.

The *F* values for the full models were statistically significant ($p < .05$) in the analyses conducted both before and after the transition and for each of the dependent variables. The pattern of regression results was very similar before and after the transition to middle school. However, the results were statistically stronger after the transition, with 5 to 7% of the variance explained (depending on the outcome variable) before the transition and 6 to 15% of the total variance after the transition. Before the transition, mother support significantly predicted Affiliation with Teacher ($\beta = .15$; $p < .05$), Disinvestment in Schooling ($\beta = -.13$; $p < .05$), and Enjoyment of Learning ($\beta = .19$; $p < .001$), but did not predict Dissatisfaction with Teacher and Bonds with School. Supportive mother relationship significantly predicted all the outcome variables after the transition: $\beta = .29$; $p < .001$ for Affiliation with Teacher; $\beta = .30$; $p < .001$ for Bonds with School; $\beta = -.15$; $p < .01$ for Dissatisfaction with Teacher; $\beta = -.16$; $p < .01$ for Disinvestment in Schooling and $\beta = .23$; $p < .001$ for Enjoyment of Learning.

Before the transition, negative interactions with mothers significantly predicted Dissatisfaction with Teacher ($\beta = .12$; $p < .05$), Enjoyment of Learning ($\beta = -.10$; $p < .05$), but did not predict Affiliation with Teacher, Bonds with School, Disinvestment in Schooling, nor Enjoyment in Learning. In contrast, after the transition, negative interactions with mother predicted Bonds with School ($\beta = -.16$; $p < .01$), Dissatisfaction with Teacher ($\beta = .16$; $p < .01$), Disinvestment in Schooling ($\beta = .11$; $p < .05$) and Enjoyment of Learning ($\beta = -.11$; $p < .05$).

After controlling for all mother-relationship predictors, supportive relationships with friends significantly predicted Bonds with School at both times ($\beta = .15$; $p < .05$ at Time 1; $\beta = .13$; $p < .05$ at Time 2) but no other outcome. Negative interactions with friends failed to add to the prediction in either year; there were no significant findings for Reciprocal Friend Status. No interaction effects added unique variance to the prediction of any of the school bonding or academic motivation variables.

Although we were confident in the theoretical justification for entering parent variables before friend variables, we nonetheless ran the regression analyses again with the friend variables entered before the parent variables. In many cases, support by friends emerged as a significant predictor of the dependent variables; this was most pronounced in Year 2, when support by

friends explained 4% in Affiliation with Teacher; 5% of the variance in Bonds with School; 4% in Affiliation with Teacher 2% in Enjoyment of Learning; and 2% in Disinvestment in Schooling. Negative interactions with friends explained a significant portion of the variance in Dissatisfaction with Teacher (2%). Having a reciprocal friend was not significantly associated with any of the outcomes variables. Importantly, when we then entered the mother variables after controlling for all friendship variables, supportive interactions with mothers explained very substantial additional amounts of the variance in all outcome variables: 9% of the variance in Bonds with School; 7% in Affiliation with Teacher; 3% in Dissatisfaction with Teacher; 2% in Enjoyment of Learning; and 2% in Disinvestment in Schooling. Negative interactions with mothers predicted a further significant portion of the variance in only one of the outcomes, Dissatisfaction with Teacher (1%). Thus, there was a fundamental difference in the pattern of findings. When mother variables were entered first, friend variables almost never explained additional variance. However, when friend variables were entered first, mother's support almost always contributed additional predictive value. The same applied when we repeated the regressions one last time with father and friend variables.

Longitudinal analyses

In this section, we report results relevant to the prediction of *changes in* school bonding and academic motivation from pre transition to post transition. We first entered the autocorrelations (i.e., Year 1 data corresponding to each Year 2 scale); these were significant predictors in all cases. Supportive interactions with mother at Year 1 were predictive of Year 2 Affiliation with Teacher ($\beta = .25$; $p < .001$; $\Delta F = 12.64$; $p < .001$), Bonds with School ($\beta = .25$; $p < .001$; $\Delta F = 15.67$; $p < .001$), Dissatisfaction with Teacher ($\beta = -.14$; $p < .01$; $\Delta F = 4.45$; $p < .05$), and Enjoyment of Learning ($\beta = .17$; $p < .01$; $\Delta F = 5.98$; $p < .01$). However, supportive interactions with mother at Year 1 did not predict Year 2 Disinvestment in Schooling. None of the other Year 1 predictors added significant variance in school bonding or academic motivation after the transition to middle school. For that reason, the data are not displayed in the tables.

