

Educational Aspirations of Male and Female Adolescents from Single-Parent and Two Biological Parent Families: A Comparison of Influential Factors

Rashmi Garg · Stella Melanson · Elizabeth Levin

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Abstract Youth from single-parent families report lower educational aspirations than those from two-parent families. This study explored the influence of background factors (gender, grade, parental education and *SES*), parental involvement with education, academic self-concept, and peer influences on educational aspirations. The participants were Canadian adolescents; 2751 from two parent and 681 from single-parent families. ANOVA results showed that adolescents from single-parent families scored significantly lower

than adolescents from intact families on educational aspirations, and other predictor variables. Hierarchical regression analysis showed that the pattern of relationships between educational aspirations and other factors was very similar for adolescents from both types of families; namely academic self-concept significantly predicted educational aspirations. The family involvement and background factors predicted educational aspirations via academic self-concept. Having academically oriented peers was especially beneficial to adolescents from single-parent families. Implications for intervention programs are discussed.

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Rashmi Garg is an Associate professor in the Department of Psychology at Laurentian University. She received her PhD in 1983 from the University of Ottawa. Basically she is interested in applied research in the areas of educational and psychological measurement and testing. More specifically she is interested in the adolescent's education and career development.

Stella Melanson received a master's degree in Human Development from Laurentian University in 2003. She is working as a research data analysis coordinator for Ontario Early Years Education and Social Planning Council. Her interest is in early childhood education.

Elizabeth Levin is an Associate Professor and Chair of the Department of Psychology at Laurentian University. She received her PhD in 1986 from the University of Waterloo. Her major research interests focus on parenting styles and children's conceptions of parenting.

R. Garg (✉)
Psychology Department, Laurentian University,
Sudbury, Ontario, Canada, P3E 2C6

S. Melanson
Ontario Early Years and Social Planning Council,
Sudbury, Ontario, P3C 5E1

E. Levin
Psychology Department, Laurentian University,
Sudbury, Ontario, Canada, P3E 2C6

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Researchers have shown that educational and vocational aspirations of high school students are among the most significant predictors of eventual educational and vocational attainment (Mau and Bikos, 2000). Because of the critical importance of adolescents' educational aspirations, researchers have proposed many models and have tried to study the influence of personal and psychological characteristics, family influence, school experience, and peer influence on educational aspirations (Mau and Bikos, 2000). This research was designed to study the influence of family structure (single-parent versus two-parent) on Canadian adolescents' educational aspirations and the conditions under which such aspirations are fostered, which has not been studied in the literature.

Canadian census data from the year 2000 shows that approximately 14% of Canadian youth come from single-parent families; 82% of these are headed by mothers (Statistics Canada, 2005). Divorce rates are marginally higher in the United States; at any one time, approximately 25% of American children live in a single-parent family

(Hetherington and Stanley-Hagen, 2002). Youth from single-parent families have been shown to fare worse than those from intact families in several areas, including educational achievement (Rodriguez and Arnold, 1998). They have more negative attitudes towards school, report lower parental educational expectations, and less monitoring of school work (Wallerstein, 1991). As well, they are less likely to attain more than a high school education (Corak, 1999), more likely to drop out of school (Bowlby and McMullen, 2002; Hetherington *et al.*, 1998) and they have lower educational and occupational attainments (Astone and McLanahan, 1991). This study was designed to compare the factors that influence the educational aspirations of adolescents from single-parent and two biological parent families.

Several models have been proposed to identify the factors that influence adolescents' educational and career aspirations. For example, Farmer's (1985) model of career and achievement motivation includes three sets of predictors: background, personal, and environmental factors. The background factor is comprised of demographic attributes, such as gender, *SES*, parental education, age and family structure. The personal factor is psychological in nature and is composed of an individual's personal attributes, self-perception of competence, attitude towards education, and school achievement. This factor may be called academic self-schema. The environmental factor involves social support from parents and teachers, and peer influences. Reynolds and Walberg (1991) identified nine productivity factors of academic progress. These factors are divided into three sets: student's aptitude-attribute (consisting of student ability or prior achievement, motivation and developmental level), instructional set (indexed by instructional quality and quantity), and psychological environment (including class, home, and peer environments, and exposure to mass media). The influence of these factors on educational and career aspirations has been well documented; however, the interrelationships among the factors and their relative effects are not always simple. For example, the effect of some of these factors is direct on educational aspirations whereas the effect of other factors may be indirect (Garg *et al.*, 2002). The present study compares the influence of family structure (single-parent versus two-parent families) on educational aspirations along with all other factors.

Background factors

Socioeconomic status and parent education

Children who come from wealthier families are more likely to see post-secondary education as an achievable goal, whereas those with fewer resources may see university as beyond their reach, regardless of their academic talents, thus reducing their ambition (Teachman and Paasch, 1998). Other

studies have found that *SES* is not independent as a predictor of educational aspirations. In general, families with lower *SES* backgrounds have parents with lower levels of education who may not be as involved with their children's education and this may lead children to having lower achievement (Conger *et al.*, 1994; Funder and Kinsella, 1991; Trusty, 1998). Zuckerman (1981) has suggested that mother's education level has a greater impact than father's level of education on the educational achievements and aspirations of children.

Family structure

Studies have shown that children and adolescents from single-parent families fare worse than those from intact families on most variables associated with educational attainment. Adolescents from single-parent families have weaker relationships with parents than adolescents from intact families (Astone and McLanahan, 1991; Amato, 1994). High levels of family conflict and lack of family "cohesiveness" or joint activities have been implicated in lower levels of adjustment and educational achievement in children from divorced or remarried families (West *et al.*, 2000).

Argys *et al.* (1998) have shown that the disadvantages experienced by children from single-parent families can be attributed to their lower *SES*. Reduced material resources which may follow the departure of one parent, usually the father, may affect the chances of these children reaching their full potential and deprive them of educational and social opportunities that restrict their vocational plans, particularly those related to post-secondary education (Funder and Kinsella, 1991). In addition, lack of social support and the struggle to meet basic financial needs have a negative impact on parenting, as well as on involvement with education (Conger *et al.*, 1994). However, other studies have shown that some single-parent families adjust and compensate for their deficiencies by becoming more involved with their children's education (McLanahan and Booth, 1989), and that if parents can maintain appropriate levels of behavioral control, the association between divorce and adolescent problem behavior is significantly reduced (Hetherington *et al.*, 1982).

