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Gender Differences in Adjustment During Middle School Transition

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The present study examined gender differences in a sample of 99 early adolescents during an ecological transition from elementary school to middle school. Early adolescents in the sample showed significant changes in their adjustment following the transition, as indicated by thier increased psychological distress or decreased academic achievement following the transition. Gender differences were found in adjustment changes over time, suggesting that boys and girls may be differentially affected by middle school transition. Different patterns of adjustment changes were explored by means of cluster analysis on the basis of psychological distress scores before and after the transition. Three distinct patterns were identified across genders, including (a) an average start but increasing to high pattern, (b) an initial low but increasing to moderately high pattern, and (c) a pattern of consistently high scores over time. The results are discussed in terms of gender differences, and implications for research and practice are elaborated.

Middle school transition is a significant, sometimes stressful, life event for early adolescents (Compas, 1987; Felner & Adan, 1988; Johnson, 1986; Simmons & Blyth, 1987; Simmons, Burgeson, Carlton-Ford, & Blyth, 1987). The contextual shift from elementary school to junior high school or middle school alters the ecology of the children through a change in both the school setting and the student role (Bronfenbrenner, 1979; Fenzel, 1989). Most children move from a relatively small, more personalized and task-focused elementary school to a larger, more departmentalized, impersonal and achievement-oriented middle or junior high school. In the new school, they face differences in grading practices, teacher expectations, and teacher-student relationships (Eccles & Midgley, 1990; Eccles, Midgley,

Wigfield, Buchanan, Reuman, Flanagan, & Mac Iver, 1993; Feldlaufer, Midgley, & Eccles, 1988; Midgley, Feldlaufer, & Eccles, 1988). Their social relationships, particularly peer relationships, are also affected by these transitions (Blyth, Hill, & Smith, 1981; Felner, Primavera, & Cauce, 1981; Hirsch & Rapkin, 1987). This discontinuity in both school structure and social roles requires significant adaptive efforts from early adolescents, and for some, these transitions can be stressful and challenging.

Studies have shown that middle or junior high school transitions are often associated with increased psychological distress (Crockett, Peterson, Graber, Schulenberg, & Ebata, 1989; Hirsch & Rapkin, 1987), a decline in academic performance (Blyth, Simmons, & Carlton-Ford, 1983; Simmons & Blyth, 1987), decreased motivation (Harter, 1981), and lowered self-esteem (Simmons & Blyth, 1987; Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991).

These studies have provided convincing evidence on the potential stressfulness of middle school transition. However, the findings concerning coping and adaptation have been mixed. It seems that there are large individual differences in adolescents' responses to the school transition: some adolescents show more negative changes than their peers following the transition (Crockett et al., 1989; Hirsch, 1991; Lord, Eccles, McCarthy, 1994).

Individual differences in adjustment changes following middle school transition have been mostly evident in studies which reported significant gender differences in the psychological impact of the transition. These studies have consistently shown that girls generally experience more psychological difficulties than boys (Bush & Simmons, 1987; Crockett et al., 1989; Fenzel & Blyth, 1986; Hirsch & Rapkin, 1987; Jason et al., 1992; Simmons & Blyth, 1987; Wigfield & Eccles, 1994).

To explain this greater vulnerability of girls, some investigators have suggested that it is not school transition per se but the timing of transition that is critical (Blyth et al, 1983; Simmons & Blyth, 1987). Drawing on cumulative stress theory, they have argued that transition into junior high school can be more detrimental for girls because it is likely to coincide with significant pubertal change for girls than boys. Thus, early adolescent girls entering junior high school would have to adapt to multiple changes and stresses which may affect their well-being. Others have suggested that, in addition to pubertal changes, adolescent girls are likely to react more negatively to school transitions because they tend to be more dependent upon interpersonal relationships and the disruption of peer networks occurring with school transition may cause more problems for girls than boys (Brooks- Gunn & Peterson, 1983; Bush & Simmons, 1987; Epstein & Karweit, 1983).