Relational support by fathers

We repeated the regression analyses using the data pertaining to fathers instead of mothers. A pattern of findings identical to the equations obtained with the mother data emerged.

Subsidiary analysis of same-sex parent-child relationships

Bonds with school. Even when separated by parent and child gender, the parent support and negative interaction scores failed to predict significant variance in the Year 1 Bonds with School rating of either boys or girls. In sharp contrast, there were many significant associations in Year 2, when mothers' support was significantly related to the ratings of boys ($\beta = .16$;

$p < .05$) and, more strongly, of girls ($\beta = .31$; $p < .001$). In Year 2 as well, fathers' support was a significant predictor of the Bonds with School scores of boys ($\beta = .31$; $p < .001$) but not girls ($\beta = .05$). Negative interactions with mothers predicted significant portions of the variance in Year 2 school bonding by boys ($\beta = -.22$; $p < .01$) but not girls ($\beta = -.09$), whereas negative interactions with fathers were significantly linked with school bonding by both boys ($\beta = -.25$; $p < .001$) and girls ($\beta = -.19$; $p < .01$).

Affiliation with teacher. There was an important difference between boys and girls in the predictive value of parental support in both Year 1 and Year 2. The beta values for mothers' support of boys were $.23$ ($p < .01$) in Year 1 and $.31$ ($p < .001$) in Year 2. The parallel values for fathers' support of boys was $.20$ ($p < .01$) in Year 1 and $.30$ ($p < .001$) in Year 2. Negative interactions between boys and fathers were unrelated to the teacher affiliation scores of both boys and girls in Year 1, with beta coefficients ranging from $-.01$ to $-.11$. However, in Year 2, there was a difference between the predictive value of negative interactions with mothers and fathers. Negative interactions with fathers in Year 2 were significant negative predictors of Affiliation with teacher by both boys ($\beta = -.20$; $p < .01$) and girls ($\beta = -.19$; $p < .01$). The corresponding coefficients for mothers' negative interactions were nonsignificant for participants of both genders.

Dissatisfaction with teacher. Support by either parent was unrelated to both boys' and girls' Dissatisfaction with Teacher at Time 1, with beta coefficients ranging from $.00$ to $-.12$. However, boys' dissatisfaction with their teachers was significantly predicted by negative relations with both their mothers ($\beta = .19$; $p < .05$) and fathers ($\beta = .19$; $p < .05$); girls' scores were not significantly predicted by negative relations with either parent. The parallel findings in Year 2 revealed the same difference by child gender even more strongly and more consistently. Social support by both parents predicting boys' Dissatisfaction with Teacher ($\beta = -.16$; $p < .05$ for mother support; $\beta = -.18$; $p < .05$). Negative interactions with both mothers ($\beta = .18$; $p < .05$) and fathers ($\beta = .28$; $p < .001$) predicted boys' dissatisfaction scores. Again, there were no significant findings for girls.

Enjoyment of learning. In Year 1, social support of daughters by mothers was a significant predictor of girls' Enjoyment of Learning ($\beta = .22$; $p < .01$). Mothers' support was not significantly related to boys' enjoyment. Fathers' support was a significant predictor of Enjoyment of Learning by both boys ($\beta = .20$; $p < .05$) and girls ($\beta = .19$; $p < .01$). In Year 2, there were significant predictions in the data obtained from boys but none for girls. Support by both parents predicted boys' Enjoyment of Learning ($\beta = .25$; $p < .01$ for mothers' support; $\beta = .23$; $p < .01$ for mothers' support). Negative relations with fathers were also predictive of boys' Enjoyment of Learning ($\beta = -.15$; $p < .01$).

Disinvestment in schooling. Of the eight Time 1 beta coefficients reflecting boys' and girls' social support and negative interactions with mothers and fathers, only one reached statistical significance: Girls' Disinvestment in Schooling was negatively related to social support from mothers ($\beta = -.21$; $p < .01$). In sharp contrast, in Year 2, all coefficients for boys were significant whereas no significant results emerged in the corresponding data for girls. Boys' disinvestment was predicted negatively by social support from both parents ($\beta = -.16$; $p < .05$ for mother support; $\beta = -.16$; $p < .05$ for father support). Boys' disinvestment was also associated with negative interactions with both parents ($\beta = .18$; $p < .05$ for negative interactions with mothers; $\beta = .25$; $p < .01$ for negative mother-son interactions).