Males and females have been shown to respond differently to parental divorce and this is particularly true during middle childhood and adolescence. Males from single-parent families score lower than males from two biological parent families on mental health measures, demonstrate higher frequencies of dependency, irrelevant talk, withdrawal, blaming, inattention, inappropriate behavior, unhappiness, and maladaptive symptoms (Rodriguez and Arnold, 1998). However, it is possible females manifest distress in ways which are more difficult to detect, such as depression, anxiety, and sexual precociousness (Hetherington, 2002).

Environmental factors

Family environment

The patterns of parent-child and sibling interactions set the context within which children evaluate and act on the experiences they have in the outside world, and thus the expectations that parents have and the encouragement that they provide to their children about education affects how children feel about education (Dornbusch *et al.*, 1987; Hauser and Sewell, 1986). Using self-reports, Grolnick *et al.* (1997) found that children who perceived their parents as more involved showed a greater understanding of factors related to school outcomes and higher school achievement. Rosenzweig (2000), in a meta-analysis of parenting and school success, indicated 20 specific parenting practices that account for 23% of the variance in students' academic achievement. The seven practices that account for 16% of the variance were: parental educational aspirations and grade expectations, parental engagement, authoritative parenting, autonomy support, emotional support, providing resources and learning experiences, and parent participation in school activities. Some researchers have indicated that economic pressures can have a negative impact on parents, parenting, and children (Conger *et al.*, 1994), while others have indicated that the impact is minimal (Barnes and Farrell, 1992). Since economic stress and family structure are closely related, it may be that mothers in mother-only families are not as actively involved in their children's education because they may lack the social supports needed to be as effective as those in two-parent families (McLanahan and Booth, 1989).

Baumrind (1971) and Lamborn *et al.* (1991) have classified parenting styles as authoritative, authoritarian, and permissive. Authoritative parents encourage independence while exhibiting high parental control. They direct their children's behavior in a rational manner and they affirm their uniqueness, all the while setting standards of conduct. They also maintain an age-appropriate ratio of children's autonomy to parental control. Authoritarian parents are highly controlling and show little warmth while permissive parents exert low control. Dornbusch *et al.* (1987) have shown that both authoritarian and permissive styles were negatively correlated with grades, whereas authoritative parenting was positively associated. This was found to be true across gender, age, parental education, ethnic and family structure. As well, the benefits of authoritative parenting were apparent even when SES levels were not favorable (Steinberg *et al.*, 1991). Divorced mothers in particular, however, are more apt to be involved in authoritarian, coercive cycles with their offspring, particularly with their sons (Wallerstein and Kelly, 1980). Preoccupied with their own needs at the expense of child-rearing, the outcome is that one-third of their children sustain significantly lower SAT and IQ scores.

Peer influences

According to Goodnow (1993), the level of success that adolescents expect to have is the primary predictor of academic effort and grades, and the sense of belonging to and having support from a peer group is also significantly related to these outcomes. Peer groups help adolescents establish identities apart from their parents, and when they feel they can meet the expectations of their friends, academic or otherwise, they build self-esteem that is needed to nurture their confidence (Kaplan, 1993).

Children from single-parent families have been found to be more likely to depend on peers for companionship and care than children from intact families. This may be a cause for concern since students' educational aspirations and achievements are often related to adolescent self-confidence and mentoring conditions (Mahoney and Merritt, 1993). Fuligni and Eccles (1993) found that adolescents with controlling parents made poorer academic decisions because they were over-involved with peers. On the other hand, their association with achievement-oriented peers could have positive outcomes, since having a sense of belonging has also been related to higher educational and career aspirations (Plucker, 1998).

Academic self-schema

In accordance with Markus (1977), theorization of academic self-schema can be defined as students' cognitive generalization of their past achievements, including learning experiences which function to guide students' cognitive affective and behavioral responses to learning. Students whose academic self-schema is positive are more likely to have confidence in their ability to achieve, they tend to value education, and they see the process of educational attainment as more positive and rewarding (Plucker, 1998; Trusty, 1998). Murdoch and Phelps (1973) introduced the concept of school commitment which refers to the attitudes that students have towards school and is related to school achievement in that it both influences and is influenced by achievement. Students with low academic self-schema also have low school commitment. In this study, academic self-schema encompasses academic achievement, the adolescent's perception of school and courses, the importance attributed to school achievement and evaluation of one's academic success in comparison with others.

Educational aspirations

Several researchers have identified personal dimension variables that influence educational aspirations. For example, eight conditions supporting the development of high levels of aspirations and ambitions in university students have been

recognized and include: achievement, belonging, curiosity, empowerment, excitement, mentoring, risk-taking, and self-confidence (University of Maine, 1994). Students' past academic achievement and their school experiences are variables which influence academic self-schema, which, in turn, is related to their commitment to school, and to their educational achievements and aspirations (Plucker and Quaglia, 1998). Duran and Weffer (1992) showed that academic performance in high school was influenced by pre-high-school attainment, academic skill development, curriculum studied, and commitment shown to school-related tasks. Correlations from .31 to .50 between educational aspiration and grades/ability have been reported (Hauser and Sewell, 1986). This shows that academic self-schema plays a key role in the process of educational aspirations and attainment.

The current study

Many factors need to be considered when designing a model to predict educational aspirations. Some studies which focused on family *SES* have shown that children with greater economic resources are more likely to see post-secondary education as achievable. However, other variables such as parental involvement and expectations, parenting style, peer influences, gender, and family structure may need to be considered. The present study explores the influence of background variables, parental involvement and concern for education, academic self-schema, and peer influences on the educational aspirations of Canadian adolescents from single- and two biological parent families.

The following questions were examined:

- (a) Is there a significant difference between the educational aspirations of males and females from intact and single-parent families? Research suggests that children from single-parent families have lower educational aspirations than children from intact families (Corak, 1999) and females' academic progress is less affected by divorce than males' (Rodriguez and Arnold, 1998), and thus it was expected that males from single-parent families would score significantly lower on educational aspirations than all other groups.
- (b) Are there differences between single- and two-parent families on academic self-schema, parental involvement, and peer influence and background variables when each variable is considered alone? The literature has shown that children from single-parent families tend to have more negative attitudes towards school, to report lower parental educational expectations, less monitoring of school work, and lower grades (Rodriguez and Arnold, 1998), and that they are more likely to have weak relationships with their parents (Amato, 1994), and to associate with antisocial peers more than adolescents from intact families (Hetherington *et al.*, 1998). Based on this review, it was expected that adolescents from single-parent families would score significantly lower than those from two-parent families on most of the measures.
- (c) What is the nature of the relationship between academic self-schema, parent involvement, peer influence, and background variables when predicting educational aspirations of youth across family structure groups? It was hypothesized that academic self-schema would directly influence the educational aspirations of youth, whereas the influence of other factors would be mediated through the academic self-schema.