Previous longitudinal research has certainly enhanced our knowledge of the nature of school transition as well as its impact on adolescent development. It has also increased our understanding of individual differences in adolescents' adjustment to middle school transition: some adolescents adapt well to the transition, while others find the transition more

stressful and experience difficulties. However, we do not yet fully understand what processes lead to such individual differences in adaptive changes following middle school transition. Little is known about the developmental processes that underlie individual differences in early adolescents' adaptive reactions to middle school transition.

The present study examines individual differences, specifically gender differences, in the adaptation processes of early adolescents making an ecological transition from elementary school to middle school. In order to promote a more comprehensive understanding of the functioning of adolescents prior to and after transition, this study uses multiple indices that reflect both personal and environmental factors associated with the transition. The present study is exploratory in nature as it examines possible developmental processes or mechanisms that adolescents may follow through as they make a middle school transition. The specific aims of the present study are as follows: 1) To examine adolescents' adjustment before and after middle school transition; 2) To examine gender differences among adolescents in their adjustment patterns before and after middle school transition; 3) To identify subgroups of boys and girls who exhibit distinct patterns of adjustment changes during middle school transition; 4) To examine how these subgroups are differentiated in terms of their changes in academic achievement, self-concept, school behavior, and social support, and coping during middle school transition..

Method

Participants

Participants came from a primarily blue collar, multi-ethnic (predominantly white, of Italian and Eastern European ancestry; 5% Black and Latino) suburban community of 15,000 in central New Jersey. A total of 120 students (63 boys and 57 girls) initially completed assessments at the end of 5th grade in elementary school (Time 1). Assessments were given to the same participants again at the end of 6th grade in middle school (Time 2). Of these students, 99 (49 boys and 50 girls) provided sufficiently complete assessments for both Time 1 and Time 2. The loss of participants resulted from out-of-school-district transfer, school absences on one or more of the two testing days, and incomplete assessments. The participants' ages were between 10 and 11 at the time of the first administration and 11 and 12 at the time of the second administration.

Measures

Piers-Harris Self-Concept Scale

The original Piers-Harris Self-Concept Scale consists of 80 items tapping areas such as intellectual and school status, positive behavior, popularity, low anxiety, and physical attractiveness (Piers, 1969). A 44-item modified version was developed by eliminating ambiguous or redundant items. This modified version has an internal consistency of .85, and a 6-month test-retest reliability of r = .73. It

has been validated against peer measures of social competence and children's ability to persist in problem solving in the face of obstacles (Elias, Beier, & Gara, 1989).

Social Support Resources Measure

Social support resources available to students were elicited by fourteen items from the Health and Daily Living - Youth Form developed by Moos, Cronkite, and Finney (1984). Four indices have been derived from factor analysis of the items: Number of Supportive Relationships (good friends, close friends); Number of Social Network Contacts (friends seen in school, outside of school); and the functions provided by a significant relationship with a confidant-affirmative Mutual Involvement (talking, good times, sharing secrets and feelings and problems, helping); Allowance of Conflicting Expression (anger, disagreement). A summary score for each index was obtained by summing the component items. Moos et al. (1984) reported adequate reliability for these subscales, ranging from .48 to .73.

Psychological Distress Measure

This measure consists of nineteen items derived from the Health and Daily Living - Youth Form (Moos et al., 1984). Items measured physical symptoms characteristically associated with stress, such as headaches, stomach aches, and insomnia, and experience of various moods, including cheerful, sad, happy, and worried. Students were asked to report how often they had experienced the items since the beginning of the school year. They responded to each item on a four point scale (never, seldom, sometimes, fairly often). Adequate reliability, ranging from .64 to .82, has been reported (Moos et al., 1984).

Survey of Adaptational Tasks of Middle School

The SAT-MS (Elias, Ubriaco, Reese, Gara, Rothbaum, & Haviland, 1992) is a measure of adaptation to problematic academic and interpersonal tasks that arise during the transition to middle school. It contains 28 situations derived from a behavioral-analytic study of aspects of the middle school environment seen as inducing significant stress in meaningful numbers of children. Students were asked to rate the extent to which each item was problematic for them (no problem, small, moderate, large). Four subscales have been derived from factor analysis of items: Substance Abuse, Peer Relationships, Conflicts With Authorities and Older Students, and Academic Pressure (Elias et al., 1992). The internal consistencies of these subscales across studies have been acceptable, ranging from .61 to .93.

