Contemp School Psychol (2015) 19:21–29
DOI 10.1007/s40688-014-0044-4

Middle School Transition Stress: Links with Academic Performance, Motivation, and School Experiences

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Published online: 21 January 2015

Abstract The present study investigates links between early adolescents' subjective experiences of stress associated with the middle school transition and their academic outcomes. Seventh and eighth grade students (N=774) were surveyed about their experiences during their transition to middle school. Students answered questions about stress associated with the transition to middle school, the extent to which their friendships had changed over the course of the transition, and a variety of academic outcomes including academic performance, school bonding, and academic motivation. Results indicate that higher amounts of middle school transition stress predict lower grades, higher school anxiety, and lower school bonding. Moreover, transition stress predicted academic outcomes regardless of whether adolescents were in a stable friendship group across the transition to middle school. Results are discussed in light of implications for promoting positive social and academic development across the transition to middle school.

Keywords Middle school transition · Early adolescence · Academic achievement

Early adolescence is a challenging time socially, psychologically, and academically. Puberty, changes in peer and family relationships, and increases in cognitive and emotional sophistication occur simultaneously (e.g., Eccles and Roeser 2011; Lord et al. 1994; Simmons and Blyth 1987). Youth must cope with these developmental transitions while concurrently adapting to the rather large changes to their school experiences as they move from elementary school to middle school. Typically, a move is made from relatively small, neighborhood schools to larger, more impersonal middle schools that combine several elementary schools. Middle schools typically differ from elementary schools on a number of teacher and school level variables that are important for student academic performance and social well-being, including teacher-student relationships, teacher efficacy, student classroom autonomy, student competition, and performance versus mastery orientation (Anderman et al. 2002; Eccles and Roeser 2011; Midgley and Feldlaufer 1987; Midgley et al. 1988).

Young adolescents are often challenged by this transition both academically and socially (Barber and Olsen 2004; Eccles et al. 1991). The differences in the social and academic climates of elementary versus middle schools have been implicated as at least partially responsible for students' decline in motivation and achievement during early adolescence (Eccles et al. 1993; Simmons and Blyth 1987). At a time when youth would benefit greatly from close and nurturing extra-familial relationships with adults, opportunities for developing these relationships with teachers decline. At a time when adolescents become increasingly self-conscious and concerned with peer opinions, teachers increase their use of classroom strategies that influence social competition. As adolescents' need for autonomy in the classroom increases, teachers are less likely to implement democracy and autonomy-granting teaching strategies. This lack of "stage-environment fit" between the adolescents' needs and environmental opportunities offered in many middle schools has been theorized to contribute to declines in academic motivation, self-concept, and achievement (Eccles and Midgley 1989; Eccles et al. 1993).

Despite considerable theorizing about the potentially detrimental impact of the transition to middle school—and longitudinal research demonstrating these effects—little research has examined specifically how the subjective stress associated

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with this transition relates to academic experiences and what additional factors might influence these relations. Among the studies that have focused on adolescents' subjective transition experiences, the focus has been on descriptions and parent-child concordance in perceptions of stressors (Zeedyk et al. 2003), measurement development (Loke and Lowe 2013; Rice et al. 2011), and on the link between experienced transition worries and social and emotional adjustment (Duchesne et al. 2012; Rice et al. 2011). Other research has focused on anxiety during the transition in general (e.g., Grills-Taquechel et al. 2010), showing the potentially long-lasting implications of anxiety during the year prior to the middle school transition. These studies highlight the importance of investigating youths' subjective experiences and anxiety symptomology and links with psychosocial well-being. However, it is still not well understood how youths' subjective stress about the middle school transition is associated with their academic motivation and achievement during middle school and whether other social factors related to the middle school move, such as friendship transitions, may influence the way that subjective stress impacts adolescents.

Although the transitions inherent in the move from elementary to middle school arguably tax the adolescent regardless of whether he or she acknowledges any stress (as discussed above), the subjective experience of having higher amounts of perceived stress associated with the transition may have unique effects on adolescents' transition to the middle school experience. In turn, the academic motivation and achievement of the adolescent who is subjectively anxious about the transition may be impacted to a greater extent than the motivation and achievement of his/her less stressed peers. Understanding potential links between subjective stress experienced during the middle school transition and the "success" of the transition in terms of academic outcomes is quite valuable. From the perspective of planning school transition experiences for students (e.g., visitations, programs aimed at facilitating a positive transition), if transition stress was linked to lower academic outcomes, then programs could specifically focus on reducing or preventing this stress. Alternatively, if no link was apparent, then school administrators might focus their efforts on other components of the transition experience, such as changes in the daily schedule and other logistical changes. It is not clear, however, based on the currently available literature, if this type of link exists.