Method

Participants

The sample data was obtained from the National Youth Science Project which surveyed 3837 students (13 to 20 years) from Eastern, Central, and Western regions of Canada. All data were collected in randomly selected junior high and high schools during English class periods (this course is compulsory for students in all grades). Approximately 50.4% were males and 49.2% were female students; some students failed to report their gender. Eighty nine percent of these students were Caucasian, 4.9% Native Canadian, 3.0% Asian, and 2.1% represented other racial/ethnic groups or missing. Thirty-two percent were junior-level students, 35.7% intermediate, and 33.2% were seniors. Responses to family structure items revealed that 71.7% ($n = 2751$) of the participants lived with two biological parents, and 17% ($n = 681$) of the participants had divorced parents and lived with a single parent. Because the purpose of the study was to examine the educational aspirations of adolescents from intact and single-parent families, only students from these two groups were included. The data for these groups included 3432 participants of which 41.2% were males from intact families, 9.1% were males from single-parent families, 39% were females from intact families and 10.7% were females from single-parent families. The mean age of the participants was 15.63 years ($SD = 1.86$). Only students between 12 and 20 years were included. Ethnic differences were not addressed in the study as the sample sizes for ethnic groups were very small particularly in the single-parent group.

Procedure

Students completed self-administered questionnaires containing items assessing general demographic information, achievement/school work, attitudes toward and perception of education and schooling, parental background, and

familial information. Prior to testing, the nature of the study and participants' rights regarding voluntary participation and confidentiality were explained. Members of the research team were available to answer questions throughout. The questionnaire took approximately 50 to 60 min to administer (Garg *et al.*, 2002).

Measures

Educational aspirations

Educational aspirations were assessed by asking: "Thinking about your schooling, what level of education do you think you will obtain?" The levels of education attainment ranged from 1 (less than high school graduation) to 9 (beyond the first university degree, master's or higher). This type of indicator has been used in the national Educational Longitudinal Study of 1988 and other studies (Seginer and Vermults, 2002). In measuring the level of aspired or expected education, a single indicator has been considered reliable.

Academic self-schema

The academic self-schema included academic grades and learning experience.

Grades. Students reported their previous year's grades in math, English, science, and social studies. Scores varied between 1 and 8 ("mostly below D" to "mostly A"). These four subject areas represented core school areas and were used to provide a measure of average grades. The dimensionality of these four subject items was analyzed using Principal Component Analysis (PCA) and the results showed one factor which explained 75.9% of the variance with an alpha coefficient (reliability) of .90. There may be a concern that self-reported grades might be inflated or biased. Dornbusch *et al.* (1987) has reported the correlation of .76 ($N = 1146$) between grade point average and self-reported grades. There was a slight tendency to overestimate grades near the bottom of the distribution, i.e., grades of C or below. Thus, the use of self-reported grades seems reasonable.

Learning Experience. Students' learning experience was assessed by 15 items measuring three categories. The first was the student's self evaluation of academic success in comparison with others. It used items such as "How do your grades compare with other students in class?" Items were rated on a five point scale from among the worst to among the best. The second category was the importance attributed to school achievement. It used items such as "How important is it for you to get good grades in your courses?" Items were rated on a five point scale from not at all important to very important. The third category was perception of school and courses. The items in the category measured the extent to which students liked the courses, their interest in the courses,

perception of usefulness of the course to future career, and overall perception of school. An example of an item is "Overall, I think I am getting a good education at this school." The items were rated on a five point scale from strongly agree to strongly disagree. PCA of items extracted one factor which explained 59% of the variance with an alpha coefficient of .79.

Background variables

Four demographic variables were employed as indicators of the background factor. These variables were the adolescent's gender, grade level, mother's education and family's socioeconomic status (*SES*). The levels of parental education were measured using a scale from 1 (less than high school graduation) to 9 (beyond the first university degree, master's or higher). A fair degree of convergence was found between mothers' and fathers' education level (correlation = .69). Paternal and maternal occupational status was coded using the socioeconomic index developed by Blishen *et al.* (1987). A composite measure of parental *SES* was used for intact families and mother's *SES* was used for single-parent families.

Perceived parental involvement variables

Parental involvement variables included family cohesiveness, parent communication about the school and concern for school, parenting style, and parental educational expectations after high school. Parental involvement relates to parents' interest and participation in their children's learning and schooling by encouraging, facilitating, or supplementing school teaching (Seginer and Vermults, 2002). As children reach adolescence, many parents cannot participate in schoolwork directly, but still encourage their child to do well. Despite the potential concern about bias in measuring parental involvement as perceived by adolescents, it has become a common approach in family environment research. Researchers have shown that school outcomes have a higher link with perceived parental behavior than with actual parental behavior.

Family Cohesiveness. The family cohesiveness variable was created using five items that measured perception of togetherness and support within the family such as "Members of our family really help and support one another." Item ratings ranged from 1 for very little support to 5 for a lot of support. PCA showed one factor which explained 61% of the variance with an alpha coefficient of .84.

Parent Communication about School. This variable was created using four items such as "How much do you talk to your mother or father about how well you are doing in school?" The items were rated on a five-point scale where responses ranged from 1 (never) to 5 (often). PCA showed

one factor which explained 66% of the variance (alpha coefficient = .83).

Parent Concern for School. The concern for school variable was created using sixteen items each for perception of mother and father encouragement. Items such as “My parents make sure I do my homework.” were rated on a five-point scale, which ranged from 1 (never) to 5 (always). PCA showed one factor which explained 40% of the variance (alpha coefficient = .82).

Parenting Style. Baumrind (1971), and Lamborn *et al.* (1991) have developed an index of parenting style via questionnaires to measure the dimensions of responsiveness and demandingness. From these dimensions, authoritative, authoritarian, and permissive parenting styles were devised as prescribed by the authors. The reliability of the scales measuring the two dimensions are .72 and .76 respectively. Adolescents completed these measures vis-à-vis both parents in two-parent households (in which ratings for mothers and fathers were averaged) and vis-à-vis mothers in single parent homes. Baumrind, and Lamborn *et al.*, have both reported that there is considerable convergence between mothers’ and fathers’ ratings.