School Environment Questionnaire

The School Environment Questionnaire is a modified version of the Classroom Environment Questionnaire developed by Moos (1979). It is composed of 52 "true or false" questions tapping students' perceptions of the middle school environment. The nine subscales are involvement, affiliation, teacher support, task orientation, competition, order and organization, rule clarity, teacher control, and innovation. Across a number of studies,

subscale internal consistencies have been acceptable, ranging from .67 to .85.

AML Teacher Rating of School Behavior

The AML (Cowen, Dorr, Clarfield, Kreling, McWilliams, Pokracki, Pratt, Terrell, & Wilson, 1973) is a behavior rating scale that covers three domains of school behavior (e.g., acting-out, moodiness, and learning). Students were rated by their teachers on a four point scale, and one overall behavior rating score was obtained. Acceptable reliability and validity have been reported (Janes & Hesselbrock, 1978).

Academic Achievement

Report card records for the students were obtained for the major academic areas in each school. The students' course grades in five subject areas (reading, language arts, mathematics, science, and social studies) were used to represent academic achievement. A factor analysis revealed that all scores loaded strongly on one factor; therefore, a composite factor score was created.

Procedure

Data were obtained over a twelve month period. In the spring of fifth grade, students completed the Piers-Harris Self-Concept Scale, the Social Support Resource Measure, and the Psychological Distress Measure. The AML rating scale was completed by teachers, and the measure of academic achievement was obtained from school records. The initial sample was obtained by having the elementary school principal mail letters home to each of the parents of the students, informing them about the study and the benefits that the knowledge obtained might have for the school district, and requesting that their children participate. The assessment battery was approved by the Board of Education and made available for the parents to review. Only four parents denied permission for their child to participate in the study.

After the students' transition into middle school, data were gathered in the spring of sixth grade. Students completed the Piers-Harris Self-Concept Scale, the Social Support Resource Measure, and the Psychological Distress Measure, the School Environment Questionnaire, and the SAT-MS Measure. The AML teacher rating scale and the measure of academic achievement also were collected at this time point.

Results

Adjustment Before and After Middle School Transition

Table 1 presents the Time 1 and Time 2 means and standard deviations on the five adjustment measures for full sample and by gender. In order to examine students' adjustment changes following the transition, paired-comparison t-tests were performed on all pre- and post-transition adjustment measures. Results revealed a significant decrease in academic achievement [$t(98) = -3.00$, $p < .005$] and a significant increase in psychological distress [$t(98) = 16.37$, $p < .001$]

for the full sample. The paired-comparison t-tests, separately conducted for boys and girls, indicated that boys showed significant changes in both academic achievement and psychological distress [$t(49) = -4.05$, $p < .001$; and $t(49) = 11.30$, $p < .001$, respectively], whereas girls demonstrated a significant increase in only psychological distress [$t(48) = 12.00$, $p < .001$].

Table 1. Means and Standard Deviations for Full Sample, Boys and Girls

	Full Sample (N=99)		Boys (N=50)		Girls (N=49)	
Variable	M	SD	M	SD	M	SD
Time 1						
V1	43.78	8.34	44.15	7.30	43.40	9.34
V2	36.07	6.06	36.33	5.63	35.80	6.52
V3	35.06	7.81	33.41	6.70	36.75	8.54
V4	2.76	0.87	2.64	0.93	2.89	0.80
V5	72.59	40.23	74.91	40.90	70.22	39.83
Time 2						
V1	41.74	9.96	40.40	9.99	43.10	9.85
V2	36.62	5.83	36.40	5.71	36.84	6.01
V3	46.79	5.84	45.77	5.74	47.83	5.82
V4	2.88	0.77	2.74	0.84	3.01	0.68
V5	71.90	41.45	75.99	46.73	67.73	35.67

Note. V1 = Academic Achievement; V2 = Self-Concept; V3 = Psychological Distress; V4 = School Behavior; V5 = Social Support.