Peer Transitions

Peer transitions may relate to general stress during the move from elementary school to middle school. During this time, there is the increased potential for disruptions to the peer group. Adolescents may be placed with unfamiliar peers in their new school, and over time may have reduced exposure to their old friends. Friendships serve important functions for adolescents, such as providing opportunities for support, acceptance, emotional intimacy, recreation, and identity development (Bagwell et al. 1998; Cairns and Cairns 1994; Parker et al. 1995). Thus, if adolescents lack friendship support even temporarily, this might have implications for their social and academic adjustment. For example, Bellmore (2011) found that peer rejection during the transition to middle school has been shown to predict lower academic performance. Similarly, peer acceptance, number of friends, and friendship quality have been shown to predict higher academic performance during the middle school transition (Kingery et al. 2011).

Based on previous research, however, it is not clear whether the specific transition of changing friends from an elementary school group to a new group introduced in middle school relates to academic success. For example, if adolescents were part of a solid peer group in elementary school that was "broken up" by the logistical circumstances of the transition to middle school (e.g., some friends are placed in different classes, other friends move to a different school district), the stress of this experience might provoke academic difficulties. Further, how does this specific transition (or lack thereof) interact with other concerns during the move to middle school? It might be that friendship transitions independently predict lower levels of academic motivation and performance, even after stress about the middle school transition is taken into account. Alternatively, perhaps friendship stability is only relevant for understanding success during the middle school transition in those adolescents who are highly anxious about the move to middle school.

Gender and the Middle School Transition

Gender consistently has emerged as an important variable to consider when assessing academic success and the school experience (Eccles 2011). Girls generally get better grades than boys throughout their educational careers (Foster et al. 2001; Sutherland 1999), although they also experience higher levels of anxiety about their academic performances (Pomerantz et al. 2002). In contrast, boys get into trouble for their behavior at school, like school less, and are at a higher risk for academic failure and dropout (Gentry et al. 2002). Despite this overall evidence favoring girls in terms of academic performance, boys nonetheless have some advantages in the classroom in terms of teacher attention and teacher responsiveness (Sadker and Sadker 1994). Beginning in the primary grades and continuing into adolescence, teachers differentially teach to boys and girls in such a way that favors the development of critical thinking and autonomy in boys, but not in girls (Tsouroufli 2002; Younger et al. 1999).

These gender differences in school-based experiences might pave the way for factors like stress about the middle school transition or changes in friendship stability differentially effecting boys versus girls. For example, increased stress about the middle school transition may impact girls' academic performance but not boys' academic performance (due in part to girls' lower levels of classroom-based support). Alternatively, it might be that males and females differ in terms of the mean level of their experience with these stressors (e.g., females might perceive greater levels overall of transition stress), but there is no difference in terms of patterns of relations among variables (i.e., stress over the transition may relate to lower levels of academic success for males and females alike).

The Present Study

The main goal of the present study is to understand better the ways in which early adolescents' social and psychological experiences during the transition to middle school relate to their academic outcomes. Specifically, the current study focuses on the subjective stress that youth experience as they adjust to their middle school experience and explores how this stress links with academic performance, motivation, and bonding to school. Additionally, the current study investigates whether adolescent gender and/or friendship stability from elementary school to middle school interacts with transition stress in terms of understanding academic outcomes. These issues are investigated in a large (N=774) and diverse sample of seventh and eighth grade middle school students.

Methods

Participants

Data for this study were drawn from a school improvement initiative assessing various aspects of middle school students' social development and academic achievement. The project took place in a racially/ethnically and economically diverse public middle school serving grades 7 and 8, in a mixed urban/suburban district in the northeastern USA. The total sample was 774 (M age=12.78 years (SD=0.70), 47.4 % male, 47.3 % grade 7). In terms of racial/ethnic background, the participants described themselves as follows: 28.4 % Latino/a, 23.5 % European American/White, 19.3 % mixed or multiracial/ethnic background, 14.9 % African American/Black, 6.3 % Asian American/Asian, and 7.7 % "other."