Perception of Parental Expectations after High School. Students’ perceptions of their mothers’ and fathers’ educational expectations after high school were measured on an 8-point scale which ranged from 1 ‘does not care’ to 8 ‘at least a university degree.’

Family structure

Family structure consisted of two categories: two biological parents (intact family) and single-parent family (caused by divorce) as reported by the students. The recency of divorce may have an influence on stress in adolescents, and, in turn, it may affect educational aspirations of adolescents. Recency of divorce was added to the background variables for the single-parent group only.

Peer school-related influences

The peer influence variable was created using ten items such as “How many friends help you with your homework?” These items were rated on a five-point scale ranging from 1 ‘none’ to 5 ‘all’, with high scores indicating positive peer school-related influences. PCA showed one factor which explained 41% of the variance (alpha coefficient = .83).

Results

Plan of analysis

The following analyses were used: analysis of variance (ANOVA) and chi-square analyses were carried out to answer

the first two questions related to differences between adolescents in two family types on educational aspirations and other variables. Principal Component Factor Analysis was carried out to ensure that the variables included in academic self-schema and the family involvement and peer factors measured these underlying dimensions. Hierarchical regression analyses were performed to answer the third question related to the nature of the relationship between educational aspirations and other variables. Finally, categories of academic self-schema, family involvement factor, educational aspirations and *SES* were created to further illustrate the relationship obtained via hierarchical regression (i.e., type of association between educational aspirations, self-schema, family involvement and *SES*).

Differences in scores in two types of families (ANOVA and Chi-Square Results)

The means and standard deviations of the variables associated with educational aspirations, background, academic self-schema, and family and peer environment factors for male and female students from single- and two-parent families are presented in Table 1. The ANOVA results showed that adolescents from single-parent families have significantly lower means than the adolescents from intact families on educational aspirations and most other variables, except for parental educational expectations.

It has been argued that the variable ‘educational aspirations’ represents an inherent order; the differences between categories cannot be treated as equal interval (Trusty, 1998). For example, the differences between two years of university (score of 6), having a bachelor’s degree (score of 7), and having a master’s degree (score of 8) cannot be considered equivalent. Furthermore, some adolescents may not understand the differences in postgraduate degrees at this level. Thus, to further explore the nature of the difference in educational aspirations of adolescents from these two types of families, the educational aspirations were categorized into three domains: (1) aiming for less than an undergraduate degree; (2) aiming for an undergraduate degree; and (3) aiming for a master’s degree or higher. Chi-square analysis (χ^2) indicated a significant association between gender and educational aspiration with $\chi^2 = 15.39$, $p < .01$ for single-parent families and $\chi^2 = 14.45$, $p < .01$ for intact families. Figure 1 shows that in single-parent families, 42.4% of males and 35.9% of females do not aim to get a university degree compared to 31.3% of males and 26.7% of females from intact families. On the other hand, 30.7% of males and 35.3% of females from single-parent families plan to go beyond an undergraduate degree compared to 40.1% of males and 44.7% of females from intact families. Educational aspirations of male adolescents were lower than female adolescents in both types of families. However, the male adolescents from

Table 1 The mean and the standard deviation of educational aspirations and other variables for male and female adolescents from single-parent and two-parent families

Variables	Single-parent f Family (SIF)		Intact Family (INF)		F-ratio from ANOVA	Significant Post-hoc Differences
	Male (MS) (n = 310)	Female (FS) (n = 367)	Male (MI) (n = 1410)	Female (FI) (n = 1333)		
Educational aspiration	6.30 (2.19)	6.57 (2.07)	6.77 (1.99)	7.05 (1.83)	$F_{(3,3287)} = 15.22^{**}$	MS<MI,FI FS<FI MI<FI
Background variables						
Parental socioeconomic status	71.23 (32.09)	70.12 (29.79)	80.16 (33.70)	78.09 (32.70)	$F_{(3,3063)} = 11.54^{**}$	MS,FS<MI,FI
Mother’s education	4.11 (2.12)	4.15 (2.22)	4.85 (2.29)	4.69 (2.31)	$F_{(3,2882)} = 12.35^{**}$	MS,FS<MI,FI
Personal variables						
Average grade	5.77 (1.79)	6.03 (1.68)	6.39 (1.68)	6.71 (1.47)	$F_{(3,366)} = 38.07^{**}$	MS,FS<MI,FI MI<FI
Learning experience	3.81 (0.54)	3.85 (0.51)	3.87 (0.54)	3.97 (0.40)	$F_{(3,3392)} = 15.94^{**}$	MS,MI,FS<FI
Parental involvement variables						
Parental educational expectation	4.57 (0.92)	4.68 (0.74)	4.64 (0.83)	4.68 (0.76)	$F_{(3,2927)} = 1.72$	
Family cohesiveness	3.20 (0.82)	3.30 (0.85)	3.50 (0.76)	3.53 (0.84)	$F_{(3,2992)} = 17.78^{**}$	MS,FS<MI,FI
Parental monitoring of studies	3.30 (1.06)	3.69 (0.96)	3.49 (0.98)	3.77 (0.92)	$F_{(3,3027)} = 27.53^{**}$	MS<MI,FS,FI MS,MI<FS
Parental concern for school	3.12 (0.77)	3.27 (0.67)	3.54 (0.68)	3.49 (0.65)	$F_{(3,2828)} = 34.77^{**}$	MS,FS<MI,FI
Peer academic orientation	2.83	2.79	2.88	2.89	$F_{(3,2960)} = 3.75^*$	FS<FI

Note. The error degrees of freedom in ANOVA are different due to missing cases in the variable.

* $P < .05$; ** $P < .01$.