To further examine gender differences in the data, analyses of variance were conducted on the Time 1 and Time 2 adjustment measures. Results indicated differences between genders in psychological distress and school behavior. Across the time points, girls tended to report higher degree of psychological distress than did boys [for Time 1, $F(1, 97) = 4.69$, $p < .05$; for Time 2, $F(1, 97) = 3.17$, $p < .10$). On the Time 2 school behavior measure, however, girls tended to be rated more positively by their teachers than did boys [$F(1, 97) = 3.13$, $p < .10$].

Patterns of Changes in Adjustment Before and After Middle School Transition

In order to explore types or patterns of adjustment changes among early adolescents experiencing middle school transition, cluster analysis was conducted separately for boys and girls. Because the psychological distress measure significantly changed over time among participants of both genders, Time 1 and Time 2 psychological distress scores were used as criterion variables for cluster analysis. Ward's method was employed to group adolescents into clusters so that the minimum variances within clusters were optimized. The 3-cluster solution was determined as the most probable solution for both genders by examining the value of the fusion coefficients. The conceptual meaningfulness of the clusters was also considered in determining the number of clusters to retain.

The average Time 1 and Time 2 psychological distress scores of the three clusters are shown in Table 2 for boys. Cluster 1 (average to high) included 22 (44%) of the boys in the sample and was characterized by an average score at Time 1 and a high score at Time 2. Cluster 2 (low to moderately high), containing 20 (40%) of the

adolescents, started with a low score at Time 1 but demonstrated a higher score at Time 2. Eight (16%) of the boys in the sample represented Cluster 3 (consistently high). These adolescents demonstrated consistently high scores across the time points. The accuracy of the clusters derived was examined by the percentage of correct classification with discriminant analysis. A total of 92.65 % of the sample was correctly classified into the derived clusters, with the fit ranging from 95.45 to 87.50.

Table 2. Means of the Three Clusters on the Time 1 and Time 2 Psychological Distress Variable

	Boys (N=50)		Cluster1 (N=22)		Cluster2 (N=20)		Cluster3 (N=8)	
Variable	M	SD	M	SD	M	SD	M	SD
Time 1	33.41	6.70	35.41	1.80	27.01	3.70	43.89	3.60
Time 2	45.77	5.74	48.92	4.58	42.47	5.58	45.33	4.58
% of Correct Group Classification			95.45%		95.00%		87.50%	
Variable	Girls (N=49)		Cluster 1 (N=15)		Cluster 2 (N=28)		Cluster 3 (N=6)	
	M	SD	M	SD	M	SD	M	SD
Time 1	36.75	8.54	41.10	2.90	31.07	4.43	52.33	6.41
Time 2	47.83	5.82	49.69	3.11	44.80	4.17	57.35	5.74
% of correct Group Classification			100.00%		100.00%		100.00%	

Note. Cluster 1= Average to High; Cluster 2= Low to Moderately High; Cluster 3 = Consistently High.

Table 2 also presents the average Time 1 and Time 2 psychological distress scores of the clusters for girls. Cluster 1 (average to high) consisted of 15 (30.61%) of the girls in the sample and was characterized by an average score at Time 1 and a moderately high score at Time 2. Cluster 2 (low to moderately high) included 28 (57.14%) of the girls in the sample. These adolescents started with a low score at Time 1 but demonstrated a moderately high score at Time 2. Cluster 3 (consistently high) contained 6 (12.24%) of the girls in the sample and was characterized by consistently high scores across the time points. The accuracy of the clusters derived was examined by the percentage of correct classification. Discriminant analysis revealed that all girls in the sample were correctly classified into the derived clusters.