Summary of gender-specific findings. Although the results are not totally consistent, most of the findings indicate a child-gender effect, with support from both parents more strongly related to the school bonding and academic motivation of boys than of girls. There were few indications of a parent-gender effect or of any differential influence by the parent of the same gender as the child. However, in some of the Year 2 data, negative interactions with fathers predicted outcome whereas the parallel data for mothers did not. The findings for parental influence were generally stronger in Year 2 than in Year 1.

Focused tests of the compensatory hypothesis

The almost total lack of interaction effects in the multiple regressions reported above is not consistent with the compensatory hypothesis. However, the regression analysis, performed on continuous data, did not focus specifically on the participants who needed the compensation the most, that is, those experiencing negative relationships with at least one of their parents. Furthermore, our simultaneous entry of the two social-support variables may have obscured the contributions of one of them.

In order to clarify any compensatory processes at work, we computed MANOVAs comparing individuals having high levels of negative interactions with one significant other but supportive relations with another (e.g., negative interactions with father [$> M$] but good support from mother, support from a friend) with a comparison group having negative interactions with one significant other and lower levels of support from the other.

The results are displayed in Tables 1 and 2, which are based on the data obtained at the end of Year 2. Social support by the mother appeared to compensate for negative interactions with the father in terms of 3 out of the 5 dependent variables. Supportive friend relationships compensated for negative interactions with both mothers and fathers in terms of Bonds with School. Supportive relationships with friends also compensated for negative mother interactions in terms of Enjoyment of Learning after the transition to middle school. Thus, there are some indications of compensatory processes although the findings are very inconsistent. The results are more consistent with the contention that a positive relationship with one parent may compensate for a negative relationship with the other parent than for the

TABLE 1
End of Year 2 MANOVA results: Possible relationship compensators for negative interactions with father

School bonding and academic motivation variables	1. Supportive relationship with mother				<i>F</i> (3, 372)
	High FNeg & high MSup (n = 89)	High FNeg & low MSup (n = 95)	Low FNeg & high MSup (n = 125)	Low FNeg & low MSup (n = 67)	
Bonds with school	17.71 (3.31) _a	15.53 (3.84) _b	19.24 (2.73) _c	17.45 (4.06) _a	21.22**
Affiliation with teacher	24.82 (3.83) _{ab}	21.96 (5.08) _c	26.23 (4.06) _b	23.36 (4.88) _{ac}	18.13**
Dissatisfaction with teacher	9.27 (2.97) _{ab}	10.04 (3.40) _b	8.17 (2.64) _c	8.69 (2.46) _{ac}	8.05**
Enjoyment of learning	16.71 (3.26) _a	15.29 (3.41) _b	17.55 (2.99) _a	16.51 (3.32) _{ab}	8.88**
Disinvestment in schooling	7.08 (3.33) _{ab}	7.74 (3.12) _b	5.90 (3.37) _a	7.10 (3.37) _{ab}	5.98*

School bonding and academic motivation variables	2. Supportive relationship with friends				<i>F</i> (3, 374)
	High FNeg & high FrSup (n = 981)	High FNeg & low FrSup (n = 88)	Low FNeg & high FrSup (n = 121)	Low FNeg & low FrSup (n = 71)	
Bonds with school	17.29 (3.59) _a	15.74 (3.80) _b	18.88 (3.25) _c	18.17 (3.51) _{ac}	14.38**
Affiliation with teacher	24.10 (4.86) _a	22.49 (4.42) _a	25.85 (4.39) _b	24.17 (4.68) _{ab}	9.31**
Dissatisfaction with teacher	9.55 (3.45) _a	9.89 (3.07) _a	8.12 (2.56) _b	8.75 (2.58) _{ab}	7.65**
Enjoyment of learning	16.41 (3.36) _{ab}	15.47 (3.37) _b	17.36 (3.13) _a	16.89 (3.15) _a	6.09**
Disinvestment in schooling	7.11 (3.50) _{ab}	7.77 (2.88) _a	6.21 (3.43) _b	6.52 (3.39) _{ab}	4.21*

Note. FNeg = Father Negative Interactions; MSup = Mother Support; FrSup = Friend Support. Standard deviations are indicated in parentheses after the means. Means within the same row with different subscripts differ significantly according to post hoc Tukey HSD tests.
 p* < 0.01; *p* < 0.001.

