Surviving the Junior High School Transition

Family Processes and Self-Perceptions as Protective and Risk Factors

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This study used a longitudinal design to investigate the association of family processes and self-perceptions with adjustment and self-esteem following the transition to junior high school. Students' positive self-concepts in academic and social domains emerged as facilitative of positive adjustment across the transition, while self-consciousness in these domains proved detrimental to adjustment. In addition, adolescents' perceptions of their parents as being developmentally attuned to them and supportive of autonomy in decision-making situations were positively associated with adjustment and gains in self-esteem across the transition. The results are discussed in light of the salient developmental tasks confronting the early adolescent and the role of family and school contexts in facilitating the successful negotiation of these tasks.

Recently, concern has been raised over the transition to junior high school. This transition occurs at a time when most young adolescents also are experiencing the physical, psychological, and social changes associated with adolescence, including the new role demands presented by parents, peers, and teachers. Moreover, the school environment of traditional junior high schools often are significantly different from that of elementary schools. As

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Eccles and Midgley (1989) note, there is often an increase in the use of competitive motivational strategies and rigor in grading and a decrease in personal contact between students and both their peers and teachers. Some children are adversely affected by this transition. Two areas in particular that seem to suffer are self-esteem and adjustment to junior high school. Although boys have an overall higher level of self-esteem, a general decline occurs in the transition from sixth grade for both genders (Eccles, Wigfield, et al., 1989; Wigfield, Eccles, Mac Iver, & Reuman, 1991).

Yet difficulties with this transition are by no means universal. Hirsch and Rapkin (1987), for example, found no change in self-esteem in students making the transition from sixth grade into a junior high school. These authors did report, however, an increase in depressive symptomatology in girls making the transition as compared to boys. Other studies also have found no change in the self-esteem of children making the transition (e.g., Fenzel & Blyth, 1986; Hawkins & Berndt, 1985). Although some of these differences undoubtedly reflect variations across studies in populations, school environments, and varying methodological techniques, it is likely that individual differences in early adolescents' responses to the transition to junior high school also play a role. It is probable that some adolescents adapt well to the transition, whereas others find the transition more difficult and experience a decline in their self-esteem. What factors influence the direction of these individual differences? This article addresses that question.

The transition to junior high school can be conceptualized from the perspective of stress and coping. From this perspective, any change, or transition, can be considered a stressful event in that it taps the individual's resources for adaptation. Within the stress and coping literature (e.g., Garmezy, 1983; Rutter, 1981), differences in individuals' responses to stressful life events are assumed to result from the balance of the protective and risk factors that individuals have at their disposal. Protective factors buffer against adverse effects, whereas risk factors work to exacerbate such effects.

This article reports the results of a set of analyses designed to identify and evaluate the impact of both protective and risk factors during this transitional period. The analyses considered both psychological and general family environment factors as potentially associated with the transition. Psychological factors included adolescents' ability self-concepts, worries, and self-consciousness; family environmental factors included decision-making opportunities and developmental attunement to the adolescent. The study also used multiple indicators of the early adolescents' adaptation to the junior high school transition to determine whether different protective and risk factors

emerge as important depending on the particular type of adaptation one is measuring. More specifically, the dependent measures included changes in self-esteem, seventh-grade teachers' ratings of the adolescent's adjustment to junior high school, parents' ratings of the extent to which their child's attitude toward school improved or declined following the transition to junior high school, and the adolescent's rating of the extent to which they liked school more or less following the junior high school transition.

Psychological Protective Factors

Several investigators have suggested that personal coping resources are key influences on one's adjustment to stressful situations such as school transitions. Personal coping resources are typically conceptualized as a set of relatively stable personality, attitudinal, and cognitive dispositions that promote effective adaptation, thereby reducing the potentially harmful effects of stress (Fenzel, 1991). Personal coping resources that buffer against the detrimental effects of stress on children and adolescents include a sense of autonomy, a sense of personal efficacy, and confidence in one's competence (Bandura, 1986; Compas, 1987; Garmezy, 1983; Harter, 1990).

Perceptions of one's competencies and efficacy are especially relevant for this article given its focus on the changes in self-esteem associated with the junior high school transition. Several studies support a connection between these self-relevant beliefs. For example, Bohrnstedt and Felson (1983) showed that perceived academic and athletic ability are positively predictive of self-esteem among adolescents. Similarly, Harter (1990) has shown that perceived competence in academic, social, athletic, and physical appearance domains are positively related to self-esteem, with confidence in one's physical appearance and social competence having the strongest relations. Other studies have focused on the protective role that actual abilities may play as one makes the junior high transition. This work has demonstrated that success in academic and social domains in the sixth grade is positively related to increases in self-esteem following the junior high school transition (e.g., Hirsch & Rapkin, 1987; Simmons & Blyth, 1987; Simmons, Carlton-Ford, & Blyth, 1987). These studies suggest that both ability self-concepts and actual achievement levels are related to the children's overall self-esteem and adjustment to the junior high school transition. These studies have two primary limitations: (a) they did not assess multiple protective factors simultaneously, and (b) they relied on a limited set of indicators of adjustment to the school transition.

Psychological Risk Factors

Several studies have suggested that worry and self-consciousness may be risk factors for the school transition adjustment process. For example, Elkind and Bowen (1979) have shown that self-consciousness is negatively related to self-esteem. Similarly, several studies indicated that anxiety about one's performance in the academic and social domains are negatively related to children's school performance (e.g., Payne, Smith, & Payne, 1983; Willig, Harnisch, Hill, & Maehr, 1983). Eccles and her colleagues have suggested that both anxiety and self-consciousness may be particularly detrimental as the early adolescent is forced to adjust to a new school environment characterized by increased rigor in grading, less variety in evaluation techniques, and an increase in social comparison among students (Eccles & Midgley, 1989; Feldlaufer, Midgley, & Eccles, 1988). These detrimental effects are likely to be especially salient during early adolescence because this developmental period is characterized by increased self-focus and self-consciousness (e.g., Eccles & Midgley, 1989; Eccles, Midgley, & Adler, 1984; Elkind & Bowen, 1979; Simmons, Rosenberg, & Rosenberg, 1973).

Family Protective and Risk Factors

General Family Environment

In thinking about the possible impact of the family environment on adolescents' adaptation to the junior high school transition, it is useful to consider the salient developmental tasks confronting adolescents during this time. A central task of adolescence is to develop a sense of oneself as an autonomous being (Blos, 1979; Eccles, Midgley, et al., 1993; Erikson, 1963). The drive for such autonomy derives from the internal, biological processes marking the transition to a more adult role, such as puberty and increasing cognitive maturity, as well as from the social changes and expectations that accompany these physiological changes. As Eccles, Midgley, et al. (1993) noted, social changes in the world of adolescents increase the opportunity for them to experience independence outside of the home. This increased out-of-home independence is often in the form of unsupervised peer contact, providing the adolescent with the opportunity to spend a lot of time in relationships that are likely to be more mutual in terms of interpersonal power and authority (Eccles, Midgley, et al., 1993; Higgins & Parsons, 1983).

To best understand the relation of adolescents' developing need for autonomy to adolescents' adjustment to the junior high transition, we have used a

stage-environment fit perspective (e.g., Eccles, Midgley, et al., 1993; see also Hunt, 1975) and have focused on the fit between an early adolescent's family environment in terms of support of autonomous decision making and his or her developmental needs. The person-environment fit theory suggests that it is the fit between the individual's need for autonomy and the amount of control parents continue to exert on the adolescents' decision making that impacts the individual's motivation and sense of satisfaction. Adopting a developmental framework (i.e., a developmental stage/environment fit perspective), we assumed that the fit between desire for self-control and opportunities for self-control is likely to change as the individual develops unless the environment changes at the same rate and in the appropriate direction. As children mature, they are likely to desire more control and opportunities for decision making. When they enter early adolescence, the rate of increase in this desire for control over one's own life likely accelerates, increasing the need for the family to renegotiate the power balance between parent and child (Eccles, Midgley, et al., 1993). It seems plausible that those parents who are able to adjust to the adolescent's changing needs with relatively little conflict will provide a better match between the early adolescent and his or her family environment. This better match then should serve a positive role in the adolescent's developmental trajectory.