Cluster Differences in Pre- and Post-Transition Academic Achievement, Self-Concept, School Behavior, and Social Support

To examine cluster differences in pre- and post-transition adjustment patterns, analyses of variance were performed on the Time 1 and Time 2 measures, separately for boys and girls. Table 3 presents the means and standard deviations for the pre- and post-transition adjustment measures across the three clusters in boys. Analyses of variance, performed to compare different pairs of clusters, indicated some significant differences between clusters. Specifically, Cluster 1 (average to high) and Cluster 2 (low to moderately high) differed on Time 1 social support scores. Boys in Cluster 2 reported greater social support than did boys in Cluster 1 [$F(1, 40) = 5.13$, $p < .05$]. Cluster 1 and Cluster 3 were differentiated on Time 1 school

behavior teacher rating scores and Time 2 achievement scores. Boys in Cluster 1 were rated more positively by their teachers at Time 1 than were boys in Cluster 3 [$F(1, 28) = 3.86$, $p < .05$]. Similarly, they had higher Time 2 achievement scores than did boys in Cluster 3 [$F(1, 28) = 4.64$, $p < .05$]. Cluster 2 and Cluster 3 also differed on Time 1 school behavior teacher rating scores. Boys in Cluster 2 showed higher scores on the measure than did boys in Cluster 3 [$F(1, 26) = 10.56$, $p < .005$].

Table 4 presents the means and standard deviations for the pre- and post-transition adjustment measures across the clusters for girls. Analyses of variance comparing pairs of clusters revealed some differences between clusters. Cluster 1 (average to high) and Cluster 2 (low to moderately high) differed on achievement scores. Girls in Cluster 2 showed higher achievement scores at Time 1 than did students in Cluster 1 [for Time 1, $F(1, 41) = 3.94$, $p < .05$; for Time 2, $F(1, 41) = 3.44$, $p < .10$]. There were no significant differences on the adjustment measures between Cluster 1 and Cluster 3 and between Cluster 2 and Cluster 3.

Cluster Differences in Coping with Adaptaional Tasks of Middle School

Table 3 presents a summary of mean comparisons of the three clusters for boys on the perceived school environment measure and the SAT-MS scales. To examine the relationships between clusters and post-transition adaptation problems, a series of analysis of variance were performed. Results suggested that the three clusters did not differ significantly on all post-transition adaptation measures.

Table 3. Mean Comparisons of the Three Clusters on the Time 1 and Time 2 Adjustment Variables for Boys

	Cluster1 (N=22)		Cluster 2 (N=20)		Cluster 3 (N=8)	
Variable	M	SD	M	SD	M	SD
Time 1						
V1	43.77	6.88	45.20	7.53	42.59	8.44
V2	35.40	6.91	37.09	4.88	37.00	3.01
V3	2.65	0.99	2.94	0.76	1.88	0.83
V4	62.15	27.60	88.88	47.21	75.07	48.00
Time 2						
V1	42.59	9.87	40.80	8.54	33.38	11.71
V2	36.46	5.93	36.62	4.88	35.70	7.47
V3	2.80	0.73	2.83	0.93	2.35	0.90
V4	72.13	43.73	78.14	49.93	81.25	53.87
SE	16.36	2.15	16.07	1.58	15.88	1.73
SA	3.67	1.99	3.89	2.36	4.03	1.96
PR	10.46	2.34	10.68	2.99	11.13	4.19
CA	12.64	4.05	13.63	4.49	15.25	3.65
AP	3.94	1.40	3.74	1.77	4.13	1.64
AD	40.86	8.49	42.47	11.04	46.95	12.48

Note. Cluster 1 = Average to High; Cluster 2 = Low to Moderately High; Cluster 3 = Consistently High. V1= Academic Achievement; V2 = Self-Concept; V3 = School Behavior; V4 = Social Support; SE = Perceived School Environment; SA = Substance Abuse; PR = Peer Relationship; CA = Conflict With Authority; AP = Academic Pressure; AD = Adaptation Difficulty.

Table 4 shows a summary of mean comparisons of the three clusters on the post adaptation measures for girls. Analyses of variance comparing different pairs of clusters indicated that Cluster 3 differed from Cluster 1 and Cluster 2 in post-transition adjustment.

Specifically, girls in Cluster 3 tended to report more negatively about their middle school environment than did girls in Cluster 1 [$F(1, 19) = 3.83$, $p < .10$]. Girls in Cluster 3 also tended to show greater difficulty with peer relationships than did girls in Cluster 1 [$F(1, 19) = 3.70$, $p < .10$]. When compared to girls in Cluster 2, girls in Cluster 3 tended to report more adaptational difficulty [$F(1, 32) = 4.25$, $p < .05$], substance abuse [$F(1, 32) = 3.17$, $p < .10$], and peer-related problems [$F(1, 32) = 4.96$, $p < .05$].