TABLE 2
End of Year 2 MANOVA results: Possible relationship compensators for negative interactions with mother

School bonding and academic motivation variables	1. Supportive relationship with father				<i>F</i> (3, 372)
	High MNeg & high FrSup (n = 90)	High MNeg & low FrSup (n = 101)	Low MNeg & high FrSup (n = 108)	Low MNeg & low FrSup (n = 77)	
Bonds with school	17.63 (3.47) _a	16.03 (4.14) _b	19.04 (2.74) _c	17.70 (3.72) _{ac}	12.64***
Affiliation with teacher	24.50 (4.45) _{ab}	22.85 (4.76) _a	25.91 (4.25) _b	23.74 (5.03) _a	8.16***
Dissatisfaction with teacher	9.12 (2.94) _{ab}	9.83 (3.31) _a	8.30 (2.68) _b	8.73 (2.73) _{ab}	5.06***
Enjoyment of learning	16.49 (3.34) _{ab}	15.73 (3.38) _a	17.63 (2.93) _b	16.40 (3.42) _{ab}	6.11***
Disinvestment in schooling	7.16 (3.28) _a	7.34 (3.34) _a	5.90 (3.32) _b	7.23 (3.36) _a	4.27***

School bonding and academic motivation variables	2. Supportive relationship with friends				<i>F</i> (3, 398)
	High MNeg & high FrSup (n = 118)	High MNeg & low FrSup (n = 88)	Low MNeg & high FrSup (n = 113)	Low MNeg & low FrSup (n = 83)	
Bonds with school	17.58 (3.73) _a	15.69 (4.02) _b	18.76 (3.19) _a	17.88 (3.43) _a	12.34***
Affiliation with teacher	24.40 (4.82) _{ab}	22.72 (4.38) _a	25.62 (4.54) _b	23.99 (4.91) _{ab}	6.52***
Dissatisfaction with teacher	9.20 (3.27) _{ab}	9.85 (2.85) _a	8.29 (2.83) _b	8.67 (2.67) _a	5.17***
Enjoyment of learning	16.59 (3.28) _a	15.39 (3.31) _b	17.35 (3.13) _a	16.81 (3.19) _a	6.28***
Disinvestment in schooling	6.96 (3.53) _{ab}	7.75 (2.91) _a	6.32 (3.40) _b	6.77 (3.29) _{ab}	3.14*

Note. MNeg = Mother Negative Interactions; FrSup = Father Support; FrSup = Friend Support. Standard deviations are indicated in parentheses after the means. Means within the same row with different subscripts differ significantly according to post hoc Tukey HSD tests.
 p* < 0.05; *p* < 0.01; ****p* < 0.001.

hypothesis that support by friends compensates for negative child-parent interactions.

As a final test for possible compensatory effect, we performed a similar series of MANOVAs using extreme groups defined by high levels ($z \geq 1.00$; repeated with cut-offs of $z \geq 0.50$) of negative interactions with mothers or fathers. We compared individuals having high levels of negative interactions in one of the relationships measured but supportive relationships in another (e.g., negative interactions with father but good support from a friend or from mother) with a comparison group having negative interactions in one of the relationships measured and low levels of support from the other. The results were very similar to the pattern of findings that emerged from the multiple regressions: There were only a few isolated results suggesting any compensatory effects.

Discussion

School bonding and academic motivation after the transition

As hypothesized, there was a very marked decline in both school bonding and academic motivation after the transition from elementary school to middle school. Importantly, we did not find any substantial recovery to pretransition levels by the end of the first year after the transition. Thus, the transition to junior high school is characterized by a deterioration in positive attitudes toward school, particularly regarding academic motivation (e.g., Eccles, Wigfield, & Schiefele, 1998; Graham & Weiner, 1996). This marked erosion in enthusiasm about school might be explained at this developmental stage, which is replete with upheavals in the pupils' maturation processes (Eccles et al., 1993).