In support of this hypothesis, research has shown that family environments that provide opportunities for personal autonomy and encourage the adolescent's role in family decision making are associated with such positive outcomes as high self-esteem, greater self-reliance, greater satisfaction with school and student/teacher relations, more positive school adjustment, more advanced moral reasoning, and a mastery orientation toward problem solving in the classroom (e.g., Epstein & McPartland, 1977; Flanagan, 1986; Yee, 1987). Conversely, a parenting style that is coercive, authoritarian, and not attuned to the adolescents' need for more decision-making opportunities is associated with greater self-consciousness, lower confidence in the self, and greater self-image disparity (Leahy, 1981; Yee & Flanagan, 1986). In a study that addressed the fit between early adolescent needs and family decision-making opportunities, Flanagan (1986) found that young adolescents' perceptions of fit between how much say they should have in decisions and how much they do have is positively correlated with their perceptions of autonomy and negatively correlated with their perceptions of parent-child conflict and high parent control.

Consistent with this perspective, the period of early adolescence has been acknowledged by developmentalists (e.g., Erikson, 1963), family sociologists (e.g., Aldous, 1977), and clinicians (e.g., Blos, 1979) as a time of transition that requires a renegotiation of family rules and roles for successful

adaptation. Research and clinical evidence suggest that the family's ability to adapt to the changing needs of its early adolescent has implications for the process of identity formation (Grotevant, 1983), the likelihood of the development of psychopathology such as eating disorders (Minuchin, Rosman, & Baker, 1978), and possibly, how the early adolescent negotiates the transition to junior high school.

It is reasonable to postulate that family environments that are responsive and developmentally sensitive to the early adolescent may serve as protective factors for the transition to junior high school. These family environments may provide enough support and scaffolding for the young adolescent so that the transition is less stressful and disruptive. A developmentally responsive environment also may help the adolescent develop certain competencies that can serve as protective factors for the transition such as autonomy, maturity, and high self-esteem. For example, Leahy (1981) found that when parents both encourage children to express their opinions and listen to and consider the opinions of other family members, their adolescent children develop a more internally elaborated system for moral judgments and a more positive sense of self-esteem. When parents emphasize unilateral respect for authority and inhibit opportunities for debate and questioning, lower self-esteem can result (e.g., Leahy, 1981).

This study examined adolescents' perceptions of the family environment with regard to two general dimensions: (a) parent-adolescent mismatch and (b) provision of decision-making opportunities. Parent-adolescent mismatch refers to the degree to which the adolescent feels their parent does not communicate reasons for rules and inhibits the adolescent's pursuit of autonomous behavior. This construct reflects a lack of attunement of the parent to the developmental needs of their child. Provision of decision-making opportunities refers to the degree to which the parent provides their adolescent with opportunities to be involved in making decisions that would affect the adolescent. Both dimensions are considered relevant because the premise of stage-environment fit theory suggests that optimal positive growth occurs in the context of a family environment that is developmentally sensitive and offers the kinds of stimulation that will propel continued growth toward maturity. Such an environment conveys to the adolescent a sense of acknowledgment and appreciation of the adolescent as an individual. Meaningful autonomy should then facilitate the young adolescent's individuation protecting his or her self-esteem.

Additionally, teachers may perceive those adolescents who come from democratically organized families as more mature and less in need of controlling strategies because of the adolescents' independence and familiarity with decision making. Teachers who view early adolescents as more mature

may rate them as making a better adjustment to junior high school than they would those early adolescents who are viewed as less mature and in need of controlling strategies. It was hypothesized that living in a family that promotes more democratic decision-making processes and is developmentally attuned to the adolescent's needs would be associated with positive gains in self-esteem and better adjustment following the transition from sixth to seventh grade.

Other Child Characteristics

Two other child characteristics have received considerable attention in studies of early adolescent development: gender and pubertal status. Simmons and Blyth (1987), for example, reported that girls, especially early maturing girls who moved into a junior high school at seventh grade, evidenced a decline in self-esteem that was not matched either by girls moving into the seventh grade in a kindergarten to eighth-grade school or by boys making either transition. In addition, several investigators have suggested that various protective and risk factors may be related differentially to females' and males' adjustment to life transitions. For example, Harter (1990) has reported that perceived physical attractiveness is more important for girls' developing self-esteem than for boys'. As Eccles and Midgley (1989) noted in their review, however, several longitudinal studies have reported neither consistent gender nor pubertal status effects (e.g., Hawkins & Berndt, 1985; Petersen & Crockett, 1985). Both gender and pubertal development were considered in preliminary analyses for the present study. Pubertal status, as assessed by teacher and parent ratings, did not yield significant effects in any of the preliminary analyses and was not included in the multivariate analyses. The lack of results for puberty may reflect an inadequate measurement of pubertal status. A variation of the Petersen Pubertal Scale (see Petersen & Crockett, 1985) was used that did not discriminate pubertal level well among the boys. In addition, a measure of dating or *social* puberty was not included in this study. It was this indicator of pubertal development that predicted declines in self-esteem in the Simmons and Blyth (1987) study, not physical maturation alone. Gender did yield some interesting findings, however, which are reported in the Results section.

Summary

This study focused on the association of several protective and risk factors assessed in Grade 6 with indicators of early adolescents' adjustment to the junior high school transition. The analyses test the association of the following psychological, achievement, and family constructs with transition adjustment: Sixth-grade school achievement level, perceptions of one's own abilities, worries about one's abilities and self-consciousness, and perceptions of the family environment. The analyses in this study assessed these general hypotheses: (a) Perceptions of one's competence and actual levels of competence in Grade 6 would be positively related to indicators of good adjustment to the junior high school transition; (b) worries about one's competence and self-consciousness in Grade 6 would be negatively related to indicators of good adjustment to the same transition; (c) adolescents' perceptions of support of autonomy and involvement in family decision making would be positively related to indicators of good adjustment to the transition; and (d) adolescents' perceptions of parent-adolescent mismatch, or lack of attunement, would be negatively related to indicators of adjustment to the transition. The associations of these psychological and family constructs to several indicators of the early adolescents' adjustment to the junior high school transition were assessed using a longitudinal design, treating sixth-grade self-esteem and academic achievement as control variables, sixth-grade indicators of protective and risk factors as predictors, and seventh-grade indicators of adjustment as outcome measures.

METHODS

Overview

The data presented in this article were collected as part of a larger investigation of adolescent development, (The Michigan Study of Adolescent Life Transitions [MSALT]—Principal Investigator: Jacquelynne S. Eccles). This project was designed to assess the impact of change in classroom and family environments on adolescents' beliefs, values, motives, and behaviors in several activity domains. The data reported here are from the first four waves of this project. These four waves were collected over the junior high school transition. Early adolescents and their families completed questionnaires twice each year (fall and spring) during the adolescents' last year in elementary school (Grade 6) and first year in junior high school (Grade 7). This design allowed one to assess the association of certain sixth-grade characteristics with indicators of adjustment to the seventh grade controlling for sixth-grade levels of similar indicators. Thus it allowed one to assess the association of factors thought to be either protective or risk-promoting with

change over time in the dependent variable. Given the findings of Eccles et al. (1989) that indicators of school adjustment such as self-esteem show both within-year and between-year changes, whenever possible predictions were tested with indicators of adjustment gathered both in the fall and spring of the students' seventh-grade year.

Subjects

Twelve school districts located in low- to middle-income communities were recruited for this project. The districts were located within 50 miles of a large midwestern city. Almost 90% of the students in the districts are Caucasian. All elementary school teachers in those districts who taught mathematics to sixth-grade elementary school students were recruited in Year 1; 95% of the teachers, representing 143 classrooms, agreed to participate. Students were followed Year 2 into 171 seventh-grade junior high school mathematics classrooms. In Year 2, all eligible junior high school teachers agreed to participate. Of the eligible sixth-grade students, 79% agreed to participate. A student attrition rate of 11% between Years 1 and 2 primarily reflected students moving away from participating districts. All students with complete data for all four waves are included in the analyses reported in this section. This sample included approximately 1,000 girls and 860 boys, approximately 85% of the initial Wave 1 sample. The exact sample number for any specific analysis varies slightly due to missing data.

Procedure

Questionnaires containing indicators of a large number of theoretical constructs were group administered to the early adolescents in their math classrooms during the fall and spring of their sixth- and seventh-grade school years. Administration took two class periods. At the same time, the teachers filled out a rating form for each participating student; this form asked the teachers to rate each child on several characteristics including how well they were performing as compared to other students in the class.