Table 4. Mean Comparisons of the Three Clusters on the Time 1 and Time 2 Adjustment Variables for Girls

	Cluster1 (N=15)		Cluster 2 (N=28)		Cluster 3 (N=6)	
Variable	M	SD	M	SD	M	SD
Time 1						
V1	40.07	8.82	45.57	8.57	41.59	8.82
V2	34.67	7.89	36.65	5.48	34.67	7.92
V3	2.70	0.79	2.96	0.74	3.00	1.10
V4	74.52	37.59	67.61	38.60	71.70	55.93
Time 2						
V1	39.07	10.38	44.82	9.33	45.17	9.43
V2	37.24	5.42	37.76	6.13	34.00	6.75
V3	2.83	0.51	3.12	0.76	2.97	0.63
V4	63.26	38.72	67.24	32.57	81.17	41.67
SE	15.09	1.40	15.55	1.27	16.67	2.25
SA	3.53	1.46	3.45	1.71	5.17	3.71
PR	10.00	3.14	9.65	3.56	13.50	5.13
CA	11.47	3.44	11.43	4.24	14.17	8.52
AP	3.67	1.45	3.59	1.31	4.00	1.67
AD	39.80	10.19	38.17	10.47	50.17	21.85

Note. Cluster 1 = Average to High; Cluster 2 = Low to Moderately High; Cluster 3 = Consistently High. V1= Academic Achievement; V2 = Self-Concept; V3 = School Behavior; V4 = Social Support; SE = Perceived School Environment; SA = Substance Abuse; PR = Peer Relationship; CA = Conflict With Authority; AP = Academic Pressures; AD = Adaptation Difficulty.

Discussion

Following findings emerged from the present study. First, early adolescents in the sample showed a significant change in their adjustment following the transition, as indicated in their increased psychological distress or decreased academic achievement. Second, across the time points, gender differences were found in associations among a variety of adjustment measures suggesting differential impact of the transition on boys and girls' adaptation to middle school. Third, three distinct change patterns of adjustment were identified across the genders, when adjustment was defined by a change in psychological distress following the transition: an average start but increasing to high pattern (average to high); an initial low but increasing to moderately high pattern (low to moderately high); and a pattern of consistently high scores over time (consistently high). These findings are discussed below.

The present study revealed a significant increase in psychological distress after the transition. Both boys and girls in the sample showed a significant increase in psychological distress across the transition. This finding is consistent with previous findings of increased psychological distress among adolescents experiencing a transition into middle or junior high school, suggesting that middle school transition can be a stressful life experience for early adolescents (Crockett et al., 1989; Hirsch

& Rapkin, 1987).

The comparisons of genders on the psychological distress measures revealed interesting gender differences: at both time points, girls showed more psychological distress, as assessed by physical symptoms associated with stress, than did boys. Consistent with previous research, this finding suggests greater vulnerability among girls during the transition. On the teacher ratings of school behavior, however, girls tended to show more positive school behavior in middle school than did boys. This may indicate that among girls, the stressfulness of the transition is expressed via internalization, in physical symptoms, rather than externalized in behavioral problems.

Differential changes in academic achievement were found among boys and girls following the transition: while boys showed a significant decline in academic achievement, there was no significant change in academic achievement among girls. This result is contradictory to previous findings which suggested a greater negative effect of school transition on academic achievement for girls than boys (Blyth et al., 1983; Simmons & Blyth, 1987). Gender differences in previous findings have been sparse and thus have failed to provide strong evidence of gender differences in academic achievement (Jason, Weine, Johnson, Warren-Sohlberg, Filipelli, Turner, & Lardon, 1992). Therefore, it remains unclear which gender is at greater risk in terms of a decline in academic achievement during the transition.