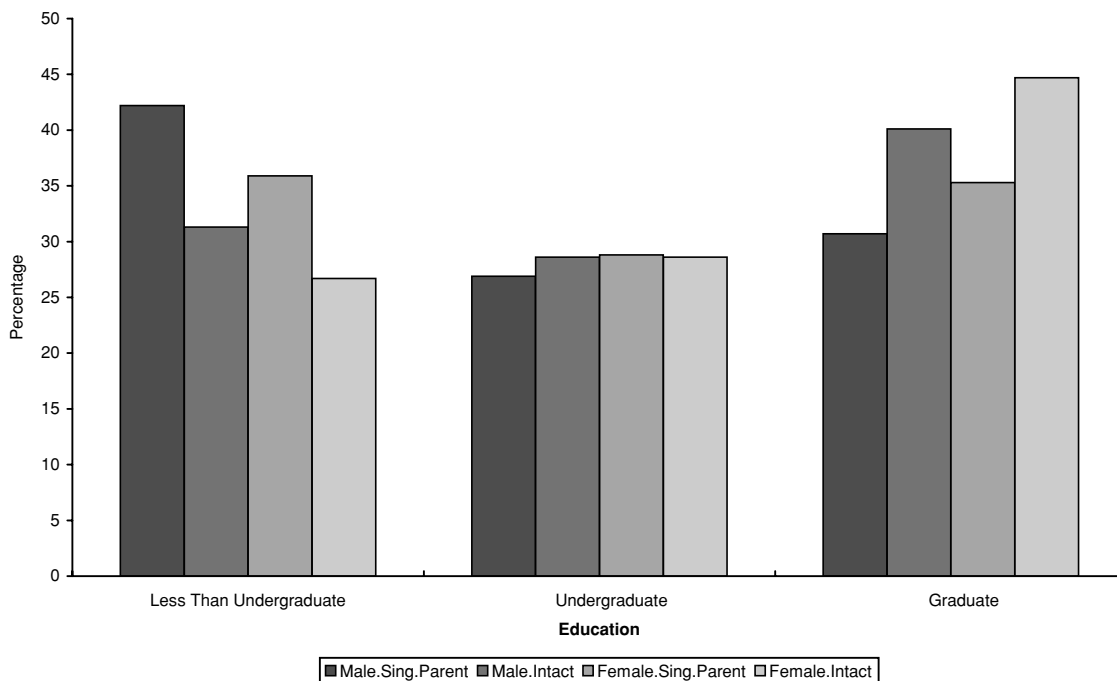


Fig. 1 Percent of male and female adolescents from single-parent families and from intact families aspiring for less than undergraduate education, undergraduate education, and graduate education

single-parent families had the lowest educational aspirations of all.

Figure 1 shows that of adolescents who are not aiming for a university degree approximately 10% more of them belonged to single-parent families compared to intact families. On the other hand, of those who are planning to go for graduate studies approximately 10% more adolescents come from intact rather than single-parent homes.

Differences in parenting styles were also explored via chi-square analysis. The chi-square analysis indicated a significant association between parenting styles and family type with $\chi^2_2 = 90.25, p < .01$. Figure 2 shows that only 21.7% of single mothers used the authoritative parenting style compared to 41% of mothers from intact families. On the other hand, 55.4% of single mothers were permissive compared to 33.8% of mothers from two-parent families.

Factor analysis of variables

The principal component analysis of predictor variables extracted three factors which explained 52% of the variance. The first factor was comprised of academic grades, learning experience, and parental educational expectation and was named academic self-schema. The second factor was comprised of family cohesiveness, parental concern for education, and parental involvement with school and was named the parental involvement factor. The third factor named peers consisted only of academically oriented peers. While the

parental educational expectation variable might logically belong to the parental involvement factor, it loaded highly on the academic self-schema factor and was therefore linked with it. Parenting style was not factor analyzed with the other variables as it was a categorical variable. Other variables associated with the background factor used in the analysis were mother’s education level, family socioeconomic status, grade level of adolescents, and gender.

Pattern of relationships (Hierarchical regression analysis results)

Garg *et al.* (2002) have shown that variables similar to the academic self-schema, that is school marks, school and course perceptions, and parental educational expectations, have a strong direct influence on the educational aspirations of adolescents. The effects of parental education and occupation and family involvement on educational aspirations were mediated through the personal factors. Hierarchical regression analyses as shown in Table 2 were performed to see the influence of variables associated with the academic self-schema factor, parental involvement factor, influence of peers and the background variables on the educational aspirations of adolescents from the two family types. The results show that all the variables within the academic self-schema factor (self-reported academic grades, learning experience and parental educational expectations) significantly predicted the educational aspirations of adolescents from single-parent families. These variables explained

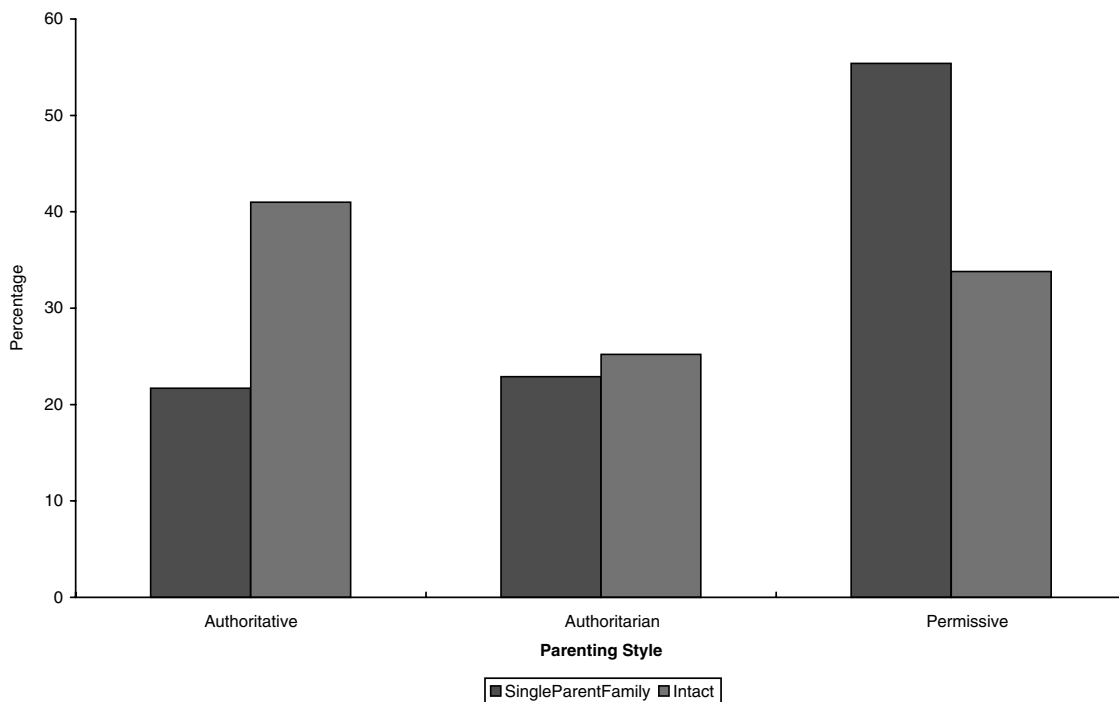


Fig. 2 Percent of mothers using different parenting styles from single-parent families and intact families