Measures

The student questionnaire contained items assessing a broad range of students' beliefs, values, and attitudes concerning mathematics, English, athletic skills, social skills, physical attractiveness, general self-esteem, liking of school, and perceptions of various aspects of one's family and classroom environment. Many of these items have been used in previous studies by Eccles and her colleagues (e.g., Eccles, 1983; Eccles et al., 1989; Eccles [Parsons], Adler, & Meece, 1984); in general, their psychometric properties are quite good (see Eccles, Midgley, & Wigfield, 1988, for a full report in addition to the various published articles just cited).

Predictor Variables From Grade 6 Data Set

Perceptions of one's competence in math, English, athletics, peer social relations, and of one's physical attractiveness were measured using scales originally developed by Eccles and her colleagues to assess self-concepts of ability in math and English (Eccles [Parsons] et al., 1984; Eccles et al., 1989). All items are in the form of a statement such as "How good are you at math?" followed by a 7-point response scale anchored at the extremes with appropriate descriptors (e.g., in response to the question, "How good are you at Math," the descriptors were 1 = *not at all good* and 7 = *very good*). Math and English self-concept of ability were measured with six items each and had alpha coefficients of .90 and .91, respectively. Peer social skill self-concept was measured with five items (e.g.,"How good are you at making friends?" "How popular are you at school?" "How well would you do in a career that requires you to be good with people?") and had an alpha coefficient of .75. In each of these three domains, the ability self-concept items tapped the following types of self-perceptions: How good one is at the activity, how well one is currently performing, and how well one expects to perform in the future at activities requiring the associated skill. Athletic and physical attractiveness self-concepts were assessed with two items each and had alpha coefficients of .87 and .84, respectively. The athletic items asked how good one thinks one is at sports in both absolute and social comparative terms. The physical attractiveness items also asked how good-looking one thinks one is in both absolute and social comparative terms.

All of these ability self-concept scales have good discriminant and predictive validity based on both factor analyses and correlations with the students' ratings of the importance of each activity domain and the teachers' evaluations of students' competencies (e.g., Eccles, 1983; Eccles et al., 1989; Eccles, Wigfield, Harold, & Blumenfeld, 1993). More general self-esteem was assessed in both sixth and seventh grades using the Harter General Self-Esteem Scale (Harter, 1982).

Worries/nervousness and self-consciousness in the relevant domains were assessed using a similar strategy (i.e., face valid statements followed by a 7-point response line anchored at the extremes with appropriate descriptors).

Principal component extraction factor analysis, followed by oblimin rotation, was used to determine the factor structure of this set of items. Factor analysis of students' worries/nervousness and self-consciousness yielded six factors that accounted for 64.9% of the variance.

Table 1 lists the specific items that loaded onto each of the six factors. Each item is worded to represent the far right anchor. The internal consistency of each factor construct was determined by Cronbach's alpha. Items that reduced the construct reliability were dropped from the scale. Items with negative factor loadings were recoded prior to scale construction so as to ensure directional consistency. The internal consistency of each subscale (Cronbach's alpha) was very good, ranging from .72 to .91. Factor 1 (Nervous: Math) represented students' nervousness about doing math and taking math tests. Factor 2 (Self-Consciousness: Academic) described students' self-consciousness about having to perform academically in front of other students. Factor 3 (Non-Worry: Social) described students' lack of concern about not being popular or losing a friend. Factor 4 (Nervous: English) tapped students' nervousness about doing English and taking English tests. Factor 5 (Non-Worry: Schoolwork) described students' lack of concern about time and evaluation pressures related to schoolwork. Factor 6 (Self-Consciousness: Social) represented students' concern about social evaluation.

The academic performance score (referred to as *ability* in regression tables) is a composite of students' scores on the most recent standardized tests in math and English given by the school (given in either Grade 5 or 6) and of their sixth-grade teacher's rating of their relative ability in these two subjects compared to other students in the class (rated on a 7-point response line with 7 = *much better than the other students*). Each of these four indicators was converted to a *z* score and these scores were averaged.

Students' perceptions of their family environments were measured with a modified version of the Epstein and McPartland (1977) Family Decision-Making Scale. This scale is reported to have an internal consistency of .71. Although Epstein and McPartland used a dichotomous response format, we used a 4-point response format to increase variance and better describe the broad range of parent-child authority relationships. The specific items for this scale are shown in Table 2. Factor analysis, followed by orthogonal rotation, of these items yielded the two factors shown in Table 2. Factor 1 (Parent-Adolescent Mismatch) had an alpha coefficient of .65; Factor 2 (Democratic Family Decision Making) had an alpha coefficient of .53. Although both of these alpha coefficients are low, they are adequate given the small number of items on each scale.

TABLE 1: Factor Structure of Worries and Self-Consciousness

Item	*Factor 1* *Nervous: Math (alpha = .89)*	*Factor 2* *Self-Conscious: Academic (alpha = .91)*	*Factor 3* *Non-Worried: Social (alpha = .69)*	*Factor 4* *Nervous: English (alpha = .88)*	*Factor 5* *Non-Worried: Academic (alpha = .72)*	*Factor 6* *Self-Conscious: Social (alpha = .71)*
My heart beats a lot faster when I have to do a math test.	.83					
The hand I write with shakes a lot when I am taking a test.	.82					
Math tests scare me very much.	.80					
While I am taking a test in math I am very nervous.	.78					
Before taking a test in math I am very nervous.	.66					
When the teacher asks me to write on the blackboard the hand I write with shakes a lot.	.62					
Math often makes me feel like I'm lost in a jungle of numbers and I can't find my way out.	.62					
When the teacher says she is going to ask some questions to find out how much I know in math, I worry very much that I will do poorly.	.39					
When the teacher calls on me in English I think about how the other kids are looking at me.		.80				
I feel very embarrassed if the teacher corrects my answer in front of the other students in English.		.80				

(continued)

TABLE 1 Continued

Item	Factor 1 Nervous: Math (alpha = .89)	Factor 2 Self-Conscious: Academic (alpha = .91)	Factor 3 Non-Worried: Social (alpha = .69)	Factor 4 Nervous: English (alpha = .88)	Factor 5 Non-Worried: Academic (alpha = .72)	Factor 6 Self-Conscious: Social (alpha = .71)
I don't like the teacher to call on me in English because I wonder what the other kids are thinking about me.		.78				
I get nervous if I have to explain my answer in English in front of the other students.		.72				
I feel very embarrassed if the teacher corrects my answer in front of the other students in math.		.72				
I don't like the teacher to call on me in math because I wonder what the other kids are thinking about me.		.71				
When the teacher calls on me in math I think about how the other kids are looking at me.		.67				
I get nervous if I have to explain my answer in math in front of the other students.		.58				
I am not at all worried that maybe other kids don't like to do things with me all that much.			.81			
I am not at all worried that I maybe am not as popular as I'd like to be.			.77			
When a friend gets mad at me, I am not at all nervous that they might not want to be my friend anymore.			.65			
If I am absent from school and miss an English assignment, I worry very much that I will be behind the other students when I come back to school.				−.68		
While I am taking a test in English, I am very nervous.				−.67		
When the teacher says she is going to ask some questions to find out how much I know in English, I worry very much that I will do poorly.				−.66		
Before I take a test in English, I am very nervous.				−.66		
English tests scare me very much.				−.63		
I worry very much about how well I am doing in English.				−.62		
I am not at all worried about getting my schoolwork in on time.					−.73	
I do not get at all nervous when I only have a short time to do a hard assignment.					−.71	
I do not get at all nervous when the teacher hands back grades on class assignments.					−.57	
When I meet new people my age, I wonder what they will think about me.						.75
When I'm with people I think about how much they like me.						.74

TABLE 2: Factor Loadings for Adolescents' Perceptions of Family Environment

Item	Factor 1 Parent-Adolescent Mismatch (alpha = .65)	Factor 2 Democratic Family Decision Making (alpha = .53)
I have lots of fights with my parents about their rules and decisions for me.	.65	
I do not know why I am supposed to do what my parents tell me to do.	.62	
My parents treat me more like a little kid than like an adult.	.58	
My parents encourage me to give ideas and opinions, even if we might disagree.		.71
How often do you take part in making family decisions that concern you.		.66
My parents trust me to do what they expect without checking up on me.		.56

NOTE: For each item, 4 = *always*.

Outcome Measures at Grade 7

To get as complete a picture as possible of early adolescents' adjustment to the seventh grade, several indicators were used. First, as a measure of general socioemotional adjustment, change in self-esteem was used. This was assessed using the Harter General Self-Esteem Scale at both Wave 3 and 4 (fall and spring of the seventh-grade school year), while controlling for the adolescent's Wave 2 self-esteem score.