As expected, boys' bonds with school were weaker than girls'; boys were also less motivated academically both before and after the transition. The effects of the transition itself appear to be similar for both genders. Nevertheless, our results add to the accumulating findings from many countries, including the US that boys do less well than girls in school (e.g., Gallagher, 1997; Mulholland et al., 2004; U.S. Department of Education, 2000). Given that boys appear to be in greater need of input and support with regard to school bonding and academic motivation, it is understandable that social support was somewhat more closely associated with these outcomes for boys than in the parallel data for girls (although the findings in the girls' data were also significant statistically).

Similarities across close relationships

Given the results of previous research and theory suggesting a link between parent and peer relationships (see review by Schneider et al., 2001), the significant correlations between the parent social support variables and social support by friend come as no surprise. The correlations between social support by mothers and fathers were very high. Since our measures of social support are all child self-reports, we wonder whether shared method

bias might account for this, although data on parent and friend social support were also self-reports (it is recalled that the correlations between friend and parent support were not as high as the correlations between support by mothers and support by fathers).

Social support as predictor of school bonding and academic motivation

The main purpose of our study was to determine whether support from parents and friends would predict school bonding and academic motivation. We note that mother relationship variables were not significant predictors of Bonds with School in Year 1, but both the mothers' support and negative relationships with mothers explained very large portions of the variance in Year 2 Bonds with School. Regarding the other variables measured (i.e., Affiliation with Teacher; Dissatisfaction with Teacher; Disinvestment in Schooling; Enjoyment of Learning), there were significant findings in both project years; however, in every case, the *F* values were greater in Year 2. An identical and even stronger pattern of findings emerged for the father-relationship predictors. These findings probably reflect the increased need for support in the academic domain during the adjustment to *scuola media*. Thus, parent social support appears to be related more fundamentally to the successful transition than in U.S. studies discussed earlier. Of course, this would be clearer had we been able to access U.S. data for direct statistical comparison.

It is important to note that, in most of the analyses, friend-support data did not add significantly to the prediction of the dependent measures after the contribution of parent support was controlled for. In sharp contrast, parent support always contributed very substantially to the variance in the dependent measures after statistical control for support by friends, even though there were some significant correlations between friend-support variables and the dependent measures. Taken together, these findings suggest that the role of support by friends is probably somewhat weaker in Italy than has been suggested in some U.S. research (e.g., Berndt et al., 1999; Ladd & Kochenderfer, 1996). We base this contention on the contrast between the predictive value of the friend and parent support data. This may reflect the very strong family orientation of traditional Italian society, which is commonly held to remain strong despite the trend toward urbanization during the past few decades (e.g., Lanaro, 1992). In Italy, parent influence does not wane or disappear with the onset of adolescence as peer influence increases, at least with regard to school bonding and academic motivation.

We expected that social support by fathers would be linked more strongly to school bonding and academic motivation than support by mothers, consistent with the father's role in facilitating academic success that has emerged in studies from the US (e.g., Wagner & Phillips, 1992). Contrary to our expectations, we found that the influences of mothers and fathers were similar (i.e., both very strong). This finding is particularly striking because of the marked gender-role distinctions that are known to characterize

traditional Italian society in most respects (Hofstede, 1979). However, some of the Year 2 data did indicate that negative interactions with fathers affected their children's Bonds with School and Affiliation with Teacher after the transition; the corresponding data on negative interactions with mothers did not suggest consequences as strong or as general.

The compensation hypothesis

We expected that social support from a friend or the other parent would compensate for unsupportive or negative relationships with parents. Contrary to the recent empirical literature on the compensatory role of friendship vis-à-vis poor family relations (e.g., Bachar et al., 1997; Gauze et al., 1996; Sesma, 2001), there was little evidence of any compensatory processes by friends: Support by a friend did not generally compensate for low levels of support from either one's mother or father. In family-oriented societies like Italy, it is difficult to imagine another relationship compensating in even a small way for strained family bonds.

However, some of the data suggest that support from one parent is beneficial to pupils who are experiencing unsupportive or negative relationships with the other parent. For some reason, compensatory processes seem to be reflected more consistently in the outcome variable of school bonding than in the others.