Table 2 Results of hierarchical regression, predicting educational aspirations from academic self-schema, family involvement, and academically-oriented peers and background variables for adolescents from single-parent and two-parent families

Variables	Single-Parent		Two-Parent	
	<i>B</i>	Beta	<i>B</i>	Beta
Academic self-schema				
Average mark	0.54**	0.42	0.47**	0.39
Learning experience	0.25**	0.23	0.18**	0.19
Parental educational expectations	0.43**	0.16	0.62**	0.26
(Constant)	−0.94		−0.76	
<i>R</i> =	0.620		0.640	
Family involvement variables				
Family cohesiveness	−0.23	−0.1	−0.14	−0.06
Parental communication on studies	0.12	0.1	0.05	0.03
Parental concern for education	0.16	0.12	0.09	0.04
Authoritative parenting	1.01**	0.16	0.26†	0.07
(Constant)	0.24		−0.48	
<i>R</i> =	0.639		0.646	
Peer academic variables				
Peers	0.87**	0.26	0.24†	0.07
(Constant)	−1.07		−0.78	
<i>R</i> =	0.68		0.649	
Background variables				
Mother's level of education	0.01	0.01	0.04	0.04
Parental socioeconomic status	0.01	0.1	0.01**	0.1
Gender of adolescent	0.35	0.07	0.07	0.02
Grade level	−0.03	−0.03	0.06	0.08
Years parents have been divorced	0.02	0.04		
(Constant)	−1.98		−1.35	
<i>R</i> =	0.690		0.667	

* $p < .05$; ** $p < .01$; † $p < 0.06$.

approximately 39% of the variance. However, after controlling for academic self-schema, except for parenting style (in favor of authoritative parenting), none of the other variables within the perceived parental involvement factor (family cohesiveness, parental communication about school, and parental concern for school) were found to be significant predictors of educational aspirations. Having academically oriented peers added significantly to the prediction of educational aspirations after controlling for academic self-schema and family involvement factors. None of the variables in background factor (parental SES, and education level, recency of divorce, gender and grade level) significantly predicted educational aspirations after controlling for other three factors (academic self-schema, family involvement and peers). All the factors together predicted 48% of the variance of educational aspirations, whereas 39% of variance was predicted by the academic self-schema factor, 2.2% by the family involvement factor, 3.3% by the peer factor and 1.5% by the background factor.

The results of the hierarchical regression for adolescents from intact families were very similar to the results of adolescents from single-parent families with the following exceptions: authoritative parenting style and having academically oriented peers were marginally significant ($p = .06$); parental SES (in favor of high SES) and grades (in favor of high grades) from the background factor significantly predicted

educational aspirations after controlling for the influence of academic self-schema, and family involvement factors. Overall, 44% of the variance of educational aspirations was predicted by four factors: 41% of the variance was predicted by the self-schema factor, 0.5% by the family involvement factor, 0.3% by the peer factor and 2.2% by the background factor.

The results of the hierarchical regression analysis for the two types of families were very similar, except for two major differences: having academically oriented peers significantly predicted educational aspirations of adolescents from single-parent families, explaining 5% of the variance, whereas for adolescents from intact families, the variable only explained 0.5% of the variance. Parental SES was found to be a significant predictor of educational aspirations of adolescents from intact families but not for single parent families after all other variables were controlled for. However, this significance added approximately 2% to the variance.

On the basis of the above results, it appears that the academic self-schema factor significantly predicts the educational aspirations of adolescents, and family involvement and background factors may influence educational aspirations via the academic self-schema factor.

To further illustrate the results of the hierarchical regression and to simplify the findings, the academic self-schema,

the *SES* and parental involvement factor were categorized. The academic self-schema was categorized into three equal categories (low, medium, and high) and the *SES* and parental involvement factor were subjected to a median split to yield two categories of *SES* (low, high) and parental involvement (low, high). The *SES* and involvement categories were combined to obtain the following: (1) low *SES* and low parental involvement; (2) low *SES* and high parental involvement; (3) high *SES* and low parental involvement; and (4) high *SES* and high parental involvement. The influence of these four categories on the three categories of the academic self-schema was investigated via Chi-square analysis. The results for the single-parent and intact families were significant with $\chi^2_6 = 60.97, p < .01$ and $\chi^2_6 = 321.87, p < .01$, respectively.

Figures 3 and 4 show the percentage of adolescents falling in the low, medium, and high categories of the educational self schema under the four categories of *SES* and parental involvement, for adolescents from single-parent and intact families, respectively. In the case of adolescents from low *SES*, single-parent families, approximately twice as many adolescents whose mothers had high involvement were high on the academic self-schema compared to those adolescents whose mothers had low involvement (16% versus 32%). The same was true for adolescents from intact families (21% versus 39%). Similar findings were found when *SES* was high for both single-parent (30% versus 52%) and intact

families (30% versus 61%). When mother’s involvement was high, approximately twice as many adolescents were high on the academic self-schema compared to when mothers’ involvement was low. These findings suggest that although *SES* has some effect on the academic self-schema, family involvement has a greater effect.

The above results suggest that the academic self-schema has a significant influence on the educational aspirations of adolescents from both single-parent and intact families. The family involvement factor and background factor tend to influence educational aspirations of adolescents via the academic self-schema. One of the reasons for lower educational aspirations for adolescents from single-parent families compared with adolescents from intact families is that they are lower on academic self-schema (as supported by the ANOVA results). However, academic self-schema is influenced by the family involvement factor, on which adolescents from single-parent families are also lower than the adolescents from intact families. This leads one to think that regardless of *SES*, if families are highly involved with adolescents’ education, the differences in educational aspirations of adolescents from the two types of families should be minimal. Educational aspirations of adolescents from these two types of families were further investigated for families who had high involvement via Chi-square. The results showed no significant difference with $\chi^2_2 = 3.07, p > .05$.