Second, the seventh-grade math teacher rated each participating student on the following single-item indicator: "In your opinion, how well is this student adjusting to junior high school?" The teacher responded on a 7-point response line anchored with the following descriptors: 1 = *not at all well*, 7 = *very well*.

Third, the early adolescent was asked the following two items: "How much do you like school this year?" (1 = *not at all*, 7 = *very much*); and "Compared to last year, how much do you like school this year?" (1 = *much less than last year*, 7 = *much more than last year*). Since these two items correlated $r = .55$ with each other, a scale was created by averaging the two items. Internal consistency of this scale was .70.

Finally, parents' (usually mothers') rated their adolescents' adjustment to junior high school with a 4-item scale. Each item was measured by a 7-point response line, assessed with descriptors at each end, with 7 representing *very good adjustment*. Items for this scale included: "How well is your child adjusting to junior high school?" "Since your child entered junior high school, has his/her general attitude changed toward school?" (1 = *has become much worse*, 7 = *has become much better*); "Since your child entered junior high school, has his/her general attitude toward math changed?" (1 = *has become much worse*, 7 = *has become much better*); and parents' response to "Now that my child is in junior high school he/she is less interested in school" (1 = *strongly agree*, 7 = *strongly disagree*). A scale was created by averaging these items. Internal consistency for this scale was .73.

RESULTS

Overview

To test the hypotheses, the following two general regression models were compared to determine whether the predictor variables added significantly to the total variance explained after the control variables were taken into account:

Model 1: Outcome measure = Wave 2 Self-Esteem + Ability
Model 2: Outcome measure = Wave 2 Self-Esteem + Ability + Predictors

Analyses were conducted via preplanned hierarchical multiple regression. Whenever possible, these models were run for outcomes at both Wave 3 and 4 (for Waves 3 and 4 self-esteem and for Waves 3 and 4 teacher rating of adjustment) representing adjustment at the beginning and end of seventh grade. Self-esteem assessed at Wave 2 was entered into the regression equation first based on the hypothesis that posttransition self-esteem would be most affected by students' self-esteem prior to the transition and based on the desire to test the impact of the other predictors on the change in self-esteem from Wave 2 to Waves 3 and 4. Academic competence (ability) was entered second based on evidence that prior academic competence (success) is predictive of both self-esteem and subsequent academic performance (Simmons & Blyth, 1987; Simmons, Carlton-Ford, & Blyth, 1987). By controlling for self-esteem and academic ability at Wave 2, these models provide a test of the following two types of hypotheses: First, when self-

esteem at Wave 3 or 4 is the dependent measure, they test the extent to which the predictor variables are associated with a gain or loss in self-esteem between the end of the sixth grade and the beginning (or end) of the seventh-grade year, controlling for prior achievement level. Second, when the other dependent variables are used, they test the extent to which the predictor variable is related to the dependent measure controlling for sixth-grade levels of self-esteem and academic ability; they also test the relative influence of sixth-grade self-esteem and academic ability compared to the other predictors to each of the posttransition indicators of adjustment.

The predictors were entered as sets of conceptually related constructs (i.e., all self-concept of ability scales were entered at one step, all worries and self-consciousness scales were entered at the next step, etc.). The order of entry into the regression analyses was determined in advance based on the theoretical preferences of the authors. Gender was added at the last step to determine if gender contributed additional variance once the psychological predictors (on which there are gender differences) were taken into account. To aid interpretation, gender was contrast-coded as −1 = male and +1 = female. Given the relatively high intercorrelations among the set of scales within a set, both the partial correlations (with Wave 2 self-esteem and sixth-grade academic ability as the controls) of each predictor variable with the outcome measures and the regression coefficient for the final step in the sequence of regression equations were considered in order to interpret the results. The significant regression coefficients for the full model in each series of regression equations are presented on the table depicting that series of equations. The significant partial coefficients are presented in the text. These partial correlations are an indicator of the strength of association of each predictor with each dependent variable controlling for sixth-grade self-esteem and academic ability. In contrast, the regression coefficients presented on the tables are indicators of the strength of the predictor controlling for all other predictors in the full regression model.

The possible interaction of each predictor with the students' gender also was tested in a series of hierarchical regression equations. In each equation, sixth-grade self-esteem and sixth-grade academic ability level were entered first followed by the students' gender (contrast coded −1 for male and +1 for female), the predictor variable (converted to a mean deviation score to allow for interpretation of the two main effects) and the interaction term between these two constructs. The significant gender interactions are presented in the text.

Because of the large sample size and the multitude of analyses, the significance criteria was set at $p < .01$ for reporting results throughout.

Self-Esteem

Table 3 summarizes the hierarchical regressions for self-esteem at Waves 3 and 4. The table presents the summary results of each step of the hierarchical multiple regression analyses (columns 2-4 and 6-8), as well as the unstandardized regression coefficients for each predictor in the final model (columns 5 and 9). Steps 1 and 2 represent the changes in the total variance in self-esteem with the addition of each of the two covariate variables, Wave 2 self-esteem and ability, respectively. Step 3 presents the change in the total variance when the first set of predictors (specific self-concepts) is added to the equation. Step 4 presents the change in the total variance when the second set of predictors (worries and self-consciousness) is added. Step 5 presents the change in the total variance when perceived family characteristics are added and Step 6 represents the change in total variance accounted for when gender is added.

Not surprisingly, and as predicted, both self-esteem in Grade 6 and academic performance in Grade 6 are related to self-esteem at Waves 3 and 4. However, sixth-grade academic ability is not a significant predictor of self-esteem change in the final full model at either Wave 3 or 4 (see columns 5 and 9). In contrast, self-esteem at the end of Grade 6 is the strongest predictor by a very wide margin of self-esteem at Waves 3 and 4. Interestingly, even though academic ability is related to children's self-esteem when one looks at the zero-order relations ($r = .17, .18, .19$, respectively for self-esteem at Waves 2, 3, and 4, $p < .000$ in each case), prior academic ability adds relatively little to the variance explained (approximately 1%) in the children's Wave 3 and 4 self-esteem once Wave 2 self-esteem in controlled. In contrast, Wave 2 self-esteem accounts for approximately 25% of the variance in Wave 3 and 4 self-esteem, suggesting some stability in self-esteem across these time periods.

As predicted, over and above Wave 2 self-esteem and academic ability, students' positive self-concepts of their ability in both academic and nonacademic domains are associated with positive change in self-esteem. As a set, students' ratings of their abilities in academic, athletic, and peer social domains and of their physical attractiveness all predict gains in self-esteem at both Wave 3 and 4 (see Table 3). In competition with each other as predictors, ratings of one's physical attractiveness, one's math ability, and one's peer social ability yield significant coefficients in the final, full model at Wave 3; and ratings of one's math ability and one's peer social ability yield significant coefficients in the final, full model at Wave 4.

A similar pattern of relations emerges in the partial correlations of each of these predictors with Waves 3 and 4 self-esteem (controlling for Wave 2

TABLE 3: Change in Total Variance Explained in Posttransition Self-Esteem

Step	*Self-Esteem Wave 3*				*Self-Esteem Wave 4*			
	Change R^2	*Change* F	F *Model*	β *Model*	*Change* R^2	*Change* F	F *Model*	β *Model*
Step 1: Self-esteem[a]	.257	631.9***	631.9***	.338***	0.249	621.6***	621.6***	.339***
Step 2: Ability	.01	25.1***	332.7***	n.s.	0.011	26.7***	328.4	n.s.
Step 3: Self-concepts	.034	18.0***	112.3***		0.025	13.2***	106.3***	
Appearance				.042***				n.s.
English				n.s.				n.s.
Sports				n.s.				n.s.
Math				.063***				.051***
Friends				.032*				.041**
Step 4: Worries	.02	9.05***	66.3**		0.022	9.72***	63.3***	
Self-conscious: Social				−.059***				−.048**
Self-conscious: Academic				−.041*				−.053**
Non-worried: Social				n.s.				n.s.
Non-worried: Academic				n.s.				n.s.
Nervous: English				n.s.				n.s.
Nervous: Math				n.s.				n.s.
Step 5: Family environment	.02	25.6***	62.4***		0.017	22.7***	59.2***	
Parent-adolescent mismatch				−.105***				−.078***
Democratic decision making				.069**				.099***
Step 6: Gender	n.s.	n.s.	—	n.s.	0.001	4.24*	55.8***	−.027*
	Total R^2 = .34				Total R^2 = .33			

NOTE: Column 1 shows variables entered at each step of the multiple regression model; Columns 2 and 3 indicate the changes in R^2 and the F value and the significance for each step; Column 4 is the F value for the whole model with each additional step; Column 5 indicates the unstandardized regression coefficient for each variable with all variables in the model.

a. Wave 2.