The cluster analysis, performed on the basis of pre- and post-transition psychological distress scores, identified three different patterns of change among early adolescents: an average start but increasing to high pattern (average to high); an initial low but increasing to moderately high pattern (low to moderately high); and a pattern of consistently high scores over time (consistently high). Of particular interest was the presence in each gender of groups reporting consistently high psychological distress across the transition. The comparisons of the clusters of students on pre- and post-transition adjustment indicated that students showing a high level of psychological distress during transition tended to have more adaptive difficulties in middle school than did their peers.

The comparisons of the clusters of boys on pre and post-transition adjustment as well as SAT-MS indices and perceived school environment indicated that the consistently high group tended to show lower academic achievement in 6th grade and less positive school behavior in 5th grade than did their peers who showed different patterns of change in psychological distress across the transition. The comparisons of the clusters of girls on these same measures showed that the consistently high group reported more adaptive difficulties in a variety of areas, including perceive school environment, peer relationships, substance abuse as well as overall adaptation difficulty, than did those who showed different patterns of change in psychological distress over time.

Taken together, these findings suggest that students showing high levels of psychological distress prior to transition represent early

adolescents at a greater risk than their peers for a continued stressful school transition. It is also noteworthy that boys at risk tended to show more differentiated adjustment problems (e.g., academic achievement and school behavior), whereas girls at risk showed more generalized adaptive difficulties following the transition. However, conclusions about specific cluster differences based on this sample require cautious interpretation.

Several limitations of the present study need to be noted. First, the results should be interpreted in view of the particular characteristics of the sample. In the present study, the results were obtained for predominantly White, working-class students in a suburban community. Specific results may differ for other samples with different characteristics. Second, as discussed earlier, necessarily small sample sizes for some clusters may attenuate findings of significant effects; it would be useful to replicate the results in larger and/or more varied samples. Third, it is possible that preexisting group differences in unmeasured variables may have confounded the observed differences between groups. Finally, the focus of this study was on examining individual differences in adaptation to middle school transition using multiple indices of adjustment. However, the range of indices used in the present study was not exhaustive of all important characteristics relevant to the transition. To develop a more comprehensive picture of adaptation to the transition, future research must incorporate a wider range of indices, including family-related variables and characteristics of various middle schools.

Nevertheless, the results of the present study have useful implications for psychologists. The transition to middle school is an important developmental event which may have a significant long-term effect on adjustment among adolescents. The present study has indicated that there are significant subgroup patterns and gender-linked differences in adaptation to middle school transition. By exploring different patterns of adjustment in socially and academically distinct subgroups of adolescents, this study has attempted to articulate an approach for researchers and practitioners to identify characteristics of high-risk adolescents and begin to match them with middle school structures or prevention programs that improve students' competence.

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중학교 진학에 대한 심리적 적응에 있어서의 성차에 관한 연구

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본 연구에서는 초기 청소년기에 놓여 있는 99명의 남녀 학생들이 초등학교에서 중학교로 진학하는 과정에서 보이는 심리적 변화의 양상을 살펴 보았다. 본 연구에 참여했던 청소년들은 중학교로 진학한 후 모두 적응에 있어 유의한 변화를 보였는데, 특히 심리적 부적응의 증가와 학업수행의 감소가 두드러졌다. 연구결과, 학생들의 적응과정 양상에 있어서 몇가지 중요한 성차가 나타났는데, 이는 중학교로의 진학이 남학생과 여학생에게 차별적으로 영향을 미치고 있음을 시사하는 것으로 해석될 수 있다. 본 연구에서는 또한 군집분석을 통해 학생들이 진학전후를 통해 나타내는 심리적 적응 변화의 유형을 살펴 보았다. 학생들의 적응 변화 유형은 성과 관계 없이 세가지로 드러났는데, 이 세가지 유형은 각각 (a)진학 전에는 평균 수준의 부적응을 나타내었으나 진학후 증가를 보인 유형; (b)진학 전에는 낮은 수준이었으나 진학 후 증가를 보인 유형; (c)지속적으로 높은 부적응 수준을 나타낸 유형이었다. 본 연구의 논의에는 이러한 유형에 대한 분석과 아울러 후속 연구와 학생지도를 위한 시사점이 제시되어 있다.