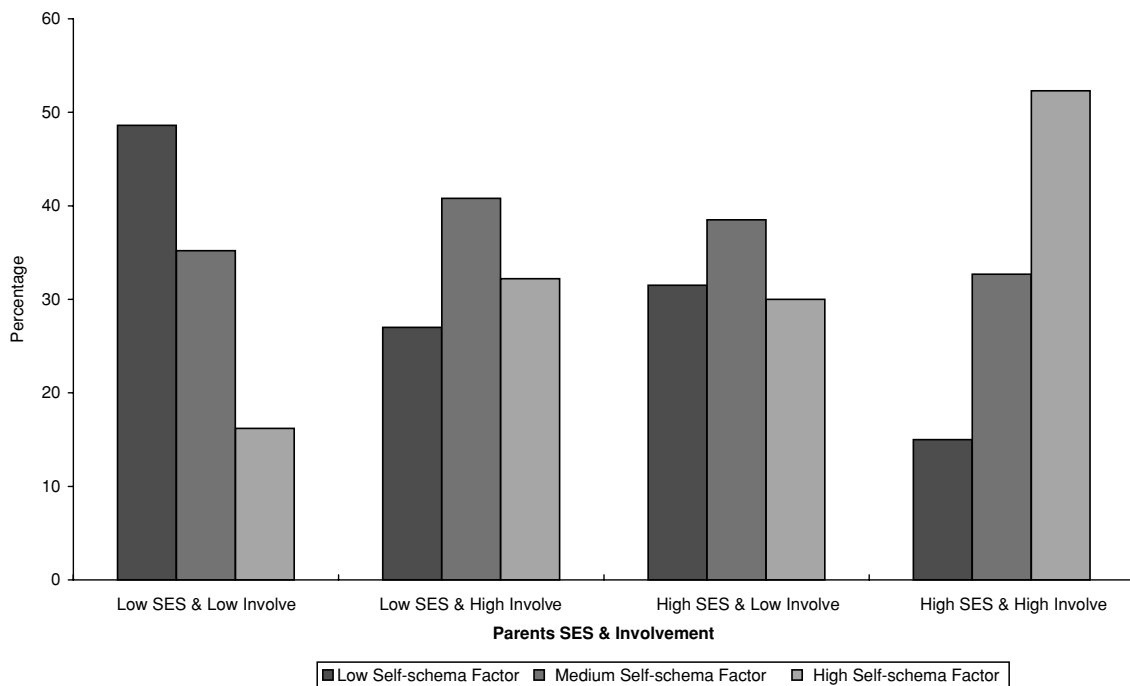


Fig. 3 Percent of adolescents from single-parent families having low, medium, and high Self-schema Factor depending upon parent’s SES and involvement

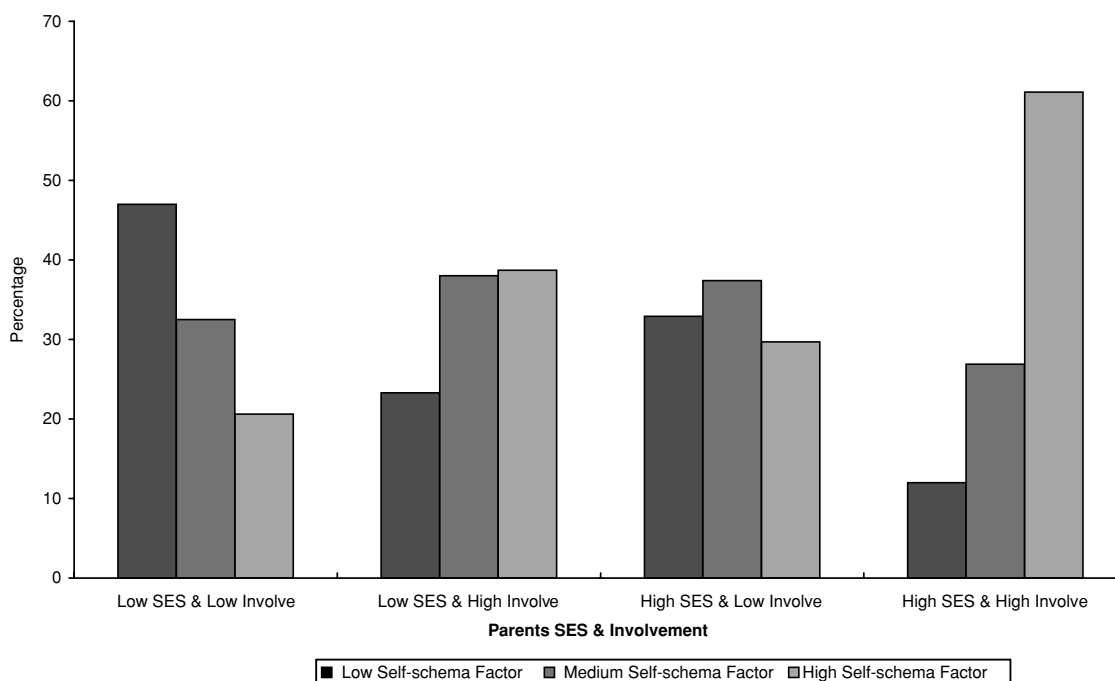


Fig. 4 Percent of adolescents from intact families having low, medium, and high Self-schema Factor depending upon parent's SES and involvement

Discussion

This research was designed to study the differences in the educational aspirations or long-term educational goals of adolescents growing up in single-parent families headed by mothers compared to those who were growing up with two biological parents. Approximately 20% of adolescents grow up in single-parent families and understanding the effects of divorce on educational goals would help in designing more effective intervention programs for the purpose of enhancing student success. Figure 1 shows that of adolescents who are not aiming for a university degree approximately 10% more of them belong to single-parent compared to intact families. On the other hand, approximately 10% more adolescents from intact families compared to single-parent families plan to go for graduate or professional studies. Results showed that adolescents from single-parent families tend to fare worse than the adolescents from intact families on the factors (academic self-schema, perceived family involvement, background, and having academically oriented peers) that affect educational aspirations as outlined by Farmer (1985) and Reynolds and Walberg (1991). Although the differences were not always significant, male adolescents from single-parent families seemed to have the most difficulties and warrant targeted intervention since divorce has more of an impact on boys in mother-led households than on girls (Wallerstein and Kelly, 1980).