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

self-esteem and sixth-grade academic ability): self-concept of math ability (partial $r = .16$ and .14 for Waves 3 and 4, respectively). Peer social ability (partial $r = .14$ and .15), and physical attractiveness (partial $r = .15$ and .13) are each related to positive change in self-esteem following the transition to junior high school at $p < .001$. Self-concept of athletic ability also has a significant partial correlation to self-esteem at Wave 3 (partial $r = .08$) and Wave 4 (partial $r = .13$). In contrast, self-concept of English ability is not significantly related to self-esteem change at either wave.

As hypothesized, worries and self-consciousness related to math, school deadlines, and social acceptance as a set add significantly to the amount of variance accounted for in self-esteem at both Wave 3 and 4 (see Table 3). In addition, this set of predictors contributed to explaining the variance in change in self-esteem over and above the effects of the ability self-concepts set. As can be seen in the coefficients for the full model (columns 5 and 9), the significant relations are all negative. As predicted, high scores on these predictors are associated with declines in self-esteem over the junior high school transition. However, in competition with the other predictors, only the social self-consciousness and the academic self-consciousness yield significant negative coefficients.

More of the negative relations between this set of predictors and changes in self-esteem at Waves 3 and 4 are significant when one looks at the partial correlations (controlling only for sixth-grade self-esteem and academic ability). Each of the following is a significant predictor of self-esteem at both Wave 3 and 4: Nervousness about math (partial $r = -.12$ and $-.15$, respectively, $p < .000$ in each case); self-consciousness about academic performance (partial $r = -.14$ and $-.16$, respectively, $p < .000$ in each case); non-worry about social rejection (partial $r = .10$ and .12, respectively, $p < .000$ in each case); non-worry about school (partial $r = .06$ and .06, respectively, $p < .01$ in each case); and self-consciousness about social approval (partial $r = -.08$ and $-.08$, respectively, $p < .001$ in each case). Of the six subscales, nervousness about math and self-consciousness about academic performance yield the strongest relations.

The two indicators of the adolescent's Wave 2 perception of his or her family environment were simultaneously entered as Step 4. As a set, these two indicators yield a significant change in the amount of variance explained in self-esteem at Waves 3 and 4 over and above the effects of the student-level psychological constructs. As predicted, the perception that one's parent is not attuned to one's needs is associated with declines in self-esteem at both of the posttransition waves. Similarly, and again as predicted, the perception that one's family uses a democratic decision-making style is associated with increases in self-esteem at both of the posttransition waves, more so at Wave

4 than at Wave 3. Comparable results emerge in the partial correlational analyses. Wave 2 perceived parent-adolescent mismatch is significantly related to self-esteem change at both waves (partial $r = -.19$ and $-.16$, $p < .000$ in each case); and Wave 2 perceived family democratic decision making is significantly related to self-esteem change at both waves (partial $r = .13$ and $.15$, $p < .001$ in each case).

Effects of Gender for Self-Esteem Change

Even though student gender was related in a predictable pattern to several of the predictor variables (i.e., coded −1 for males and +1 for females) correlates significantly with English self-concept ability ($r = .15$, $p < .01$), athletic ability self-concept ($r = -.27$, $p < .01$), self-concept of physical attractiveness ($r = -.09$, $p < .01$), math nervousness ($r = .17$, $p < .01$), academic self-consciousness ($r = .14$, $p < .01$), non-worry about social rejection ($r = .15$, $p < .01$), non-worry about school ($r = -.18$, $p < .01$), social self-consciousness ($r = .11$, $p < .01$), and self-esteem at Wave 2 ($r = -.18$, $p < .01$) and to the students' self-esteem scores at Waves 3 and 4 ($r = -.18$ and $-.18$, respectively, $p < .01$), student gender adds little to the predictive power of the regression equation when it is added at the final step of the regression model. Although gender adds nothing significant at Wave 3, at Wave 4 it has a negative relation with self-esteem, indicating that males' self-esteem at Wave 4 is still higher than females' at Wave 4 even after all the other variables are controlled. This result suggests that being a male is predictive of self-esteem increase over time, whereas being a female is predictive of decreasing self-esteem over time even after the other predictors of self-esteem change are controlled.

Moderating Effects of Gender for Self-Esteem Change

Gender by predictor interactions were tested using hierarchical regression modeled after the procedure used thus far. Predictors were entered in the following order: Wave 2 self-esteem, sixth-grade academic ability, predictor variable of interest (in mean deviation form), gender (contrast coded with −1 = male and +1 = female), and then the gender by predictor variable interaction term. To assess the nature of significant interactions, partialled correlations, controlling for Wave 2 self-esteem and academic ability, were calculated for males and females separately for each significant interaction term.

The gender by predictor interactions are significantly related to both Wave 3 and Wave 4 self-esteem for self-concept of physical attractiveness (Wave 3: R^2 change = .004, F for R^2 change = 8.77, $p < .0003$, unstandardized regression coefficient [b] for interaction term = .03; Wave 4: R^2 change = .002; F for R^2 change = 3.90, $p < .05$, unstandardized regression coefficient [b] for interaction term = .02) and at Wave 3 for self-consciousness about academic performance (R^2 change = .004, F for R^2 change = 11.59, $p < .000$, unstandardized regression coefficient [b] for interaction term = .05). With regard to self-concept of physical attractiveness, there is a stronger positive partial relation for girls than for boys (partial $r = .11$ and $.09$, $f < .01$). In contrast: self-consciousness about academic performance is more strongly related in the negative direction (partial $r = -.23$, $f < .001$) between girls' self-concept of physical appearance and their Wave 3 and Wave 4 self-esteem (partial $r = .18$ and $.15$, $p < .001$) for girls than for boys (partial $r = .11$ and $.09$, $p < .01$). In contrast, self-consciousness about academic performance is more strongly related in the negative direction (partial $r = -.23$, $p < .001$) to boys' Wave 3 self-esteem than girls' (partial $r = -.05$, $p = .06$), after controlling for the covariates. These results reflect that a positive view of one's physical attractiveness is associated with more positive change in girls' self-esteem than with boys'; conversely, the extent of one's self-consciousness about academic performance is more strongly associated with declines in boys' self-esteem than with girls'.

Teachers' Ratings of Adolescents' Adjustment to Junior High School

Results for the analyses related to the teachers' ratings of each student's adjustment to junior high school are summarized in Table 4. Several things are worth noting especially in comparison to the results for self-esteem. First, in contrast to the results for self-esteem, although both sixth-grade self-esteem and academic ability are significant predictors of the teachers' ratings of each student's adjustment to junior high school at Wave 3, prior academic ability is a much stronger predictor. Also, by Wave 4 sixth-grade self-esteem is no longer even a significant predictor of the teachers' ratings. Second, although both the set of ability self-concepts and the set of worries and self-consciousness constructs add significantly to the amount of variance explained in the teachers' ratings at both waves (see significance of R^2 change for both steps on Table 4), when in competition with each other, only two of the predictors are significantly related to teacher-rated adjustment: self-consciousness about academic performance (Wave 3, $b = .10$; Wave 4, $b = .11$, $p = .02$), and English self-concept of ability (Wave 4, $b = .07$, $p = .01$). Also, in contrast to the results for self-esteem, the association of the academic self-consciousness with the teachers' rating of student adjustment is positive rather than negative. Apparently teachers perceive self-conscious students as better adjusted to junior high school. Finally, unlike the self-esteem findings,

TABLE 4: Change in Total Variance Explained Teacher-Rated Adjustment

	Teacher-Rated Adjustment Wave 3				*Teacher-Rated Adjustment Wave 4*			
Step	*Change* R^2	*Change* F	F *Model*	β *Model*	*Change* R^2	*Change* F	F *Model*	β *Model*
Step 1: Self-esteem[a]	.009	15.6***	15.6***	.127**	.01	12.0**	12.0**	n.s.
Step 2: Ability	.072	137.8***	77.3***	.100***	.14	306.1***	160.1***	.151***
Step 3: Self-concepts	.008	3.28**	24.6***		.01	5.41***	50.1***	
Appearance				n.s.				n.s.
English				n.s.				0.72**
Sports				n.s.				n.s.
Math				n.s.				n.s.
Friends				.069*				n.s.
Step 4: Worries	.009	3.07**	14.7***		.01	2.96**	28.5***	
Self-conscious: Social				n.s.				n.s.
Self-conscious: Academic				.101**				.109**
Non-worried: Social				n.s.				n.s.
Non-worried: Academic				n.s.				n.s.
Nervous: English				n.s.				n.s.
Nervous: Math				n.s.				n.s.
Step 5: Family environment	n.s.	n.s.	—		n.s.	n.s.	—	
Parent-adolescent mismatch				n.s.				n.s.
Democratic decision making				n.s.				n.s.
Step 6: Gender	.020***	38.1***	14.8***	.182***	.01	30.9***	25.5***	.170***
	Total R^2 = .120				Total R^2 = .259			

NOTE: Column 1 shows variables entered at each step of the multiple regression model; Columns 2 and 3 indicate the changes in R^2 and the F value and the significance for each step; Column 4 is the F value for the whole model with each additional step; Column 5 indicates the unstandardized regression coefficient for each variable with all variables in the model.

a. Wave 2.