Limitations and future directions

We measured social support dimensions only from the perspectives of the students themselves, not their parents or friends, who may have understood these relationships quite differently. Given that previous research has shown that perceived and objective support are not always highly correlated (Barrera, 1986), future research could include the measurement of social support as perceived by those providing the support as well as those who receive it. There is also a considerable disparity between the more controlling, impersonal and achievement-oriented secondary school and adolescents' evolving needs for autonomy, support and personal identity development (Harter, Whitesell, & Kowalski, 1992). Hence, measuring change in teachers' behaviors and attitudes toward school might help explain students' marked erosion in enthusiasm about school at this developmental stage.

Replication at other Italian sites is needed in order to confirm the generalizability of the current results even within that country. The intensive cognitive enrichment known to characterize Northern Italian elementary schools may not characterize schools all over the country to the same extent. Despite the existence of a national identity, a number of cultural features are known to vary within the country; family ties may conceivably be even stronger in the South than in the North. A replication involving direct comparison with North American data would also provide a more conclusive test of our hypotheses. As well, replication in very academically oriented secondary school systems like those in East Asia (Fuligni & Stevenson, 1995) would expand and clarify the findings.

Although adolescents rarely see teachers as important sources of social support, teacher relationships may help or hinder successful transitions in other ways. For example, the literature on teacher–pupil relationships indicates that teachers can be perceived as positive role models. Negative relationships with teachers are often mentioned by pupils having difficulty at school as a major source of their problems (Galbo, 1989; Hendry, Roberts, Glendinning, & Coleman, 1992). Hughes and Kwok (2007) found that elementary-school children from disadvantaged backgrounds were more engaged in schooling if their relationships with their teacher were of good quality. Hence, future studies should include measures of social support from teachers.

Social support could also interact with a number of other variables that were not included in our study. The most logical interaction would be between social support and parent involvement either in their child's school or in their child's schooling while at home. It is conceivable that the support of teachers and friends becomes crucial when parent involvement is low, a possible compensatory process that we did not explore. It might also be useful to clarify how social support is useful by including a measure of stress. This would help establish whether support works to buffer against stress or to bolster academic motivation.

Another limitation arose from our inability to collect data on social support and negative interactions at all three time points due to the length of the NRI. It would have been very useful to assess how support patterns changed within the year following the transition.

Some educational implications

As Weinstein et al. (2002) discuss, enhanced teacher training and awareness are surely needed in order to reduce school failure after difficult school transitions. Given the extent of the erosion of school bonding and academic motivation evident in our data, teacher training may not be sufficient: Some more structural change may be the only way of facilitating the transition. The transition to middle school is characterized by heightened academic demands. These demands are very apparent when one speaks to the teachers, pupils and parents, perhaps more so in Italy than in most other countries. We note that, in comparisons of standardized academic-achievement test scores in various countries, such as the often-cited Education in States and Nations reports (Sen, Partelow, & Miller, 2005), Italy tends to score below average (and below the US and Canada) in terms of secondary-school achievement and graduation rates. Assuming that these statistics accurately reflect the productivity of Italian secondary schools, they might be interpreted as suggesting that little might be sacrificed, and much might conceivably be gained, by enhanced attention to the attitudes and feelings of the pupils graduating from elementary school.

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APPENDIX A
Items of the Children's Academic Intrinsic Motivation Inventory with factor loadings

Item	Enjoyment of learning	Disinvestment in schooling
I keep working on a problem until I understand it	.52	-.25
I try to learn more about something I don't understand right away	.56	-.15
When I get bored, I look for new things to do	.58	-.17
I enjoy doing new work in school	.59	-.22
When I don't understand something right away, I try to learn more about it so that I can understand it	.70	-.15
When I learn something new, I feel good inside	.51	-.13
I like to learn	.61	-.24
When I don't have new things to do in school, I get bored	.49	-.29
I do not enjoy learning	-.24	.63
I don't like to work on a new problem	-.15	.51
I don't like to do more school work than I have to do	-.25	.63
When I don't understand a problem, I give up right away	-.32	.64
I like to review work I already know	.32	-.15
I like to do easy assignments	-.15	.37
I don't like to find answers to questions	-.36	.35
When I get bored, I do not look for new things to do	-.32	.38
I get bored when I do not have new things to do in school	.32	.13
I do not feel good inside when I have new things to do in school	-.39	.18

Note. Boldface indicates items retained for the final analyses.