Results of hierarchical regression analyses indicated that the academic self-schema factor, comprised of academic

grades, learning experience, and parental educational expectations explained approximately 39% and 41% of the variance of educational aspirations of adolescents from single-parent and intact families, respectively. Students with positive internal representations of education tend to value education, have confidence in their academic ability and perceive the educational process as positive and rewarding (Plucker, 1998; Trusty, 1998). Parental educational expectations are also incorporated into the academic self-schema factor. One of the reasons for this could be that parental confidence in a child's ability and the parent's desires and hopes get incorporated in children's mind as their own (Wentzel, 1998). Parental involvement variables, background variables, and association with academically oriented peers together added approximately 9% and 3% to the prediction of educational aspirations of adolescents from single-parent and intact families, respectively. Garg *et al.* (2002) have shown that the influence of family and background variables on educational aspirations is generally not direct, but indirect, through academic self-schema. Results of this study supported those findings for both groups of adolescents as 25% (not shown in the results section) of the variance of the academic self-schema factor was predicted by the family involvement and background factors. Implicit in these findings is a conceptual framework which suggests that parental background, involvement, and behavior provide an environment in which development of an academic self-schema is facilitated, which in turn affects educational aspirations. Bigelow and Zhou

(2001) also found that parent and youth ratings of the importance of school goals developed in tandem. Because students' educational aspirations arise within the parent-child relationship, it is imperative to ensure that divorce does not have a negative influence on the goals of affected youth.

Although both family involvement and parental background variables are important in predicting academic self-schema of adolescents, the impact of the family involvement factor is much greater than the impact of parental *SES*. Among adolescents from a low *SES*, the academic self-schema was higher for adolescents who experienced a greater degree of parental involvement than those whose parents were less involved. This was true for adolescents from both divorced and intact families. Similar findings were found for adolescents from a high *SES* background. No differences were found between adolescents from intact families and single-parent families in academic self-schema and educational aspirations of students whose parents were highly involved.

In the case of association with academically oriented peers, a significant influence of peers was found on educational aspirations of adolescents for single-parent families and marginally significant influence on adolescents from intact families. Thus, peers have a much greater influence on adolescents from single-parent families than on adolescents from intact families. Having academically-oriented peers explained approximately 5% of the variance of educational aspirations over and above the variance explained by academic self-schema and parental involvement factors for adolescents from single-parent families, whereas for adolescents from intact families, they explained less than one percent of the variance. These findings tend to suggest that for higher educational aspirations it is more important to have academically-oriented peers, particularly when family support might be lacking, as might be the case in single-parent families. These results support the findings of Mahoney and Merritt (1993) and Plucker (1998).

While basically the same pattern of results was found for adolescents from single-parent and intact families, the question is why do the adolescents from single-parent families on the average have lower educational aspirations than the adolescents from the intact families? Educational aspirations of youth are directly influenced by the academic self-schema which also incorporates parental expectations. Adolescents from single-parent families are significantly lower on academic self-schema than adolescents from intact families. In this study, parental involvement was measured through home-based and parental school-based involvement. These types of involvements have been found to be associated with academic achievements and academic progress (Reynolds and Walberg, 1991; Funder and Kinsella, 1991; Garg *et al.*, 2002).

Baumrind (1971) and Dornbusch *et al.* (1987) have shown that parents who use authoritative parenting styles direct their children's behavior in a rational manner, and affirm their uniqueness while setting standards of conduct. Such parenting fosters responsible, creative, curious, and socially responsible behavior and is correlated with higher academic achievement. The results of this study showed that parents from single-parent families are generally not only lower in *SES* but were also less involved with their children. Furthermore, fewer parents from single-parent families (21.7%) use the authoritative parenting style than parents from intact families (41%). The intervention programs may target the area of parental involvement with child's education and parenting style.

Zuckerman (1981) has shown that mothers' education level has a greater impact on adolescents' educational achievement and educational aspirations. In this study, when comparing single-parent families with intact families it was found that approximately 72% of mothers from single-parent families had high school or less education compared with 61% of mothers in intact families. On the other hand, 29% of mothers from single-parent families had a bachelor's degree or higher compared to 39% of mothers in intact families. Since most single-parent families are headed by mothers, differences in mother's education may have a greater impact on educational aspirations of adolescents from single-parent families. However, in this study, no differences were found between adolescents from single-parent families and intact families in academic self-schema and educational aspirations of students whose parents were highly involved regardless of *SES* and mother's education level.

A unique feature of the study is the large national sample of Canadian adolescents. However, there are some limitations: all the variables in the study were based on adolescent perceptions. It cannot be stated conclusively that the adolescents' parents used a particular parenting style, only that it was perceived that way. Much research (e.g., Grolnick *et al.*, 1997) is based on self-reports, and perception is, of course, important, but it may be valuable to supplement self-reports with other measures in future research; The influence of ethnic background on educational aspirations and other variables has not been investigated due to the small sample of ethnic participants particularly in single-parent groups. Although the influence of recency of divorce was not found to be significant in this study, it would be important to look at the influence of age at which divorce took place. It would have been interesting to investigate the influence of other types of families such as families with one stepparent.

Conclusions and implications

An increase in single-parent families has led to concern about the influence of the dissolution of the family on young

people's development. This study was limited to the differences in educational aspirations of adolescents from two-parent and single-parent families, and the nature of the influence of academic self-schema, environmental factors (family and peers) and background factors on educational aspirations. The pattern of influence of these factors on educational aspirations was very similar for adolescents from the two types of families; namely, academic self-schema had a significant influence on educational aspirations, whereas the influence of family involvement, background factors, was via academic self-schema. The lower academic self-schema and educational aspirations of adolescents from single-parent families could be due to a greater extent on the lower level of parental home-based and school-based involvement and to a lesser degree, the lower level of *SES*. When adolescents from the two types of families were compared, those whose parents were highly involved showed no differences in academic self-schema and educational aspirations. These findings provide support for the view that while divorce, in many cases, produces changes in socioeconomic status and temporary disruption and emotional distress, if parents stay supportive and involved with their education it may not significantly alter adolescents' orientation to education. Furthermore, having academically-oriented peers helps with academic achievement and aspirations. Intervention programs specifically designed to increase educational aspirations should include strategies to boost the academic self-schema of children and adolescents from both family structure groups. Approaches which would help youth and their parents should include raising the parents' awareness of the risks involved with divorce, concentrate on encouraging them to take an active interest in their children' education, and show them how to provide their children with a healthy environment where they can grow academically.

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