The socioeconomic status of the students who participated in the study reflects the socioeconomic diversity of the school district. The students reported parental educations ranging from fewer than 12 years through doctoral or professional degrees (M=3.45, corresponding to midway between "some college" and "bachelor's degree"; SD=1.20). Based on the data from the state educational database, the eight feeder elementary schools vary in terms of the proportion of students eligible for free/reduced lunch, ranging from 6 to 49 % of the student body, reflecting the socioeconomic diversity at the participating middle school.

Measures

Middle School Transition Stress Students responded to three items measuring the extent to which they experienced stress during their transition to middle school (e.g., "How stressful has the change from elementary school to middle school been?"). Responses were made on a 5-point scale ranging from 1 "not at all" to 5 "extremely." This measure was developed specifically for this study in the context of the school improvement initiative and yielded an adequate internal reliability (α=0.66) for the use of a composite score based on the mean of the three items.

School Bonding The extent to which youth experienced a sense of belonging at school and attachment to school was measured by their responses to a 5-item scale. An example question is "Most days, I am happy when I am at school." Response options ranged from 1 "strongly disagree" to 5 "strongly agree;" the composite scores are the mean of the five items (α=0.82). Items from this scale were drawn from the school bonding scale developed by Pyper et al. (1987).

Test and Performance Anxiety Students responded to three items measuring anxiety related to academic performance (e.g., "I get nervous before I have to take a test or an exam at school.") Responses were made on a 5-point scale ranging from 1="strongly disagree" to 5="strongly agree." Composite scores are the mean of the three items (α=0.69; Boxer et al. 2011).

Academic Performance Students reported on their current academic performance in response to two items asking them to rate the "type of grades" they were "getting this semester" on an 8-point scale ranging from 1="mostly Ds and Fs" to 8= mostly "As."

Academic Importance Students' beliefs about the importance of academics to them were measured by their responses to two items, "Compared to other kids your age, how important is math to you" and "Compared to other kids your age, how important are your other school subjects to you." Questions were drawn from surveys by Eccles and colleagues (e.g., Eccles et al. 1993; Eccles and Wigfield 1995). Response options were on a 5-point scale (1="much less important" to 5

"much more important"). The scale was computed based on the average response to both items (α=0.63).

Friendship Stability Students' experience with friendship stability and transitions at school were assessed based on responses to the question "How many of your close friends from this school year attended the same elementary school as you did?" Responses were scored on a 6-point scale (1=None, 2=A few, 3=Some, 4=Many, 5=Most, 6=All).

Procedures

The larger survey that these items were a part of was developed through a collaboration between the first and second authors and the district, as part of a school-wide study initiative that was adapted as part of the school's curriculum for the academic year 2008–2009. Data collection procedures were handled by school personnel independently. Teachers and other school personnel administered surveys during a class period on a single day. Any student present on that day was eligible to complete or opt out of completing the survey, resulting in 83 % of the student body participating. All survey responses were anonymous.

Results

Descriptive Analyses

The first analytical goal was to obtain descriptive information about the study variables and to assess whether there were any gender differences. These results are presented in Table 1, which displays the means and standard deviations for all study variables, by gender. Where indicated, gender differences in study variables are noted. Next, bivariate relations between study variables were examined, which are presented in Table 2.

As displayed in Table 1, females, as compared to males, reported higher levels of stress about the middle school transition and higher levels of school and performance anxiety. Despite being more anxious about their academic success, females reported higher academic performance as compared to their male peers (p<0.01). Results of the correlational analyses show that relations were modest to moderate in size, generally in predictable directions, and statistically significant (p<0.01). For example, transition stress was positively associated with school and test anxiety. Adolescents who were more stressed by the middle school transition also reported higher levels of anxiety about school and academic performance in general. As another illustration, middle school transition stress was negatively associated with academic performance, such that increased stress regarding the middle school transition was associated with lower grades. Other associations are depicted in Table 2.

Regression Models

Next, we examined how middle school transition stress and friendship transitions predicted academic outcomes and whether there was any gender moderation in these links. It was also of interest to assess if relations between transition stress and academic outcomes varied at differing levels of friendship stability and/or gender. Thus, a series of hierarchical regression analyses were conducted to address these goals. These analyses allow for understanding relations of multiple predictor variables simultaneously, while accounting for the variance of the predictor variables in previous steps. Statistical