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

being a female student is a significant predictor of more positive teachers' ratings even after all of the other variables are controlled.

Inspection of the partial correlations of specific predictors within each cluster reveal similar patterns. Very few of the adolescent psychological constructs have a significant partialled relation with teachers' ratings of students' adjustment at either wave. There are only two exceptions to this conclusion for Wave 3: Both peer social skill self-concept and academic self-consciousness have significant partial correlations to the teacher rating (partial rs = .08 and .08, respectively, $p < .001$ in each case). There are three exceptions at Wave 4: English ability self-concept, math nervousness, and academic self-consciousness (partial rs = .10, .08, and .07, respectively, $p <$ .003 in each case). It is worth noting that, as is true in the multiple regression analysis, both of the nervousness/self-consciousness constructs relate positively, rather than negatively, to the teachers' rating of students' adjustment to junior high school.

Although the set of family environment constructs did not reliably contribute to the variance in teachers' ratings of students adjustment, gender was significantly related to teachers' adjustment ratings. Teachers rated girls as significantly more adjusted than boys.

Adolescents' Ratings of Liking Junior High School

The results of the hierarchical regression analyses for the Wave 3 students' ratings of the extent to which they like junior high school are summarized in Table 5. Sixth-grade self-esteem is a significant predictor but prior academic ability is not. After controlling for these two predictors, the set of specific ability self-concepts add significantly to the amount of variance accounted for in the students' liking ratings. The regression coefficients from the full model show that this effect is primarily due to the significant relation of one's peer social skill self-concept to the liking ratings. The partial correlation coefficients support this conclusion: The largest partial correlations occur for peer social skill self-concept (partial r = .16, $p < .000$). In addition, however, math and English ability self-concepts also yield significant partialled correlations with adolescents' ratings of how much they like school this year (math: partial r = .08, $p < .001$; English: partial r = .12, $p < .000$).

Although the cluster of variables entered at Step 4 (worries and self-consciousness) do not yield a significant change in the R^2, the cluster of variables added at Step 5 do. This cluster includes the two indicators of the child's perception of the family environment. The regression coefficients from the full model show that this addition is due primarily to the significant association of students' perception that their family makes decisions in a

TABLE 5: Change in Total Variance Explained in Student-Rated Adjustment to Junior High School

	Student-Rated Adjustment Wave 3			
Step	*Change* R^2	*Change* F	F *Model*	β *Model*
Step 1: Self-esteem[a]	.011	22.9***	22.9***	n.s.
Step 2: Ability	n.s.	n.s.	—	n.s.
Step 3: Self-concepts	.25	10.1***	10.7***	
Appearance				n.s.
English				n.s.
Sports				n.s.
Math				n.s.
Friends				.129***
Step 4: Worries	n.s.	n.s.	—	
Self-conscious: Social				n.s.
Self-conscious: Academic				n.s.
Non-worried: Social				n.s.
Non-worried: Academic				n.s.
Nervous: English				n.s.
Nervous: Math				n.s.
Step 5: Family environment	.015	15.0***	7.43***	
Parent-adolescent mismatch				n.s.
Democratic decision making				.270***
Step 6: Gender	.004	8.62**	7.54***	.103**
	Total R^2 = .055			

NOTE: Column 1 shows variables entered at each step of the multiple regression model; Columns 2 and 3 indicate the changes in R^2 and the F value and the significance for each step; Column 4 is the F value for the whole model with each additional step; Column 5 indicates the unstandardized regression coefficient for each variable with all variables in the model.
a. Wave 2.
*$p < .05$; **$p < .01$; ***$p < .001$.

democratic manner with their rating of adjustment. The results of the partial correlational analyses support this conclusion but also show that adolescents' view of their parents as not attuned to and inhibitive of their needs has a significant negative partialled relationship with their rating of the extent to which they like school this year (mismatch partial $r = -.08$, $p < .001$; democratic family partial $r = .15$, $p < .000$).

Finally, the gender of the adolescent yields a significant increment in R^2 at Step 6. The regression coefficient associated with this effect indicates that females report liking junior high school more than males after all other predictor variables are controlled.

None of the gender by predictor variable interactions were significant in predicting students' ratings of the extent to which they like junior high school.

TABLE 6: Change in Total Variance Explained in Parent-Rated Adjustment to Junior High School

	Parent-Rated Adjustment Wave 3			
Step	*Change* R^2	*Change* F	F *Model*	β *Model*
Step 1: Self-esteem[a]	.01	8.98**	8.98**	n.s.
Step 2: Ability	.06	52.4***	30.9***	.07***
Step 3: Self-concepts	.02	3.39**	11.4***	
Appearance				n.s.
English				n.s.
Sports				n.s.
Math				n.s.
Friends				.09*
Step 4: Worries	.01	n.s.	7.09***	
Self-conscious: Social				n.s.
Self-conscious: Academic				n.s.
Non-worried: Social				n.s.
Non-worried: Academic				−.11*
Nervous: English				n.s.
Nervous: Math				−.07*
Step 5: Family environment	.003	n.s.	6.37***	
Parent-adolescent mismatch				n.s.
Democratic decision making				n.s.
Step 6: Gender	.002	n.s.	6.13***	n.s.
	Total R^2 = .10			

NOTE: Column 1 shows variables entered at each step of the multiple regression model; Columns 2 and 3 indicate the changes in R^2 and the F value and the significance for each step; Column 4 is the F value for the whole model with each additional step; Column 5 indicates the unstandardized regression coefficient for each variable with all variables in the model.
a. Wave 2.
*$p < .05$; **$p < .01$; ***$p < .001$.

Parent Rating of Student Adjustment to Junior High School

Table 6 summarizes the results of the hierarchical regression analysis for Wave 3 parent ratings of their adolescents' adjustment to junior high school. Again unlike the results obtained for self-esteem, whereas Wave 2 self-esteem and academic ability significantly contribute to parents' ratings of adjustment, when these constructs are in competition with each other and with the other variables, academic ability retains its significant positive association, whereas self-esteem becomes nonsignificant.

After controlling for Wave 2 self-esteem and academic ability, the set of specific self-concepts of abilities reliably adds to the variance explained in

parents' ratings. The regression coefficients in the full model indicate, however, that this effect is primarily due to the modest positive association of students' self-concept of peer social skills. The results of the partial correlational analyses support this conclusion: The strongest partialled relation to parent-rated adjustment is self-concept of peer social skills (partial $r = .11$, $p < .001$). In addition, however, English ability self-concept also yields a significant partialled relation to parents' ratings of adolescent adjustment (partial $r = .08$, $p = .006$).

The set of worries and self-consciousness constructs did not significantly add to the explained variance in parents' ratings of adjustment over and above the effects of ability self-concepts. Here again, when all of the variables are in the model, none of these constructs achieve significance at $p < .01$. No significant relations between these constructs and parent-rated adjustment emerge in the partialled correlations.

Addition of the family environment constructs as a set also did nothing to significantly improve predictions of parents' ratings. The results of the partial correlation analyses show, however, that adolescents who view their parents as involving them more in decision making also have parents who rate their adolescents' adjustment to junior high school more positively as compared to those adolescents from less democratic families (partial $r = .08$, $p = .007$).