Table 1 Means and standard deviations of study variables, by adolescent gender

	F(*df*)	*M* (SD) females	*M* (SD) males
Middle school transition stress (range 1 through 5)	*F*(1739)=5.43**	2.1 (0.71)	2.0 (0.75)
Friendship stability (range 1 through 6)	*F*(1742)=1.89	3.4 (1.4)	3.6 (1.5)
School bonding (range 1 through 5)	*F*(1690)=13.93**	3.7 (0.87)	3.4 (0.82)
Test and performance anxiety (range 1 hrough 5)	*F*(1734)=25.47**	3.1 (0.93)	2.7 (0.86)
Academic performance (range 1 through 8)	*F*(1754)=7.57**	6.4 (1.4)	6.1 (1.3)
Academic importance (range 1 through 5)	*F*(1730)=0.16	3.7 (0.88)	3.6 (0.90)

*$p\leq$0.05, **$p\leq$0.01

Table 2 Bivariate correlations for all study variables

Variables	1	2	3	4	5	6
1. Middle school transition stress	–					
2. Friendship stability	−0.08*	–				
3. School bonding	−0.19**	0.12**	–			
4. Test and performance anxiety	0.35**	−0.00	−0.07	–		
5. Academic performance	−0.17**	−0.02	0.22**	−0.15**	–	
6. Academic importance	−0.04	0.09*	0.40**	0.04	0.21**	–

*N*s for the correlations ranging from 757 to 694, based on missing data fluctuations

*p<0.05; **p<0.01

assumptions were checked and met prior to conducting the regression analyses. One regression was computed for each outcome variable (school bonding, test and performance anxiety, academic performance, and academic importance). In each regression, middle school transition stress, friendship stability, and gender were entered in step 1, all two-way interactions were entered in step 2, and the three-way interaction was entered in step 3. As suggested by Aiken and West (1991), the transition stress and friendship transition variables were centered to reduce multicollinearity.

As shown in Tables 3, 4, 5, and 6, results indicate that in general, adolescents who experienced higher levels of subjective stress about the transition to middle school also experienced increased academic and motivational challenges. This was the case for males and females alike (no gender interactions were found) as well as for adolescents with varying levels of stability with regard to their group of close friends (no interactions were found between friend stability and transition stress). Effect sizes (as indicated by Cohen's f^2) are reported below following the description of the findings; as noted, effect sizes were in the small to moderate range.

Specifically, with regard to *school bonding*, being female and experiencing low levels of transition stress predicted higher levels of feeling bonded to school (Cohen's f^2=0.08). There were no two- or three-way interactions. With regard to *test and performance anxiety*, being female and experiencing high levels of transition stress predicted increased anxiety (Cohen's f^2=0.18). No two- or three-way interactions emerged.

Table 4 Hierarchical regressions predicting test and performance anxiety from middle school transition stress, friendship stability, and gender

Predictors	B	SE β	B
Step 1			
Gender (0=male; 1=female)	0.23**	0.09	0.12
Friendship stability	0.03	0.03	0.05
Middle school transition stress	0.39**	0.06	0.31
Step 2			
Gender X friendship stability	−0.02	0.05	−0.03
Gender X middle school transition stress	0.06	0.09	0.03
Friendship stability X middle school transition stress	0.01	0.02	0.02
Step 3			
Gender X friendship stability X transition stress	0.04	0.03	0.07

R^2 =0.15 for step 1 (p>0.001); ΔR^2 =0.00 for step 2 (*ns*); ΔR^2 =0.00 for step 3 (*ns*); final R^2 =0.15 (p<0.001). Coefficients reported above are from the final step. Higher scores on the test and performance anxiety measure correspond to higher anxiety

*p≤0.05, **p≤0.01

In terms of *academic performance*, being female and experiencing lower levels of transition stress predicted better academic performance (Cohen's f^2=0.05). No interactions were significant. Finally, with regard to perceptions of *academic importance*, greater friendship stability predicted beliefs that academics were more important (Cohen's f^2=0.02). No interactions were significant.

Table 3 Hierarchical regressions predicting school bonding from middle school transition stress, friendship stability, and gender

Predictors	B	SE β	β
Step 1			
Gender (0=male; 1=female)	0.38**	0.09	0.22
Friendship stability	0.06	0.03	0.10
Middle school transition stress	−0.18**	0.07	−0.16
Step 2			
Gender X friendship stability	0.01	0.05	0.01
Gender X middle school transition stress	−0.08	0.09	−0.05
Friendship stability X middle school transition stress	0.03	0.02	0.08
Step 3			
Gender X friendship stability X transition stress	−0.05	0.03	−0.10

R^2 =0.07 for step 1 (p>0.001); ΔR^2 =0.00 for step 2 (*ns*); ΔR^2 =0.00 for step 3 (*ns*); final R^2 =0.07 (p<0.001). Coefficients reported above are from the final step. Higher scores on the school bonding correspond to greater school bonding

*p≤0.05, **p≤0.01

Table 5 Hierarchical regressions predicting academic performance from middle school transition stress, friendship stability, and gender

Predictors	*B*	SE β	*B*
Step 1			
Gender (0=male; 1=female)	0.45**	0.14	0.17
Friendship stability	−0.07	0.05	−0.07
Middle school transition stress	−0.32**	0.10	−0.17
Step 2			
Gender X friendship stability	0.08	0.07	0.06
Gender X middle school transition stress	−0.08	0.14	−0.03
Friendship stability X middle school transition stress	−0.03	0.03	−0.05
Step 3			
Gender X friendship stability X transition stress	−0.06	0.05	−0.08

R^2 =0.05 for step 1 (p>0.001); ΔR^2 =0.01 for step 2 (p<0.05); ΔR^2 = 0.00 for step 3 (*ns*); final R^2 =0.06 (p<0.001). Coefficients reported above are from the final step. Higher scores on the academic performance measure correspond to higher grades

*p≤0.05, **p≤0.01

Table 6 Hierarchical regressions predicting academic importance from middle school transition stress, friendship stability, and gender

Predictors	*B*	SE β	*B*
Step 1			
Gender (0=male; 1=female)	−0.04	0.09	−0.03
Friendship stability	0.07*	0.03	0.10
Middle school transition stress	0.01	0.07	0.11
Step 2			
Gender X friendship stability	−0.01	0.05	−0.01
Gender X middle school transition stress	−0.11	0.09	−0.07
Friendship stability X middle school transition stress	−0.04	0.03	−0.01
Step 3			
Gender X friendship stability X transition stress	0.04	0.03	0.08

R^2 =0.01 for step 1 (p>0.10); ΔR^2 =0.00 for step 2 (*ns*); ΔR^2 =0.00 for step 3 (*ns*); ΔR^2 =0.00. Final R^2 =0.02 (p<0.10). Coefficients reported above are from the final step. Higher scores on the academic importance measure correspond to beliefs that academics are more important

*$p \leq 0.05$, **$p \leq 0.01$

Discussion

The present research examines how adolescents' subjective stress regarding moving to middle school is associated with academic and motivational success. Specifically, this study examined links between transition stress and academic performance, motivation, and school bonding. Potential interactions with gender and friendship stability across the middle school transition were also examined. The results indicate that those adolescents who experience greater stress regarding the middle school transition also are at increased risk for experiencing lower academic performance and motivation. Specifically, greater stress was associated with increased test and performance anxiety, lower school bonding, and lower academic performance.

A second goal of this research was to examine how friendship transitions and stability (changing friendship groups during the transition to middle school) would predict academic success during the transition to middle school and also how friendship stability interacts with subjective stress to predict academic and motivational outcomes. Surprisingly, there were no interactions between transition stress and friendship stability. In fact, despite several significant bivariate correlations between friendship stability and the academic outcome variables, when transition stress was controlled for in the regression, friendship stability did not emerge as a significant predictor of academic performance, test and performance anxiety, and academic or school bonding. Nonetheless, it is notable that friendship stability did predict adolescents' perceptions of academic importance in the regression analysis, such that those adolescents who had more stable friendships across the transition to middle school also thought that it was important to succeed in school. Thus, consistent friendships over time may have a unique role in encouraging positive attitudes about school. With regard to the other outcomes, it will be interesting for future research to explore whether other aspects of friendship relationships (such as quality or perceptions of support) would be more important than friendship stability.

Results with regard to gender were relatively straightforward. Although there were gender differences in the mean levels of variables, no gender differences emerged in terms of the pattern of relations among study variables. Girls, as compared to boys, in general experienced greater stress associated with the transition, and they also experienced more anxiety about school and performance. However, as compared to their male peers, they also reported earning higher grades and being more bonded to school. Despite these differences, stress associated with the transition to middle school predicted academic and motivational challenges for both boys and girls. Similarly, friendship stability predicted perceptions that school was more important for both genders. This suggests that boys and girls alike would benefit from efforts aimed at reducing the transition stress and at improving friendship cohesion across the transition.