Although gender of the adolescent is not a significant predictor of parents' ratings of posttransition adjustment, the gender by predictor interaction is significant for math ability self-concept (R^2 change = .01, F change = 8.16, $p < .01$; unstandardized regression coefficient for interaction = –.09), English ability self-concept (R^2 change = .006, F change = 5.87, $p = .01$; unstandardized regression coefficient for interaction = –.07), and nervousness about math (R^2 change = .01, F change = 9.66, $p = .002$; unstandardized regression coefficient = .07). With regard to math ability self-concept, the partialled correlations reveal a strong significant relation to parent adjustment ratings for males (partial $r = .13$, $p = .004$), but not for females (partial $r = -.02$, $p = .35$). A similar pattern is true for the gender interactions with English ability self-concept and nervousness about math for parent-rated adjustment: English ability self-concept (males' partial $r = .12$, $p < .01$; females partial $r = .006$, $p = .45$); nervousness about math (males' partial $r = -.13$, $p = .002$; females' partial $r = .04$, $p = .22$). These results show that psychological characteristics related to performance in the academic domain are influential in parents' ratings' of sons', but not daughters', adjustment to junior high school.

DISCUSSION AND CONCLUSIONS

Three major findings emerge from the results of this study. First, there was substantial support for the hypotheses linking protective and risk factors to adjustment to junior high school, particularly in terms of change in self-esteem across the transition. Second, within each cluster of constructs, some constructs are clearly more important than others and their importance varies to some extent across the two genders. Third, different patterns of significant predictors emerge for the various indicators of adjustment to the junior high school transition. Each of these major findings will be discussed.

The results of the analyses for posttransition self-esteem support the hypothesis that protective factors in both academic and nonacademic self-perceptions facilitate positive gains in self-esteem, whereas the proposed risk factors are linked to declines in self-esteem across the transition to junior high school. More specifically, greater confidence in one's academic, social and athletic abilities in the sixth grade is associated with gains in one's self-esteem following the transition to junior high. When compared with each other, the most salient predictors of positive self-esteem change are the adolescents' math ability, physical attractiveness, and peer social skill self-concepts. In contrast, the cluster of worries and self-consciousness constructs was associated with declines in self-esteem across the transition to junior high school. In competition with the other predictors, including the ability self-concepts and family environment constructs, the most salient predictors of decline are social and academic self-consciousness.

Fewer of the psychological constructs were associated with the students' ratings of how much they like their junior high experience and with parents' ratings of their child's adjustment to junior high school. What significant findings were obtained, however, support the results obtained for self-esteem. Over and above sixth-grade self-esteem and academic ability, the set of ability self-concepts significantly predicted both the adolescents' liking of junior high school and the parents' rating of the adolescents' positive adjustment to the transition. Of the specific constructs in this cluster, students' social peer skills self-concept was the single best predictor of both of these indicators of adjustment. Although not significantly related to students' adjustment ratings when considered in competition with all of the other predictors, the partialled relationships of the academic self-concepts also were reliably predictive of students' liking of junior high school.

That confidence in one's peer-related social skills emerged as a salient contributor to adolescents' overall self-evaluation and adjustment to junior

high school probably reflects the impact of changing pressures on adolescents at this particular period of life. Physically, children at this age typically manifest the changes associated with puberty. Concomitant with these physical changes are changes in social role expectations. For example, there is an increased emphasis at this time, both from peers and families, on physical appearance and social presentation. Coupled with the new and much larger social environment of the junior high setting, confidence in one's competence in peer social relationships may be particularly important. The consistency of the findings across parents' and students' ratings of adjustment highlights the importance of confidence in one's peer social skills at this time. In addition to the increased salience of social-related competence, the junior high transition is also often accompanied by an increased emphasis on academic ability. This increase stems, in part, from the changes in the junior high environments that emphasize grade-related achievement (Eccles & Midgley, 1989). Given the myriad of changes that occur at adolescence, it is not surprising that adolescents' perceptions and concerns at this time are reflected in their overall evaluation of their self-worth.

In addition to the self-related characteristics associated with self-esteem change and student-rated adjustment across the transition to junior high, the results support the hypothesis that adolescents' perceptions of their family environment also influence their adjustment to the junior high transition. As predicted, the perception that one's parents are not developmentally attuned to one's needs was associated with declines in self-esteem throughout the seventh grade. In addition, adolescents' perceptions of a democratic family environment were associated with increases in self-esteem throughout the seventh grade. Like the findings for self-esteem, students' perceptions of democratic family decision making were also positively associated with students' liking of their junior high experience, whereas nonattuned, inhibitive parenting was negatively associated with students' liking at the partialled correlation level of analysis.

These findings for the relation of family environment characteristics to adjustment corroborate existing literature suggesting that family environments that support the adolescents' need for autonomy are more facilitative of positive adjustment than family environments in which the adolescents' autonomy is suppressed (e.g., Eccles, Midgley, et al., 1993; Epstein & McPartland, 1977; Flanagan, 1989; Yee, 1987). Also, as predicted, these findings support the stage-environment fit hypothesis. The stage-environment fit theory suggests that the fit between the individual's need for autonomy and the amount of control parents continue to exert on the adolescents' decision making affect the individual's motivation and sense of satisfaction (Eccles, Miller Buchanan, et al., 1993). Using a developmental framework, this "fit" between desire for self-control and opportunities for self-control is assumed to change as the individual develops. Family environments that are responsive and developmentally sensitive to the early adolescent may serve as protective factors for the transition to junior high school. Adolescents who reported having less opportunity to express their own desires and opinions and who perceived a lack of attunement between themselves and their parents did more poorly across the adjustment to junior high school than did those adolescents who had more opportunities for participation and who felt their parents were attuned to them. It appears then, that those parents who are able to adjust to their adolescent's changing needs for autonomy provide a better match for the adolescent and serve as a positive role in the adolescent's developmental trajectory. These family environments may provide enough support and scaffolding for the young adolescent so that the transition is less stressful and disruptive. A developmentally responsive environment also may help the adolescent develop certain competencies that can serve also as protective factors for the transition such as autonomy, maturity, and high self-esteem.

Support of autonomy is just one aspect of the family environment that can influence an adolescents' adjustment across the transition to junior high school. Other characteristics of the family environment also may facilitate positive adjustment to the transition. Two likely characteristics are the affective relationship between a parent and adolescent and parents' investment in providing opportunities for their adolescent outside of the home. Many investigators have emphasized the importance of a warm parent-child relationship for positive adjustment (e.g., Baumrind, 1989; Maccoby & Martin, 1983). In addition, the positive associations of parent involvement with their children and child adjustment have been widely demonstrated in the literature (e.g., Grolnick & Ryan, 1989; Maccoby & Martin, 1983). As Eccles, Furstenberg, McCarthy, and Lord (1992) noted, the one-on-one interactions of the parent and child constitute only one aspect of involvement. Many parents also try to organize and arrange their child's social or extrafamilial environments to provide and promote opportunities as well as to restrict dangers and exposure to undesirable influences. Such investment may be particularly relevant for the adolescent given the increased pressures and opportunities for activities outside of the home environment at this time. In addition to providing the concrete resources and opportunities for exploration and achievement, parental investment conveys to the adolescent a sense of interest, acceptance, and psychological support. Here again, these attributes are important for the adolescent given the potential vulnerability of their

self-concepts and self-esteem at this transition period. To gain a more thorough understanding of how family environment affects adjustment to the transition to junior high school, future studies should include multiple indicators of the family environment.

Two interesting gender by predictor variable interactions emerged for posttransition self-esteem. Positive perceptions of one's own physical appearance was a more important predictor of increasing self-esteem for girls than for boys. This finding highlights the salience of the Harter (1990) findings indicating the importance of physical appearance for global self-worth in young adolescents. It is reasonable to assume that the nature of this gender difference must be rooted, at least in part, in the socialization practices of this culture. For example, studies have shown that others react to infants and toddlers on the basis of their physical appearance or attractiveness (see Maccoby & Martin, 1983, for review). Those children who were more attractive, as judged by societal standards, were responded to with more positive attention than those who were judged to be less physically attractive. The media also places a great deal of emphasis on appearance and its relationship to acceptance, particularly for women (Harter, 1990). Movies, television, and advertisements usually espouse, although often subliminally, the importance of physical attractiveness as being a critical feature of one's overall sense of self-satisfaction. As Harter (1990) noted, the biggest consumer of these media messages appear to be adolescents and preadolescents. It is reasonable to postulate that these are the individuals who are at greatest risk for being influenced by such messages because they are in the midst of identity development. This should be particularly true for girls.