Why were adolescents who were relatively stressed about the transition to middle school also more likely than their peers to face academic and motivational challenges? This is an important question to explore, both in terms of analyzing the current findings and for designing future studies. One possibility is that the overall stress about the transition sets adolescents creates a self-fulfilling prophecy, such that adolescents expect that they will have a difficult time and these expectations make it more likely that they actually will have increased challenges. Alternatively, perhaps increased stress about the transition is symptomatic of psychosocial challenges in general (that were not measured in the current study), and these challenges are responsible for a variety of increased difficulties during this time period. There is evidence from other studies that adolescents who have psychosocial challenges such as depression and anxiety are also at risk academically and motivationally during early adolescence (Duchesne and Ratelle 2010; Shahar et al. 2006). Or, potentially increased worry about social changes like the middle school transition may put adolescents at increased risk for a variety of mental health challenges. Alternatively, there may be a curvilinear relationship over time between transition stress and academic performance, in that very low levels of concern or interest in the transition may not be beneficial either. Thus, future research following adolescents over time should include a sensitive measure of subjective stress about upcoming school transitions to address some of these questions.

When evaluating the present results, there are several limitations of the study that should be taken into consideration. First, the present study was cross-sectional and did not follow the students over time during their transition to middle school. Rather, seventh and eighth grade students were asked to recall their transition experiences as they entered middle school in the seventh grade. Although these reports still meaningfully predicted academic outcomes, it would be useful for future research to assess whether students' stress about the middle school transition during the last semester of elementary school would prospectively predict middle school academic outcomes. Second, this study was based on a single reporter and did not take into consideration parent, teacher, or peer reports. One concern with this method is that there may have been social desirability effects. Although the youth themselves are arguably the best reporters of their own internal experiences such as stress and anxiety, it would still be informative to have others' perspectives and report on behavior and relationships. For example, future research might study peer group stability by measuring reciprocal friendships (e.g., Ciairano et al. 2007) as youth move from the elementary to middle school setting. Additionally, the present study took place in a single school. Although the school was socioeconomically and racially diverse, the results may not generalize to other districts. Finally, there are other academic and social factors that were not measured in the present study that might be impacted during the transition to middle school. For example, rather than just focusing on the stability of friendship groups, future research could also focus on the quality of friendships during the transition.

Despite these limitations, the current results highlight the importance of smoothing the transition to middle school for young adolescents. The results suggest that stress associated with the move to middle school is an important factor that educators may wish to address in efforts towards promoting a successful school transition. This specific goal could be added to already successful programs targeting more general adjustment issues, such as ones that target social-emotional adjustment across the secondary school transition (e.g., Rosenblatt and Elias 2008) as a way to facilitate positive academic outcomes.

The elementary classroom is a critical starting point for these types of intervention programs, but they need not stop there. A number of middle school educators can play a crucial role in assisting young adolescents through their transition to decrease anxiety about the move. For example, school counselors and psychologists can provide group counseling that focuses on decreasing anxiety about the transition as well as focusing on friendship issues surrounding the transition (such as forming new relationships and maintaining established relationships). To specifically target anxiety about the transition, school counselors and school psychologists can implement interventions such as relaxation techniques and helping students recognize their successes. At the district level, training programs can be developed to inform other educators on how to handle and create a smooth transition for students at the middle school age. Continuing education seminars might focus on adolescents' developmental challenges during this time and ways in which teachers can create environments that have the best fit with adolescents' changing needs. Teachers can also arrange the classrooms in ways where students can interact with one another through schoolwork while forming friendships at the same time.

It is also important to note that middle school transitions not only affect students at school but also at home. Parents can be encouraged to be involved in the process by communicating with school personnel such as teachers, school counselors, and other key stakeholders. For example, parent education programs could be implemented where parents can be educated as to some of the potential challenges of the transition to middle school and how to recognize when their child experiences academic or social difficulties because of these challenges (Bronstein et al. 1998). Parents should also be encouraged to continue to be involved with their children's academic endeavors, as this has been shown to be associated with more positive academic outcomes (Hill and Tyson 2009).

In sum, the present study provides important information about the way in which adolescents' psychological experiences during the time of the transition to middle school relate to their academic and motivational success. Very little was known about adolescents' subjective experiences of stress during the transition to middle school and the implications of these experiences, prior to this study. Those adolescents who reported higher levels of stress regarding the transition from their elementary schools to their middle schools also reported greater levels of academic challenges during middle school. To help facilitate a positive move into middle school, districts (and the families within the districts) should focus on promoting a smooth, transparent transition in a way that helps the adolescents feel comfortable and confident as they move to their new schools. By focusing on strategies to reduce stress about the middle school transition, districts may help facilitate more positive academic outcomes as youth begin their new schools.

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