The significant gender interaction suggests that one's physical self-concept is a particularly salient contributor to early adolescent girls' overall evaluation of their self-worth. It follows that girls at this age who have a negative perception of their appearance may be at risk for developing symptoms, such as eating disorders, that reflect this diminished self-esteem. Indeed, the incidence of eating disorders among females peaks during the adolescent years (e.g., Lewinsohn, Hops, Roberts, & Seeley, 1993). That both the gender by predictor interaction and the predictor main effects disappear by the end of the seventh grade suggests that the salience of physical appearance may be most critical at the point of transition when the most uncertainty exists about new physical, social, and academic demands.

The finding that self-consciousness about classroom performance is a more important predictor of declines in self-esteem for boys than for girls is consistent with the general findings in the literature on gender-typing, wherein boys are more concerned about, and influenced by, academic competence, particularly in areas of achievement that are viewed as more masculine, such as math (see Eccles, 1983; Meece, Parsons, Kaczala, Goff, & Futterman, 1982), whereas girls are more affected by issues of social competence (see Dweck & Bush, 1976; Eccles, Jacobs, et al., 1993; Parsons & Goff, 1978). The results are inconsistent, however, with other researchers' assertions that girls are affected more by anxiety than are boys with regard to school (Douglas & Rice, 1979). Previous research has shown that boys report less performance anxiety than do girls (Meece et al., 1982). Although no gender differences in the mean levels of anxiety reported by the students are found in this study, it is possible that the boys were underreporting their anxiety. More important, however, the present findings show that, regardless of the level of anxiety reported by a student, boys are significantly more sensitive to the negative effects of such anxiety than are girls.

An interesting contrast between the results for students' self-esteem and those for both parent- and teacher-rated adjustment is evident in the association of the two control variables with indicators of adjustment. In contrast to the results for self-esteem, sixth-grade academic performance was a much stronger predictor of both parents' and teachers' ratings of each students' adjustment to junior high school than was sixth-grade self-esteem. In fact, for parents' ratings, self-esteem was no longer a significant predictor of adjustment ratings when all of the predictors were included in the model. Also, by the spring of seventh grade, sixth-grade self-esteem was no longer a significant predictor of teachers' ratings of the students' adjustment. For both of these adjustment indicators, academic performance maintained its significant predictive power. These results show that teachers', and to a lesser extent parents', view of early adolescents' adjustment to junior high school are primarily related to the students' academic performance. Although these results are disappointing, they are not surprising. The finding that fewer of the students' psychological characteristics predicted the teachers' rating of the students' adjustment to junior high probably reflects the increased student anonymity implicit in the junior high setting. Because of the increased number of students and the departmentalized classrooms in these settings, teachers are not likely to get to know each of the students on a personal basis. It follows that teachers' criteria for assessing students' adjustment would be limited and would be based on their knowledge of the students' performance level.

The results for parents' ratings of adjustment are of concern as well because it appears that parents almost solely rely on performance as an indicator of their child's overall adjustment to junior high school. One implication that emerges from this finding is that from the parents' perspective, as long as their child is "good" and performing well, he or she is adjusting well. Yet, a good child is not necessarily a well-adjusted child.

Because teachers and parents are the people in the best position to identify children at psychological risk, it is unfortunate that they appear so unaware of the children's psychological state until a problem begins to affect their academic achievement.

A second interesting contrast characterized the teacher results. Although the protective factors did emerge as significant predictors of teacher-rated adjustment, the hypothesized risk factors did not predict adjustment as expected. Although both the set of self-concept predictors and the set of worries and self-consciousness constructs as sets account for significant amounts of variance in adjustment, in competition with each other, only two of the predictors were reliably related to adjustment: self-consciousness about academic performance (both waves) and English ability self-concept (Wave 4). More important, in contrast to the results for self-esteem, academic self-consciousness was related to teachers' high ratings of student adjustment rather than low ratings. Apparently, indicators of anxiety that are related negatively to students' self-esteem, such as academic nervousness and self-consciousness, are viewed as favorable by the teachers. Perhaps the teachers interpret students' nervousness and self-consciousness about their performance as indicators of positive motivation and concern on the part of the student. The implications of these findings suggest that students may be receiving positive feedback from teachers for those very attributes that appear to undermine their own self-esteem. It is reasonable to assume that the impact of receiving external positive feedback for that which is internally distressful could cause conflict and anxiety in the adolescent and result in further psychological distress.

The findings for teachers' ratings of students' adjustment to junior high school raise concern because they suggest that adolescents may not be receiving what they need from the adults in their school environments during the transition into junior high school. The early adolescent is confronted with changes on many dimensions, including physical, psychological, and social. In addition, the junior high setting often represents a contextual change for the adolescent. Among the core developmental tasks that accompany these changes are developing a sense of independence and autonomy, confronting issues of identity formation, and establishing a sense of competence. Such changes can render the adolescent vulnerable to self-esteem and mental health difficulties as well as to peer pressure for acting out behaviors. As at any developmental transition, these changes occur in an interpersonal context, a large part of which exists in the school. Although the peer culture becomes increasingly important at adolescence relative to the elementary years, adult figures retain their significance as bases and scaffolds from which

the adolescent can explore new identities and negotiate newfound expectations for more adult roles and responsibilities (e.g., Eccles, Midgley, et al., 1993; Hartup, 1989). Indeed, adult support and responsiveness may be particularly key at this period of development given the multitude of changes that can occur. The literature in stress and coping has pointed to a positive relationship with an adult as a key protective factor for children at risk for psychosocial problems (see Garmezy, 1983; Rutter, 1981). Yet, whereas adolescents' need for empathic and developmentally responsive support from teachers increases, opportunities for such supportive contact decline. This decline in contact stems, in part, from the contextual characteristics of the junior high setting that promote student anonymity.

One potential strategy for remediating the impersonal quality of traditional junior high schools involves within-school reorganization based on the middle school teaching philosophy. Some characteristics of the middle school philosophy that have been identified as potentially helpful are small-house programs, team teaching, and advisory sessions (see Eccles & Midgley, 1989). Future research is needed to determine the beneficial impact of these restructuralization strategies on students' adjustment.

There are limitations to this study that should be addressed in order to direct future research. First, the teacher rating of adjustment was a single-item indicator, and it was not determined what criteria teachers used to assess adjustment. A more reliable indicator could include more items to assess specific areas of adjustment in the classroom, such as behavioral deviance, school performance, and socioemotional adjustment. Another caveat to this study is that the results were obtained for White working- and middle-class students who were in traditional, departmentalized junior high schools. Future research could investigate the junior high transition for non-White, low socioeconomic populations, as well as for students in junior high schools that are more nontraditional in nature, such as those that have a middle school, team-teaching philosophy. Finally, the focus of this study was on predicting adjustment to the transition to junior high school from individual and family characteristics assessed prior to the transition. To develop a more comprehensive picture of the factors associated with adjustment to the transition, characteristics contemporaneous with the transition also should be assessed. Following the suggestions of Simmons and Blyth (1987) and of Eccles and her colleagues (e.g., Eccles, Midgley, et al., 1993), such characteristics could include current academic performance, quality of peer relations, degree of perceived victimization or alienation at school, cumulative life transitions, various junior high school characteristics, and contemporaneous family dynamics. Future research also could enhance the understanding of adoles-

cents' adjustment by including students' own perceptions of the fit between their needs and what the schools are actually providing for them.

The results of this study highlight the importance of understanding early adolescents' adjustment to the transition to junior high school in light of both the psychological characteristics salient to adolescents and the contexts in which adolescent development occurs. A key challenge for adolescents is to develop a coherent personal identity that integrates personal competencies with the expanding social roles and experiences that accompany this developmental period. It is not surprising, then, that adolescents' self-perceptions are important predictors of their changing self-evaluation and adjustment to the transition. The contexts in which adolescents develop can either facilitate or undermine an adolescent's pursuit of this unique and coherent personal identity. Adolescents' perceptions of their family environments as satisfying or thwarting their developmentally appropriate autonomy needs contribute to their adjustment to the junior high school transition. The results also show that parents and teachers of early adolescents might not be attuned to the experiences and needs of adolescents making the transition to junior high school. Although this diminished sensitivity is probably, in part, due to the ecological setup of the junior high environments, the low attunement also may reflect parents' and teachers' lack of understanding about what early adolescents are up against at this period and about what they need from the adults in their lives.

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